

PUBLIC POLICY RESEARCH FUNDING SCHEME

公共政策研究資助計劃

Project Number :

項目編號 :

2013.A6.006.13A

Project Title :

項目名稱 :

Sustainable Planning Criteria (SPC) for Age-Friendly Precincts (AFP) in the New Development Areas (NDAs) of Hong Kong

香港新發展區規劃關於友善融合長者的街區可持續準則研究

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Project Duration (Month):

推行期(月) :

15

Funding (HK\$) :

總金額 (HK\$) :

528,471.00

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CENTRAL POLICY UNIT (中央政策組)

PUBLIC POLICY RESEARCH (PPR) FUNDING SCHEME 2013/14

(公共政策研究資助計劃 2013/14)

Project Number (項目編號): 2013.A6.006.13A

**Sustainable Planning Criteria (SPC) for
Age-friendly Precincts (AFP) in the New Development
Areas (NDAs) of Hong Kong**
(香港新發展區規劃關於友善融合長者的街區可持續准則研究)

(FINAL REPORT)

(研究報告)

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15 -4- 2015 (Revised 28 Dec 2015)

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鳴謝

本研究項目(項目編號: 2013.A6.006.13A)獲香港特別行政區政府中央政策組公共政策研究資助計劃撥款資助。

Acknowledgement

This research project (Project Number: 2013.A6.006.13A) is funded by the Public Policy Research Funding Scheme from the Central Policy Unit of the Hong Kong Special Administrative Region Government.

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Abstract of research

Population aging is one of the great demographic transformations in the 21st century. Very little research has addressed the integrated relationships between the dense urban environment and the specific social and emotional needs of the older people in Hong Kong. How will the new precinct of a dense city be planned for sustainability and well prepared for such trend is a valid concern and an important question. This study is based on the 8 Key Areas published by World Health Organization (WHO 2007) for Global Age-friendly Cities to develop a set of sustainable planning criteria suitable for age-friendly community in Hong Kong. Using the New Development Areas (NDAs) proposed in Hong Kong as a case study, this research has developed a framework matrix considering both sustainable planning criteria (including a list of parameters from the 3 aspects of social, economic and environmental) and age-friendly design priorities taking into account the indicators under 8 Key Areas published by WHO (2007). After a 15-month research programme commencing January 2014, all the objectives as set out originally in the proposal have been achieved as planned. Through literature review and international comparative study we have established a list of age-friendly design and sustainable planning criteria that is relevant to Hong Kong. With the support of interview results from 21 experts, we have designed a set of question for the questionnaire survey which was conducted with citizens in 8 districts of Hong Kong. The survey data were analysed with SPSS software, including exploratory factor analysis. From these processes and supported with a conceptual model, we have identified the prioritized local sustainable planning criteria (SPC) and indicators for Hong Kong. The results have been further validated to provide a consolidated list of sustainable planning criteria (SPC). The research outcomes will help formulate policy framework and better inform stakeholders such as urban planners, businesses, government, other service providers, end-users, etc., for achieving a sustainable age-friendly community in New Development Areas (NDAs).

研究摘要

人口老齡化是中國及香港在 21 世紀面臨的一個嚴峻的人口結構轉型問題。當前在香港，少有研究聚焦于高人口密度的城市環境與長者特殊的社會與情感需求之間的融合關係。街區經過怎樣的規劃才能有助於可持續發展並有能力迎接老齡化帶來的挑戰是一個切實並重要的問題。本研究以世界衛生組織(WHO, 2007)提出的建設全球長者友善城市所關注的八個領域為基礎，為在香港建設長者友善型社區建立了一系列可持續性的規劃標準。以香港新發展區(NDAs)作為研究個案，本研究發展出了一個包含了可持續發展標準（囊括了社會、經濟與環境三個方面下的一系列因素）與長者友善優先設計（包括了行走便捷和交通，多代互動及社會包容性，公共消費和就業，零廢物管理，在線和離線信息平台，公共空間及建築物，預防保健和社區支持，情感需求八個因素下的一系列指標）的框架矩陣。自 2014 年 1 月，經過為時 15 個月的研究，在研究計劃中設定的所有目標均已實現。通過文獻回顧與國際比較研究，我們為香港設計了一個長者友善設計與可持續發展標準的清單。輔之以對 21 位專家的訪談結果，我們為調查問卷設計了一系列的問題。本次問卷調查針對於香港八個區域裡的居民。在這一過程中，我們發現了在香港本地應當優先考慮的可持續發展標準和因素。為了形成一份切實有效的可持續發展標準列表，以上諸多研究結果經過了進一步驗證。本研究的結果有助於建立一個制定政策的框架，同時也為包括城市規劃者、企業，政府、其他的服務提供者與服務使用者等相關人員在新發展區建設可持續發展的長者友善型社區提供了更好的指導性意見。

Project Objectives

Objectives as per original application

1. To identify the suitable age-friendly design priorities with indicators under the WHO's 8 Key Areas Global Age-friendly Cities to meet the needs of Hong Kong aging people in sustainable urban development;
2. To consolidate the underlying sustainable planning criteria and parameters (social, economic and environmental) for age-friendly community;
3. To establish an analytical framework matrix to embrace the age-friendly design priorities/indicators and the sustainable planning criteria/parameters;
4. To develop the system thinking (ST) model to study the relationships and interactions among different stakeholders with prioritized list of sustainable planning criteria for age-friendly communities; and
5. To formulate corresponding policy framework for planning an age-friendly community in New Development Areas (NDAs).

Realisation of the objectives

(please state how and to what extent the project objectives have been achieved; give reasons for under-achievements and outline attempts to overcome problems, if any)

All the objectives as set out originally in the proposal have been achieved as planned, except for the part of using ST model.

Conducted literature review with particular reference to the 8 Key Areas of WHO's age-friendly city guidelines and carried out international comparative study among Asian and Western best practice cities which have implemented age-friendly initiatives namely Singapore, Korea and Japan in Asia while New York, Manchester, and Melbourne in the western world. The process have identified and established a preliminary list of age-friendly design priorities and sustainable planning criteria that is applicable to Hong Kong's specific condition. The list would then be further consolidated/validated by questionnaire survey.

Based on the results of comparative study, through interview with 21 professionals and key stakeholders, we establish an analytical framework matrix to embrace the

age-friendly design priorities and the sustainable planning criteria. According to this theoretical framework, we have designed a set research question for the questionnaire survey. Conducted on-street questionnaire survey with citizens in 8 districts (total 772 valid respondents) of Hong Kong for data collection.

In the original project proposal, in the objective no. 4, we hoped to develop the systems thinking (ST) model to study the relationships and interactions among different stakeholders with a prioritized list of sustainable planning criteria for age-friendly precincts. We tried to develop the ST conceptual model and collect empirical cost data of age-friendly housing development projects. However, there were some shortcomings with the using of the system thinking (ST) model. When we tried to locate all the construction/development cost data to run the test, we found most of the cost data are confidential, hence not available even with the good support from Housing Society who is the main provider of private age-friendly housing. Encountering the reality of data availability we could not adopt Systems Thinking (ST) for the following reasons.

A System Dynamics (SD) or a Systems Thinking (ST) approach is usually used for monitoring the variation of indices in different years. However, there are limitations of ST or SD, as follows: (1) In the process of construction and validation for the SD, the historical data is crucial. If there is no historical data, the accuracy of the SD model cannot be evaluated. (2) The input value for SD is usually the fixed value but not the uncertainty value. As a result, SD is obviously not working for the analyses of these projects with many uncertain factors. There are no historical data for the validation of SD and there are also many uncertain factors for sustainable planning. Thus, given these limitations of using systems approaches, we have not pursuit ST but completed this part of the objectives using the following approach.

Based on some limited indicative results from the rough work of ST model, we try to use the cost feedback from questionnaire survey (by a part of cost-related questions in the questionnaire to get indicative data for reference purpose) and buttressed by interview results and then validated by focus group meetings and roundtable discussions with experts initial understand of the concerns and relationships among different stakeholders to help further the following research.

With the data collected from on-street questionnaire survey with citizens in 8 districts of Hong Kong, we carried out data analysis with SPSS software, including ranking the means of the criteria and exploratory factor analysis, to consolidate the underlying factors for sustainable planning criteria and prioritize the sustainable planning criteria

(SPC) for age-friendly precincts for Hong Kong situation. To understand the relationships and concerns among different stakeholders, the questionnaire and focus group meetings involved different groups of stakeholder, including experts, people of below 60s and people of above 60s.

Conducted focus groups among selected stakeholders/experts which have confirmed and validate the survey results/ findings concerning different groups of stakeholders with prioritized list of sustainable planning criteria for age-friendly communities.

We also conducted field observation study to observe the ways elderly people live and know their lifestyle as well as to evaluate the quality of existing facilities for elderly people so as to support/correlated with our study results in the above methods.

Conducted 2 nos. roundtable meetings among selected stakeholders/ experts on planning and design considerations for the elderly people, which have contributed some refinements to our final results.

Finally, we consolidate and reflect upon all the findings and formulate policy recommendations for planning an age-friendly community in New Development Areas (NDAs).

(Details of the research can be found in the following Research Monograph)

Policy Implications and Recommendations

(Detailed summary of the major findings are presented in Chapter 8 Conclusions and Recommendations of the following **Research Monograph**)

The study has identified eight factors with their corresponding key sustainable planning criteria for creating a sustainable age-friendly precinct and prioritized a list of design requirements which should be considered in New Development Areas (NDAs) of Hong Kong. These research findings will better inform stakeholders such as urban planners, businesses, government, other service providers, and end-users, in achieving a sustainable age-friendly community in Hong Kong. Thus, the research results will help promote the whole community's support for active aging by facilitating better understanding of the concerns and relationship between different groups of people in Hong Kong. (Details of the factors with their corresponding key sustainable planning criteria for creating a sustainable age-friendly precinct as seen by different age groupings can also be found in the **Research Monograph**).

With an integrated reflection on the different findings of the study, the following are some specific areas of recommendations for policy making:

1. Hong Kong still lacks a comprehensive ageing policy and the current practice with its age-friendly programmes directly governed by the Elderly Commission need to be reviewed, particularly to incorporate “bottom-up approach” as in the best practice of other cities. To achieve a bottom-up approach, the government and key stakeholders should not shy away from vigorous debates and public engagement for a age-friendly city
2. Resulted from this study, the prioritized design requirements and sustainable planning criteria for age-friendly designs with due consideration of sustainability, provide an important reference and starting point to design and plan other similar communities and precincts. The prioritized design requirements can also be used as a set of reference standards to assess objectively the amenities of existing age-friendly urban precincts.
3. The study highlighted the grave concerns about the affordability of age-friendly housing and connectivity of public transportation. Such concerns deserve close attention in policy design before allocating resources to pursue detailed design of areas that would be ideal to have.

4. The elderly people's main concerns are still focusing on "affordability of housing and transportation" and the simple improvement of physical environment with those aspects relating to Basic facilities, Safety and Walkways. Their paramount need demanding big resource consideration and the basic request involving small funding for simple improvement works are the clear immediate tasks for government to create sustainable age-friendly community. Government and NGOs should focus their effort and resource on these two concerns first. Too much study and debate on high sounding principles such as mixed neighbourhood for young and old people, or building up elderly self-esteem etc. seem to be irrelevant to most of the elderly people in Hong Kong. No wonder there are mismatches between the views of the experts and people of above 60s for the sustainable planning criteria for age-friendly.

5. From a long term perspective, the results of this study provide a set of guidelines for the detailed planning of the new development areas (NDAs) to incorporate the ageing-friendly design requirement and sustainable planning criteria for ageing-friendly as a whole in the precinct planning.

Research Monograph

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Chapter 1. Introduction

1.1 Background

Sustainability and Ageing in Hong Kong

Over the past twenty years, the concept of sustainability and sustainable development has been debated since being introduced by the World Commission on Environment and Development (WCED, 1987). It has been regarded as a new planning agenda. In the context of the built environment, the way to address and solve sustainability development issues is frequently to identify and involve the appropriate geographical scale for action. Thus, the precinct serves as the fundamental element of a hierarchical structure of an urban area, and so it would be appropriate to address sustainability at the scale of precinct development (Lehmann, 2010; Lehmann, 2013). Research has been done to develop sustainability indicators for such local development (Price et al., 2012). However, sustainability indicators by themselves can only partially improve our understanding of precinct or city development.

The Hong Kong SAR government attaches great importance to creating a 'Quality City, Quality Life' for the people of Hong Kong. To achieve this, the HKSAR government recognizes the need to take a holistic view of the full life-cycle of developments from planning, construction, commissioning, operation, refurbishment, and renewal, to decommissioning of new buildings, and new urban precincts, where over half of all energy in the city is consumed. Besides the environmental concerns, the ageing trend is becoming a major concern in Hong Kong. As people are living longer and getting older, the average life expectancy (in 2010) is 80 and 86 for men and women respectively in 2010. The rapidly ageing population will lead to the continuous rise of the old age dependency ratio (i.e. the ratio of the non-working population who are 65 or over being supported by the working population age 15 to 64) from 172/1000 (172 non-working supported by 1000 working population) in 2010 to 227/1000 by 2021. This implies a constant decline in the labour force, and the chances of dependency on medical, welfare and other services will be greater. By 2050, Hong Kong is forecast by the World Health Organization to rank fifth in the world for cities with the largest percentage of older adults, i.e. 40% of the population in Hong Kong will be 65 or above. Therefore, Hong Kong, as an extremely densely-populated, fast-growing ageing and semi-tropical city, is rather a special case to study, through its unique nature on sustainable planning for ageing population. It is argued that sustainability planning would be more efficient in a small region (Lehmann and Crocker, 2012). Thus, a good case study is to be conducted at a precinct level. This study uses the New Development Areas (NDAs) in North East New Territories (NENT) of Hong Kong, as a case study.

New Development Areas (NDAs) in North East New Territories (NENT)

One of the ten major infrastructure projects for future economic growth of Hong Kong is the development of New Development Areas (NDAs). The NDAs are identified in the recommendations in the “*Hong Kong 2030: Planning Vision and Strategy*” (CE of HKSAR, 2007). The NDAs in the North East New Territories (NENT) shall provide quality living space and address the long-term housing demand and provide employment opportunities. The HKSAR Government commissioned the North East New Territories New Development Areas Planning and Engineering Study (NENT NDAs Study) in June 2008, completed in 2013. The NDAs in NENT are an extension to the existing Fanling/Sheung Shui new town, which upon full development will have a total population of about 460,000, comparable to the other new towns. The NDA new town will be an integrated community providing wide-ranging employment opportunities as well as commercial, community, recreation and cultural facilities, given the more significant population scale. Specifically, the NDAs are to be developed into sustainable, environmentally-friendly, energy-efficient, people-oriented and obstacle-free communities (HKSAR, 2013). Apart from relocating people from other districts to the NDAs, the development is also an integration of existing near-by communities. So far, the proposed NDAs development scheme is in an outline planning stage only, which already meets with comments and objections from various fronts. Apart from the controversial issues of re-housing, land resumption and removal compensation, the outline planning scheme also needs more careful detail planning to address, in particular, the aspirations of the local people and those who care for the social equity of whole society. Housing needs and quality of the built environment for the ageing population is part of the list of problems that needs to be resolved in the detailed planning stage.

Importance of Open Space for the Elderly People

Due to intense development pressure in Hong Kong, it is common to see that open space has been sacrificed for the maximum development potential. The planning standards for open space, as approved by the government authority in 1981, were 15 ha and 20 ha per 100,000 persons in the Metro Area and the New Territories respectively. The Hong Kong Planning Standards and Guidelines regarded these provisions as not sufficient. Tang and Wong (2008) found that the administered open space by the government actually falls short of the ‘planned’ open space as planned by government planners.

Open space is extremely important to the elderly people, as it is a place where they spend a lot of time, while providing many physical and social benefits. In general, open space performs functions as “conservation, recreation, contact with nature, social or mental health” within an urban environment (Lynch, 1990), it also enhances social inclusion, communal sharing, cultural integration, democratic expression and political harmony in cities (Carr et al., 1992; van Rooijen, 2000; Mitchell, 1995;

Mitchell, 1996; Mitchell & Staeheli, 2005). It is commonly agreed that outdoor space is significant to older people. However, relatively few studies have addressed the relation between the elderly people and the outdoor space.

Research suggests that public open spaces can enhance the social relations of elderly people and their interaction with other people in the cities (Turel et al., 2007). It is suggested that outdoor environments offer physical, sociological and psychological benefits (Sugiyama & Thompson, 2007) and also enhance and maintain the quality of life of older people (Kellaher et al., 2004). More specifically, outdoor spaces contribute to older people's wellbeing through enabling their physical activity (Singh, 2002), from contact with nature (Milligan et al, 2004; Tankano et al., 2002) and from social interaction (Bowling et al., 2003; Nezlek et al., 2002).

It is also of paramount importance to thoroughly understand the older people's activity patterns in outdoor spaces. Kwok undertook two research studies on the lifestyles of active older persons in Hong Kong (Kwok, 2001; Kwok, 2009). Over the same period, general guidelines for designing everyday living environments, including the indoor space and the neighbourhood environment for the aged population, were consolidated (Kwok & Ng, 2008). Some studies also suggested that 'environmental support' for activities is a key concept which explains the roles of outdoor space in enhancing older people's wellbeing (Sugiyama & Thompson, 2007). However, the extent to which the environmental attributes in outdoor space can benefit or hinder older people's daily lives and wellbeing in the urban renewal districts remains to be explored.

Sustainable Planning Criteria (SPC) and Age-friendly Design Priorities (AfDP)

"Our Common Future", by the United Nations World Commission on Environment and Development (WCED), sets forth the most widely acknowledged concept of Sustainable Development, which is "the development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (WCED, 1987). The sustainable community varies according to the interests, needs, and culture of different communities but mostly focuses on economic, environment and social issues (Lachman, 1997). These three aspects are usually in conflict and competition with each other. Consequently, as a way towards balancing the three components, many emphasize the involvement and participation of all members of a community.

Human health should not just be considered as merely protection from diseases, but is also dependent upon the provision of an appropriate quality of environment (WHO, 2002). It is well recognized that the built environment, is encountered by people on a daily basis, and the quality of the built environment is found to affect health outcomes (Krause, 1998; Sheffield & Peek, 2009). It is suggested that good-quality spaces are said to foster social inclusion, socially cohesive behaviour and citizenship

(DTLR, 2002; Gallacher, 2005). In the *Global Age-friendly cities: A Guide*, the provision of 'outdoor space and buildings' is one of the eight themes to assess the extent to which a city is age-friendly (WHO, 2007). The criteria include a pleasant and clean environment, green spaces, seating areas for rest, pavements, safe pedestrian crossings, accessibility, a sense of security, walkways and cycle paths, services and toilet amenities.

Elderly people often have physical needs in terms of hearing, visual capabilities, physical mobility and are often suffering from chronic illness and psychological illness. Apart from the physical needs, elderly people also have special social needs. **Active ageing** is referred to "*The process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age*" (WHO, 2007). The word 'active' refers to continuing participation in social, economic, cultural, spiritual and civic affairs (WHO, 2002). Active ageing also includes engagement in social activities (Michael et al, 2006). It is also found that local shopping and services, traffic and pedestrian infrastructure, neighbourhood sense of attractiveness and adequate public transportation are the essential neighbourhood design features in retaining active ageing (Michael et al., 2006). In sum, research indicates that social interaction benefits the older people's physical and psychological health (Avlund et al., 2004). Thus, special attention is needed for the planning and design of the urban environment to foster social interaction of the elderly.

1.2 Problem Definition

Achieving a sustainable precinct design, it requires a long-term, integrated systems approach to addressing economic, environmental and social issues, with considerations of the healthy ageing trend. The age-friendly design priorities and indicators are to be selected under the 8 categories of WHO (2007) age-friendly city guideline. The sustainable development design and implementation is in need of an effective tool to assist in achieving the goal. Since a community or precinct is a complex system of humans and the environment, it is essential to deal with it from a holistic and systemic viewpoint.

With the problem of land scarcity and development priority in Hong Kong, NDAs sometimes inevitably will be sacrificed for more compact property development. In sum, the attributes of urban environments, relevant to older people's wellbeing and the extent to which they influence quality of life, are not well understood. We propose NDAs to be developed with considerations of age-friendly and sustainability features. This research is to collect and prioritize the parameters/indicators of the sustainable planning criteria (SPC) and age-friendly design priorities (AfDP) into a framework matrix. Since the elements of a community are dynamically interlinked, it is likely that a community will be misinterpreted by overemphasizing an individual sector without taking the interactions into account.

1.3 Aim and Objectives

The aim of the research is to develop a set of sustainable planning criteria suitable for an age-friendly precinct in Hong Kong, based on the eight Key Areas (WHO, 2007) for Global Age-friendly Cities. It is to examine the integrated relationships between the dense urban environment and the specific social and emotional needs of the ageing people in Hong Kong

Objectives of the Study:

1. To identify the suitable age-friendly design priorities with indicators under the WHO (2007) 8 Key Areas to meet the needs of Hong Kong aging people in sustainable urban development;
2. To consolidate the underlying sustainable planning criteria and parameters (social, economic and environmental) for an age-friendly community;
3. To establish an analytical framework matrix to embrace the age-friendly design priorities/indicators and the sustainable planning criteria/parameters;
4. To study the relationships and interactions among different stakeholders with a prioritized list of sustainable planning criteria for age-friendly precincts; and
5. To formulate a corresponding policy framework for planning an age-friendly precinct in New Development Areas (NDAs).

1.4 Research Approach

The study combines a comprehensive literature review, desk-top comparative study, expert interviews, questionnaire surveys of the elderly people, and focus groups/mini discussion forum with design professionals, government, urban renewal authority and NGOs. The research methodology for this study was as the following:

Stage I: Literature review and comparative studies to identify the suitable age-friendly design priorities (AfDP) with indicators

An extensive review of literature on the evolving needs of the elderly was first carried out. This part of the research will also identify and analyse the commonly referred design considerations on life style and design priorities for ageing people. It critically reviewed the eight Key Areas of WHO's age-friendly city guidelines and its applications in 8 best practice cities, including Hong Kong, to explore how they meet the needs of ageing people in sustainable urban development. The literature review and comparative studies was used to identify the suitable age-friendly design priorities (AfDP) with indicators based on the international comparison on the best

practice cities by WHO's age-friendly city guidelines.

Stage II. Interviews with the professionals and key stakeholders to confirm the local indicators for the questionnaire survey.

Stage III. Questionnaire survey to identifying the prioritized local sustainable planning criteria (SPC) and indicators for Hong Kong

The main aims of Stage II and Stage III can be indicated as the following list:

- To build the framework matrix, by structured survey to consolidate and prioritize the selected AfDP and SPC;
- To minimize misinterpretation and misunderstanding of the questions, the structured surveys were carried out with the 8 selected districts combining the mixed age people but at least 40% should be elderly who are age 60+. Student helpers and volunteers were recruited to help in conducting the surveys.

The questions in the structured surveys were developed based on the findings identified from the focus groups and the observation studies carried out in the previous Stage. A simple 5-point Likert scale was adopted for the survey questions.

In the original project proposal, in the objective no. 4, we hoped to develop the systems thinking (ST) model to study the relationships and interactions among different stakeholders with a prioritized list of sustainable planning criteria for age-friendly precincts. During the progress of the project and encountering the reality of data availability we could not adopt Systems Thinking (ST) or system dynamics (SD) for the following reasons.

A System Dynamics (SD) or a Systems Thinking (ST) approach is usually used for monitoring the variation of indices in different years. However, there are limitations of ST or SD, as follows: (1) In the process of construction and validation for the SD, the historical data is crucial. If there is no historical data, the accuracy of the SD model cannot be evaluated. (2) The input value for SD is usually the fixed value but not the uncertainty value. As a result, SD is obviously not working for the analyses of these projects with many uncertain factors. This project aimed to study the relationships and interactions among different stakeholders with a prioritized list of sustainable planning criteria for age-friendly precincts.. There are no historical data for the validation of SD and there are also many uncertain factors for sustainable planning. Thus, given these limitations of using systems approaches, we have completed this part of the objectives using the following approach.

Stage IV. Formulate sustainable planning criteria to enhance elderly people's wellbeing in new urban precincts of NDAs, and validation of the

planning criteria

The extent of the criteria in enhancing elderly people's wellbeing is determined by multi-disciplinary factors. Therefore, it would be necessary to derive weightings representing the relative importance of the planning criteria with respect to the preferences of the elderly respondents. This process employed a Likert scale weighting to develop a list of prioritized planning criteria. SPSS statistical software and exploratory factor analysis were used to assist calculating the mean weighting, the correlation and the reliability of the data.

Roundtable

The planning criteria developed from the previous stages of study were validated through a mini discussion forum with an independent panel consisting experts in the field of planning, urban renewal, architecture, caregivers in elderly services, representatives in NGOs related to elderly services, and physicians in elderly care. A review of the comments received and modifications were made to the planning criteria as necessary following the validation process.

Focus Groups

In this study, focus groups were adopted to identify elderly people's needs in the urban environment. The elderly people's preferences on the planning and design in the existing urban precincts were examined through structured focus groups. People selected for the focus groups were those aged 65 to 75 who either lived in their own home or residential care centres and who were trying to stay as independent and active as possible.

Stage V. Field observations to take stock on existing public facilities provision in elderly precincts in Hong Kong

Field observations were conducted by the proposed research project team,

- to observe the ways the elderly people live and needs in the existing districts;
- to evaluate of elderly people's preferences on their living environment;
- to visit the existing communities to appreciate any special characteristics that need to be addressed;
- to assist to validate some of the findings from the present research.

Specific evaluation scales were developed for each attribute, for instance, sufficient or insufficient; successful, unsuccessful or partially, high, medium or low; present or

absent.

Evaluation attributes included accessibility, urban furniture, pavements, security and safety, maintenance and management systems, communications and interaction between different groups, and infrastructure (traffic and pedestrian), etc.

1.5 Added Value and Context of the Report

It is estimated that for Hong Kong by 2016 and 2033, the percentage of population aged above 65 will increase to 14% and 27% respectively. By 2050, Hong Kong is forecast by the World Health Organization to rank fifth in the world for cities with the largest percentage of older adults, i.e. 40% of the population in Hong Kong will be 65 or above. The problem is simply that the Government needs to prepare and plan for the needs of this significant sector of the population. To help address the problem, this project proposes to use the case of New Development Areas (NDAs) in North East New Territories (NENT) of Hong Kong providing the background to study sustainable planning criteria for elderly communities or age-friendly precincts enhancing the quality of life of the ageing population. The study explores ways of developing age-friendly precincts to reduce the need for specific services or interventions through the design and planning process and to make our built environment support older people in a ubiquitous and affordable way. It will provide more sophisticated criteria to help urban planners, councils, architects and facilities managers to plan and operate their precincts and communities to become 'age-friendly' as well as 'environmentally-friendly'. This research is specifically relevant to public policy in the following areas:

1. It provides a practical guidance with supporting data for the detailed planning of the NDAs to incorporate the ageing- friendly and environmentally- friendly criteria as a whole in their precinct planning.
2. The prioritized sustainable planning criteria from both age-friendly and environmental aspects, provide reference for design of other similar communities and precincts, and for objectively assessing the amenities of age-friendly urban precincts.
3. It promotes the whole community's support for active ageing by facilitating intergenerational and intragenerational communications and interaction between different groups of people in Hong Kong.

1.6 Organization of the Report

The report comprises two chapters of literature overview (Chapters 2 and 3) on the theories and methodological design, and current ageing and sustainable development

in Hong Kong. Chapters 4, 5 and 6 are the three chapters reporting on our comparative studies, the methodological framework we designed and data collection and validations. Chapter 7 specially re-visit the findings to better understand the discrepancies in the views of the public and the experts about sustainable age-friendly development. Chapter 8 draws the conclusions and makes suggestions for further studies. The flows of the following chapters are:

Chapter 2. Theoretical perspectives and methodology design;

Chapter 3. Current ageing (friendly) and sustainable development in Hong Kong;

Chapter 4. Comparative studies on the best practice of age-friendly initiatives in selected 6 Asian and Western cities;

Chapter 5. Matrix framework of the age-friendly design and sustainable planning criteria – a case of Hong Kong;

Chapter 6. Validations of Street Survey Findings; and

Chapter 7. Discrepancies in the views of the public and the experts about sustainable age-friendly development – a case of Hong Kong

Chapter 8 Conclusions and suggestions for further studies

The central theme of this report is a sustainable age-friendly approach for developing a new urban area in Hong Kong, with its sustainable planning criteria and design priorities based on both the experts and the public, particularly the people over 60s from their concerns to their expectations. It takes the world's best practice cities in similar initiatives as examples and develops from there for its local application. Moreover, all chapters of this report can be read as separate essays. Each chapter starts with an introduction and an explanation of the research approach and ends by formulating conclusions.

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Chapter 2. Theoretical Perspectives and Methodology Design

2.1 Introduction

To focus on concepts such as age-friendly cities, active ageing, sustainable planning criteria, etc, this chapter clarifies these ideas and discusses the existing literature and research. It lays out the theoretical aspects of this research and builds up a solid theoretical background of the following chapters. The methodology is designed from a comparative study of best practice in the selected international cities, followed by interviews with the local professionals and experts, in order to refine the local questionnaires and conduct the street survey, and finally to triangulate all the results of the qualitative and quantitative analysis. This chapter gives an overview of how the following chapters serve different roles in contributing to the overall analytical structure, and how each part interacts with each other.

2.2 Age-friendly Cities and Active Ageing by WHO

The concept of age-friendly cities was pioneered by the WHO, which established a set of guidelines on ageing indicators and approaches for cities to refer to (WHO, 2007). This theme of an age-friendly environment provides a checklist for creating a model city that is appropriate to all age groups. Thus, the Global Network of Age-friendly Cities and Communities was launched as a manifesto for all cities around the world in terms of sharing and learning from their experiences on ageing issues (WHO, 2010). The member cities are grouped regionally and as of 2013, 194 states had already become members of the global network (WHO, 2013).

The WHO composed a checklist of 88 essential age-friendly features to direct cities in becoming age-friendly in terms of the identified eight key areas. This checklist was claimed by the WHO (2007) to be a trustworthy summation of views of the elderly and it can be used as an instrument for self-assessing a city and recording the city's advancement in this area. These eight interconnected domains of an age-friendly city reflect the determinants of active ageing and tackle whatever impedes elderly wellbeing and participation. The first three domains are focused on the physical built environment which includes outdoor spaces and buildings, transportation, and housing. These three domains have a deeper impact on personal mobility, security, safety, health behavior and social participation. The next three domains include social participation; respect and inclusion; and civic participation and employment. These aspects signify the social environmental diverse attributes as well as the cultural influences upon elderly participation and mental wellbeing; meanwhile, the last two domains such as communication and information and community support and health services, are associated both with social environments and health and social service factors. Figure 2.1 shows the eight domains of an age-friendly city.

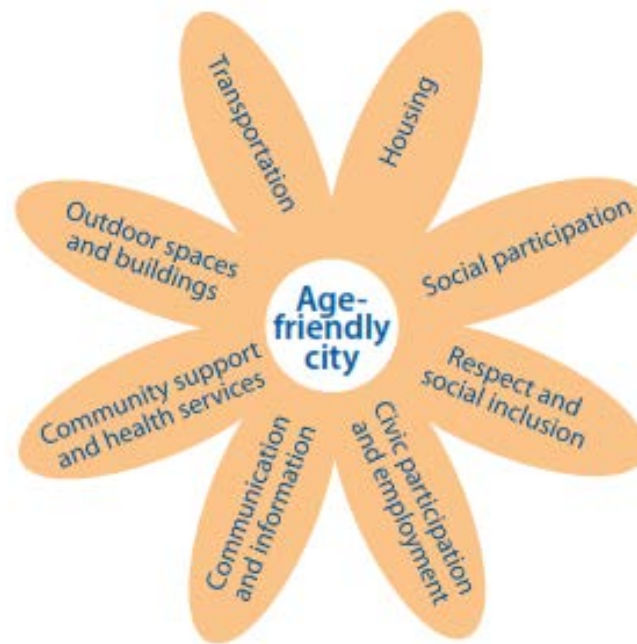


Figure 2.1 The Eight Key Areas of an Age-friendly City (WHO, 2007)

The age-friendly city concept caters not only to the elderly but also accommodates all ages while encouraging active ageing to promote people's quality of life as they age. Active ageing enhances the quality of life of older people by augmenting their chances of having better health, enhancing participation and bolstering security (WHO, 2007). As shown in Figure 2.2, the key determinants of active ageing encompass all aspects of urban living that concern older people in terms of socio-physical, economic and environmental conditions, as well as personal, behavioral and health factors. These determinants of active ageing are reflected in the eight key areas identified by the World Health Organization as core elements of an age-friendly city: accessibility and transportation, housing, social participation, respect, social inclusion, civic participation and employment, community and information and community support and health services (WHO, 2007). This means that active ageing integrates physical, economic and social activities that have positive effects on older people's cognitive functioning (Sugiyama & Thompson, 2007) such as walking and other forms of exercises (Kwok & Ng, 2008; Borst et al., 2008), social networking and inclusion (I'DGO, 2007).

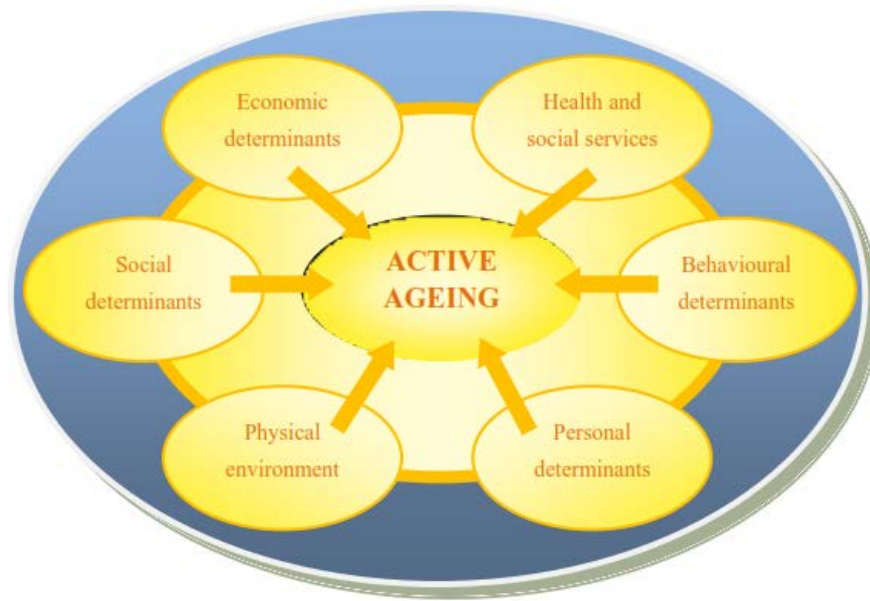


Figure 2.2 Determinants of Active Ageing (WHO, 2007)

2.3 Physical Design Aspects of Age-friendly Cities by WHO

WHO's Physical Design Environment for the Elderly

The WHO (2007) identified three physical design aspects that play important roles in people's later life, namely open space, building and neighborhood, and transport. Phillips & Yeh (1999) also found that physical aspects, such as housing design and quality environment, transportation, such as accessibility and affordability, and community facilities, like open spaces and meeting spaces, are crucial in offering an appropriate local environment for older people. Chow (1987) found that elderly mainly have two needs in physical and social terms. Physical aspects comprise housing, public transport, and recreational grounds and open space (Chan, 2005). Some past research has explored how a physical environment comprises open space, building and neighbourhood, and how transport should be built to improve the quality of elderly people's life.

Open Space

Open space is extremely important to the elderly people, as it is a place where they spend a lot of time, while providing many physical and social benefits. In general, open space performs functions as "conservation, recreation, contact with nature, social or mental health" within an urban environment (Lynch, 1990), it also enhances social inclusion, communal sharing, cultural integration, democratic expression and political harmony in cities (Carr et al., 1992; van Rooijen, 2000; Mitchell, 1995; Mitchell, 1996; Mitchell & Staeheli, 2005). Scholars commonly agree that outdoor space is significant to older people. However, relative little research has been

addressing the relation between the elderly people and the outdoor space.

A lot of researchers have studied open space design principles for the elderly. Chow (1987) suggested that there should be facilities suitable for older people in open spaces (Chan, 2005). In the guidelines of planning for elderly (Sarkissian & Stenberg, 2013), open spaces should be accessible and there should be tactile cues, such as handrails and signage, should provide clear information about direction and location. Sugiyama and Thompson (2007) stated that the pleasantness of open space, good paths to access open space, and good facilities in it could make a contribution to active lifestyles of the elderly. Turel et al. (2007) summarized the design principles of open space for elderly in the aspects of ramps, stairs, pavements, level crossings, underpass and overpass, orientation boards, and street trees. Also, the importance of green areas design in the open space has been studied to show its utility for the health of elderly. The amount of time that people spend in outdoor green space is associated with the risk reduction of stress-related illness (Grahn & Stigdotter, 2003). The positive effect of green areas on health is more obvious for elderly who are exposed more to open spaces (Sugiyama & Thompson, 2007). Kuo et al. (1998) identified that the extent of green in an open space is closely related to the frequency of its use.

Research suggests that public open spaces can enhance the social relations of elderly people and their interaction with other people in the cities (Turel et al., 2007). It is suggested that outdoor environments offers physical, sociological and psychological benefits (Sugiyama & Thompson, 2007) and also these enhance and maintain the quality of life of older people (Kellaher et al., 2004). More specifically, outdoor spaces contribute to older people's wellbeing from their own physical activity (Singh, 2002), from contact with nature (Milligan et al., 2004; Tankano et al., 2002) and from social interaction (Bowling et al., 2003; Nezlek et al., 2002).

Regarding Building, and Building and Neighborhood

With a good neighbourhood, that is, one that is an accessible neighbourhood with higher population density, highly connected streets, and mixed land use, people can be more active (Handy et al., 2002; Saelens et al., 2003). However, neighbourhood buildings without maintenance will reduce elderly's activities (Cunningham & Michael, 2004). Lui et al. (2009) also claimed that good building and environment maintenance are considered as key components in an age-friendly environment. In the Urban Design and Architectural Guidelines for an Age-Friendly New York City (AIA, 2011), the designed layout should be barrier-free and attention should be paid to prevention of falls through careful selection of materials, such as their colours, maintenance requirements and textures. Perez et al. (2001) also stated that designs which are barrier-free, and easier to move around inside can provide high satisfaction for elderly. Sixsmith et al. (2014) found that housing type and conditions are associated with life satisfaction and wellbeing and there is a strong link between improved residential satisfaction and a decreased sense of isolation and loneliness. Appropriate housing planning and design become essential for elderly. Also, many

research studies have shown that affordability, housing preference and social care are vital elements influencing planning of housing (Hui et al., 2014).

Transportation

Traditional transport planning tends to focus on the work trip, underestimating or even ignoring the “contribution” of the elderly. However, the groundwork that supports the building of sustainable communities is to guarantee the accessibility and mobility of old travellers (Rosenbloom, 2001). Cunningham & Michael (2004) stated that appropriate public transport essentially helps the elderly to remain active in the larger community. Public transportation and its accessibility are significant for elderly’s health and safety (Balfour & Kaplan, 2002). Phillips (1998) also claimed that the accessibility and affordability of transportation are crucial to an age-friendly environment. Apart from this, the safety and reliability of public transport service should also be considered (Help the Aged, 2002). Public transportation improvement in the respect of infrastructure and vehicles, such as the available modes of transport and speed reinforce the sense of security, and can encourage elderly outdoor mobility (Risser et al., 2010). Also, mass transit can sustain the mobility needs of older people effectively (Bell & Olsen, 1974).

2.4 Sustainable Planning Criteria (SPC)

The potential to develop age-friendly cities that prompts sustainable development can be linked with urban development models such as the concept of sustainable and harmonious cities that endeavor to manage urban growth to meet the current and future generations’ needs while supporting social justice and good governance (Phillipson, 2012). As a key concern for policymakers and planners, the concept of sustainability has experienced a series of worldwide developments.

In 1987, The World Commission on Environment and Development (WCED) (1987) gave a definition of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” in the publication of *Our Common Future*. At the Earth Summit in 1992, nations further adopted 27 principles to guide sustainable development in future. The Rio Declaration on Environment and Development (UN, 1992) defines the rights of nations to development, as well as their responsibilities to safeguard the common environment.

Then, *Agenda 21* describes a new paradigm of urban development that emphasizes the multidimensional nature of sustainable development, which involves multiple criteria, namely, economic sustainability, environmental sustainability and social sustainability (Kahn, 1995). The World Summit for Social Development (1995) convinces that these three elements are interdependent and inherently strengthening components of sustainability, which is the framework to realize an increasingly high quality of living for human beings. The recent publication (Koponen et al., 2012) also

recognizes they are fundamental aspects of sustainable development of the present society. Consequently, planners should take into consideration those key factors that underpin sustainable development for planning purposes (Ghosh et al., 2000).

Table 2.1 The Paradigm of Sustainable Development (Kahn, 1995)

Element	Criteria
Economic sustainability	▪ Growth development ▪ Productivity trickle down
Environmental sustainability	▪ Eco-system integrity ▪ Carrying capacity Bio-diversity
Social sustainability	▪ Equity empowerment ▪ Accessibility participation/sharing ▪ Cultural identity institutional stability

Specifically, economic sustainability implies a production system that meets present consumption levels without compromising future needs (Basiago, 1999). It also encompasses notions of growth, development and productivity (Kahn, 1995). The author stresses a fair market system, sustainable economic growth and use of resources. Lee and Chan (2008) also suggest that high quality and efficient public transportation networks, diversified businesses, highly adaptable and efficient use of land as well as availability of employment contribute to a sustainable economy.

Environmental sustainability requires maintaining natural resources as both a provider of economic inputs and an absorber of economic outputs (Basiago, 1999), which includes eco-system integrity, carrying capacity and biodiversity (Kahn, 1995). In addition, conservation of existing properties includes the value of building redevelopment and cultural heritage preservation (Lee & Chan, 2008). The literature further makes the point that well-located and properly designed open spaces with greenery and vegetation is significant to urban areas. The transit-oriented development (TOD) ensures the availability and accessibility of open spaces, public facilities, and provisions for the vulnerable groups.

Social sustainability suggests a system of social organization that eliminates poverty. Kahn (1995) states that it involves equity, empowerment, accessibility, participation, sharing, cultural identity and institutional stability. Balkema et al. (2002) list awareness, participation, acceptance, institutional requirements, and responsibility as essential criteria. Lee and Chan (2008) regard quality welfare planning and provisions as the most important factor affecting social sustainability, which focuses more on meeting psychological and emotional needs of the public. For example, open spaces provide buffer zones in community for a social mix (Chui 2003). Their findings also include factors such that pollution-free community living and urban accessibility both matter.

Sustainable city planning is a relatively new concept among cities, and planning at the municipal level is an opportunity for cities to achieve a balanced economic, environmental and socio-cultural growth through active citizen participation approaches (Sustainable Cities International, 2012). These three dimensions of

sustainability (e.g. economic, environmental and social) must be considered in creating sustainable communities (American Planning Association, 2000). The linking of environmental, social and economic agendas in precinct development is an important topic at the local to global levels. Therefore, a variety of studies on sustainable planning, neighbourhood development, healthy communities and low carbon living were gathered and perused to establish what is suitable to the ageing society as well as ensuring a better quality of life for all ages.

2.5 Sustainable Planning Criteria (SPC) for Age-friendly Design Priorities (AfDP)

As introduced in Chapter 1, the sustainable community varies according to the interests, needs, and culture of different communities and in balancing the economic, environment and social issues, many emphasize the involvement and participation of all members of a community (Lachman, 1997). Achieving a sustainable precinct design requires a long-term, integrated systems approach to addressing economic, environmental and social issues, with considerations of the healthy ageing trend. The age-friendly design priorities and indicators are to be selected under the 8 categories promoted by WHO (2007) to assess the extent of age-friendly of a city.

Human health does not just consider as protecting from diseases, but also achieving quality of environment (WHO, 2002). Studies (DTLR, 2002; Gallacher, 2005) suggested that good-quality spaces help foster social inclusion, socially cohesive behaviour and citizenship. 'Outdoor space and buildings' is one of the eight themes to assess the extent to which a city is age-friendly (WHO, 2007). The criteria include pleasant and clean environment, green spaces, seating area for rest, pavements, safe pedestrian crossings, accessibility, a sense of security, walkways and cycle paths, services and toilets amenities.

Apart from the physical needs, elderly people also have special social needs. Active ageing is referred to "The process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age" (WHO, 2007). Michael et al. (2006) found that local shopping and services, traffic and pedestrian infrastructure, neighbourhood sense of attractiveness and adequate public transportation are the essential neighbourhood design features in retaining active ageing. Social interaction benefits the older people's physical and psychological health (Avlund et al., 2004). Thus, special attention is needed for the planning and design of the urban environment to foster social interaction of the elderly.

2.6 Summary: Methodology Design

Figure 2.3 shows the research approach and process used for this study. This report has based on the above listed theories and attempted to explore how these theories apply to Hong Kong's local situation. Therefore, a thorough literature review of Hong Kong's current situation (chapter 3) is necessary to lay a good understanding on the

wills and views from the key stakeholders, i.e. the elderly and the public in general, the urban planner, the government officials, the private developers, the architects, the academia, etc. Chapter 4 is the comparative study of the best practice age-friendly development in 6 selected international cities, 3 in the east and 3 in the west. From the comparative analysis results, we deduce the list of the items for each category to be proposed for Hong Kong's case to be designed in the questionnaire survey. The proposed list will be validated by 21 local expert interviews to refine into the local list, which is then carried out for street questionnaire survey in 8 selected streets (see Chapter 5). Other methods such as roundtable meeting, focus group and site observation in chapter 6 are used to interpret and validate the results from street survey. In Chapter 7, we also use the street survey results and the interview results to triangulate an analysis revealing the discrepancy of the views of the public and the experts in views of sustainable age-friendly development, in the case of Hong Kong. The report is concluded with chapter 8.

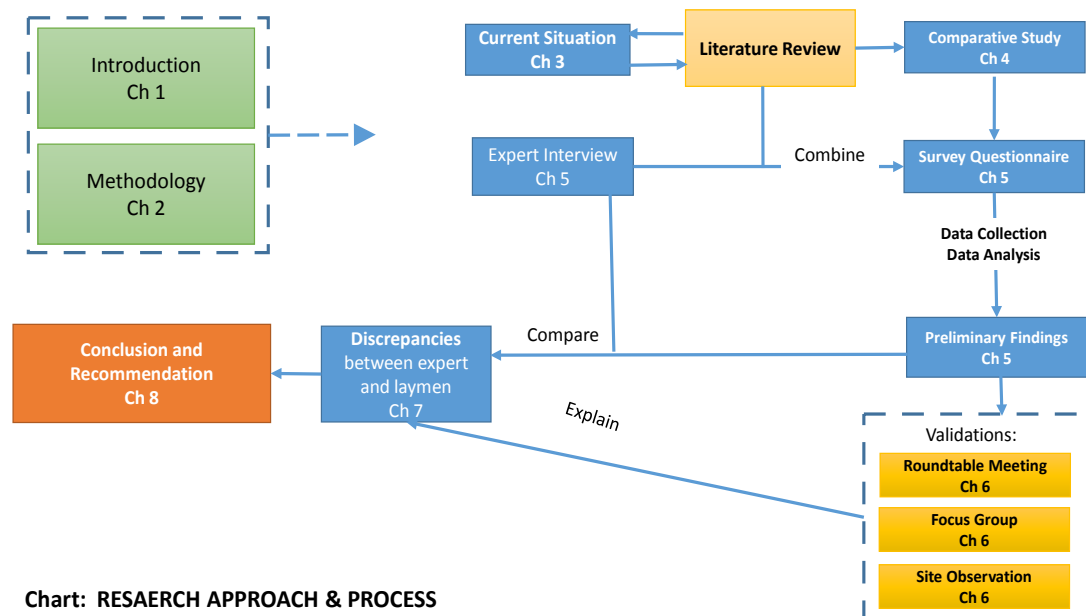


Figure 2.3 Research Flow (Research Approach and Process)

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Chapter 3. Current Ageing, Age-friendly Environment and Sustainability in Hong Kong

3.1 Sustainability and Ageing in Hong Kong

Hong Kong was ranked to be the most liveable city in the world (A. B., 2012). However, it faces many challenges to be liveable for the elderly (Kwok, 2013). Due to high housing prices and living expenses in the city centre only rich people can enjoy the most liveable city life. Currently, the Hong Kong SAR government lays more emphasis on the financial burden caused by medical and social assistance to the poorer people, seldom mentioning the idea connecting city and elderly in the physical environment (Kwok, 2013). So far, government mainly focuses on the social and health services with a different approach. For example, The Elderly Commission (EC) provides services for caring to meet elderly needs in different levels (Chui et al., 2009). The Labour and Welfare Bureau set up an Elderly Academy to provide lifelong learning service. Also, those elderly who have financial difficulties can apply for Comprehensive Social Security Assistance Scheme (CSSA) (Social Welfare Department, 2005a). Overall, Hong Kong needs to take more concern over the physical and social environment.

Chiu (2000) conducted a comprehensive evaluation of the overall environmental sustainability of Hong Kong, and found that the applications of sustainable development can be shown in three main stages. Firstly, in the project planning stage, the inclusion of the Environment Chapter in the Hong Kong Planning Standard Guidelines (HKPSG) and the mandatory Environmental Impact Assessment (EIA) are the first important steps starting from 1985. Secondly, the regulation and supervision of the Planning Department, the Environmental Protection Department as well as the Town Planning Board also accords a major stress to the environmental parts. Chiu (2000) asserts that the main environmental concern of the Hong Kong SAR government at the planning stage is liveability. The literature also states that the government still gives a growing emphasis to the influence of new developments on the natural environment, such as the development in Sha Lo Tung (with precious species of dragonfly) and Nam Sang Wai (near the Ramsar marshland, providing habitats for water birds and stopover points for migratory birds). Thirdly, for the design stage, the HKSAR government's Housing Authority, and the independent Housing Society, are active in practicing green designs of infrastructure, while for the construction step, the use of green building materials and zero-waste management are highlighted. For instance, the use of seawater for toilet flushing, instead of potable water is a successful environment-friendly application (Ng & Wong, 1997).

Besides the environmental concerns, the ageing trend is becoming a major concern in Hong Kong. As introduced in Chapter 1, by 2050, Hong Kong is forecast by the World Health Organization to rank fifth in the world for cities with the largest percentage of older adults, i.e. 40% of the population in Hong Kong will be 65 or above. The rapidly

ageing population will lead to the continuous rise of the old age dependency ratio¹ from 172/1000² in 2010 to 227/1000 in 2021. This implies a constant decline in the labour force, and the greater chances of dependency on medical, welfare and other services in Hong Kong.

Ageing has caused many social problems. In most of the Asia-Pacific regions, suicide rates of the elderly are usually both high and increasing (Phillips, 2002). Hong Kong, Taiwan and Singapore have very high rates. Especially in Hong Kong, there is a comparatively low youth suicide rate but one of the world's highest rates of elderly suicide (Chi et al., 1997; Phillips, 2002). Hence, older people need more concern and care. As an extremely dense populated, fast-growing ageing and semi-tropical city, Hong Kong is rather a special case to study, owing to its unique nature on sustainable planning for ageing population. It is argued that sustainability planning would be more efficient in a small region (Lehmann & Crocker, 2012). A good case study was conducted at a precinct level. Our studies mainly focus on Hong Kong's situation, which can be also a more persuasive reference for other cities. It uses the New Development Areas (NDAs) in North East New Territories (NENT) of Hong Kong, as a case study.

3.2 Physical Design Environment for the Elderly in Hong Kong

Due to intense development pressure in Hong Kong, it is common to see open space has been sacrificed for the maximum development potential. The planning standards for open space, approved by the government authority in 1981, were 15 ha and 20 ha per 100,000 persons in the Metro Area and the New Territories respectively. The Hong Kong Planning Standards and Guidelines regarded these provisions as not sufficient. Tang and Wong (2008) found that the administered open space by the government actually fell short of the 'planned' open space planned by government planners.

It is also of paramount importance to thoroughly understand the older people's activity patterns in outdoor spaces. Kwok undertook research on the lifestyles of active older persons in Hong Kong (Kwok, 2001; Kwok, 2009). General guidelines for designing everyday living environment, including the indoor space and the neighbourhood environment for the aged population has been consolidated (Kwok & Ng, 2008). Some studies also suggest that 'environmental support' for activities is a key concept which explains the roles of outdoor space in enhancing older people's wellbeing (Sugiyama & Thompson, 2007). However, the extent, to which the environmental attributes in outdoor space can benefit or hinder older people's daily lives and wellbeing in the urban renewal districts, remains to be explored.

¹The ratio of the non-working population who are 65 or over being supported by the working population age 15 to 64.

²172 non-working supported by 1000 working population

Chan (2005) studied Hong Kong's situation of elderly people's physical living environment, and stated that housing for older people, public spaces, and public transportation are elements of an integrated environment that can meet the needs of all people from all ages. In the late September 2012, the amount of applicants on the waiting list of public rental housing increased to 210,400 from 90,240 in 2003 (Oxfam, 2013). Apart from the fortunate applicants who enjoy the low-cost public rental housing unit, a large amount of poor elderly have to rent sub-standard private units in the old urban districts (Chui, 2001). Currently, many older people have a poor living environment in Hong Kong. Most of the elderly live in old communities, such as Sham Shui Po. Some of them even live in extremely small sub-divided units with potential security dangers (Hui et al., 2014)

3.3 Hong Kong's Age-friendly City Development

The Elderly Commission was established in 1997 as an advisory board to the Hong Kong SAR government on ageing-related phenomena, and is also responsible for advising the Government on elderly policies and services. The Hong Kong Planning Department (2002) reported that the Elderly Commission implemented an integrated cohesive approach to the planning and provision of elderly services. Strengthening elderly care is one of the stated goals of its underlying interventions, such as the improvement of the elderly's quality of and zeal for life; maximizing intergenerational communications; and the provision of a range of care and integration of services to meet the different stages of caring needs of the elderly in order to allow them to remain in familiar surroundings.

Yau (2013) reported that the HKSAR government and its predecessors have been reinforcing the ageing-in-place concept since 1977, through the promotion of intensive community care services for the elderly, such as home visits with therapy services; community nursing, house cleaning and day care; respite and caregiver's training courses. However, Woo et al. (2013) have pointed out that there is a need for a wider dissemination of the health care needs of older people in the primary care setting in terms of providing information in the design of clinics (hardware) and care provider's attitudes to the needs of older people (software).

In terms of age-friendly city development based on the eight key areas of WHO, Hong Kong was able to provide some age-friendly initiatives in areas including the Physical Environment (pertaining to outdoor spaces and buildings; transportation; and housing) and Social Environment (pertaining to social participation; respect and inclusion; and civic participation and employment). In term of physical environment, aged care facilities are provided with barrier-free features, although this applies only to new buildings, while some open spaces have elderly facilities. The public transportation system is also working towards universal accessibility for all ages.

On the other hand, in aspect of social environment, Hong Kong was able to establish

the Elder Academy to promote lifelong learning, foster a sense of worthiness among the elderly, promote harmony between the elders and the young, as well as promote physical and mental wellbeing of the elderly. Elderly centres are also provided within the districts and neighbourhoods to cater to the elderly's physical and social needs. Some organizations providing senior care took the role of facilitator rather than direct caregiver, giving responsibility for caring for the elders to the community (CPG Healthcare, 2013). In terms of access to information, there is a variety of easily accessible online information on events and elderly matters through the e-Elderly portal. There are also a variety of social security schemes provided for the elderly.

3.4 The Efforts of Hong Kong Society on Elderly Housing and Care Services

It is essential for the Hong Kong SAR government and NGO to develop a systematic and comprehensive housing policy framework for elderly people (Wong et al., 2012). Table 3.1 explains the Hong Kong society initiatives for the elderly service home.

Table 3.1 Hong Kong Society Initiatives for the Elderly Service Home

No.	Policy	Description	Department
1	Housing		
1.1	Enhanced Bought Place Scheme (EBPS)	The Department has purchased places from private homes for the elderly under the Enhanced Bought Place Scheme (EBPS) since 1998, with a view to upgrading the service standard of these homes through enhanced service requirements in terms of staffing and space standard. This also helps to increase the supply of subsidized places so as to reduce elders' waiting time for subsidized care-and-attention places.	Social Welfare Department of GovHK
1.2	Elderly Persons Priority Scheme	Housing allocation for two or more related or unrelated elderly people who are willing to live together in a public rental flat.	Housing Department of GovHK and Hong Kong Authority
1.3	Residential Care services	To provide residential care and facilities for those who, for personal, social, health and/or other reasons, are unable to live at home; To promote and maintain the health of elders as far as possible, and assist them with their varying personal care needs and daily living activities; To meet the social and recreational needs of residents and promote interpersonal relationships among residents in the homes.	Social Welfare Department of GovHK
2	Transportation		
2.1	Public Transport Fare Concession Scheme for the Elderly and Eligible Persons with Disabilities	To enable elderly people and eligible persons with disabilities to travel on the general MTR lines, franchised buses and ferries any time at a concessionary fare of \$2 per trip.	The Labour and Welfare Bureau of GovHK
3	Health Care Service		
3.1	Elderly Health Centre	For health assessment, physical check-up, counselling, curative treatment and health education to elderly people aged 65 or above.	Department of Health of GovHK
3.2	Community Nursing Service (CNS)	Provision of continuous care services for patients who have been discharged from hospitals; Service include the administration of proper nursing care to patients via home visits, and the enhancement of patients' knowledge of health promotion and disease	Hong Kong Housing Authority

		prevention.	
3.3	Geriatric Day Hospital	Provision of ambulatory care services, multidisciplinary assessment, continued care, and rehabilitation programs	Hong Kong Housing Authority
4	Care and Support Service		
4.1	Universal Design	A design of dwelling that satisfies safety, comfort and usability requirements of all residents, and is able to meet the residents' changing needs due to ageing	The Hong Kong Institute of Architects
4.2	Neighbourhood Elderly Centre (NEC)	NEC is a type of community support services at neighbourhood level to provide a range of comprehensive services to enable elders to remain in the community, to lead a healthy, respectful and dignified life and to enhance their positive and contributing role to the society.	Social Welfare Department of GovHK
4.3	Social Centre for the Elderly (S/E)	S/E organize social and recreational activities for elders in the community to help them make constructive use of their leisure time, develop their potentials through learning and build social networks.	Social Welfare Department of GovHK
4.4	District Elderly Community Centre (DECC)	DECC is a type of community support services at district level to enable elders to remain in the community and to lead a healthy, respectful and dignified life. DECCs also collaborate with other service units in the district and cooperate to build a caring community with better use of community resources.	Social Welfare Department of GovHK
4.5	Senior Citizen Card Scheme	The Senior Citizen Card provides a generally recognized proof of age to elders so as to facilitate their access to concessions, discounts or priority services offered by Government departments, public companies, private and commercial establishments. The Scheme aims at promoting a spirit of respect for the senior citizens.	Social Welfare Department of GovHK
4.6	Home Help Service	Provision of general personal care, household management, purchase and delivery of daily necessities, with the aims of assisting elderly people, the disabled, individuals and families who are incapable of looking after themselves or are unable to maintain the normal functioning of their household.	Social Welfare Department of GovHK
5	Residential Care Service for the Elderly		
5.1	Care-and-attention Homes (C&A Homes)	C&A Homes provide residential care, meals, personal care and limited nursing care for elders who suffer from poor health or physical/mild mental disabilities with deficiency in activities of daily living but are mentally suitable for communal living, and are assessed to be of moderate impairment level under the Standardized Care Need Assessment Mechanism for Elderly Services.	Social Welfare Department of GovHK
5.2	Nursing Homes	Residential care service for elderly people who cannot be adequately cared for in C&A homes and yet do not require the intensive medical and nursing care provided in infirmaries.	Social Welfare Department of GovHK
5.3	Visiting Health Teams	Service provision of wellness programs, regular vaccination for high-risk groups, and enhancement of career's health knowledge and caring skills	Department of Health of GovHK
5.4	Deduction for Elderly Residential Care Expenses	Tax allowance to encourage people to continuously support their senior family members living in RCHes.	The Hong Kong Society For The Aged and GovHK

Resource:

Department of Health, 2014; Hong Kong Housing Society, 2004; Social Welfare Department, 2005b; Social Welfare Department, 2014; The labour and Welfare Bureau, 2014.

3.5 Unique Features of Hong Kong's Elderly Living and Social Environment

Based on the 2011 Population Census, 13.3% of Hong Kong's 7.07 million population

were 65 or above and it is projected that by 2014, 30% of the total population will be elderly (Census and Statistics Department, 2012). Moreover, it is projected that the proportion of older people living in new town developments will increase from 10.3% in 2009 to 15.3% in 2019 (Yau, 2013). The housing system in Hong Kong must be remodelled to meet the future requirements of the elderly population..

Chui (2001) reported that as of 2001, 419,900 elderly people are living in government public rental housing, while 16,100 elderly applicants are still on the waiting list. He further stated that most elderly people relied on rented public housing. Hui et al., (2014) also reported that most elderly are low-class private residents in old urban communities who are living in poorer conditions while others lived in marginalized sub-divided units susceptible to poor and unsafe living conditions Siu (1999) that found that elderly people who live in public elderly homes are more contented with their homes and are in better health than those who live in private elderly homes.

Aside from the housing issue, the elderly population is facing problems regarding the lack of viable family and social support (Chui, 2001). Furthermore, there is a high incidence of chronic illness among older people, with 70% suffering from one or more chronic diseases; 63% had hypertension and 20% had rheumatism as revealed in the Thematic Household Survey results in 2009 (Chui et al., 2009). Moreover, retirement protection is viewed to be insufficient in Hong Kong (Towers Watson, 2012) while it is projected that by 2020, 45% of the elderly population will not have sufficient income for basic subsistence requirements (Law, 1997). Lastly the elderly in Hong Kong wish to age in place, growing old in a home they are accustomed to (Yau, 2013).

Shortage Supply of Public Rental Housing

The Census and Statistics Department (C&SD) announced a series of figures that about 31% of Hong Kong citizens lived in Public Rental Housing, and the number of applicants who were on the waiting list for Public Rental Housing increased from 90,240 in 2003 to 210,400 by late September of 2012 (Oxfam, 2013). Among the total population, the proportion of aged population living in Public Rental Housing is about 521,200, higher than 38% by the end of March 2013 (Hui et al., 2014).

Although the Hong Kong HKSAR government continues to give the elderly priorities of Public Rental Housing, the average waiting time of the elderly applicants for Public Rental Housing is about 3 years (Hong Kong Information Service Department, 2014). The shortage in supply of elderly housing could not be solved in the recent years, because of Hong Kong's lack of systematic and comprehensive housing policies, which take the need to control the building of new units of public rental housing and the building of subsidized sales housing into consideration (Wong et al., 2012).

Elderly Housing Market Development in Hong Kong

The unfavourable financial condition of the elders renders them unable to satisfy their housing needs in the private housing market, given Hong Kong's spectacularly high land and flat/house prices. It predisposes them to be dependent upon the government's subsidized public housing. The reliance of elderly people upon public rental housing has been confirmed by various local studies (Tsuen Wan Ecumenical Social Service Centre, 1994; Wong, 1997), as well as by the government itself (Housing Branch, 1997). Nevertheless, a substantial portion of these elderly tenants are living in old public housing estates which are also designated to be redeveloped in the Housing Department's Comprehensive Redevelopment plans.

At the same time, nowadays, a good number of elderly people are independent, financially stable, well-travelled, socially connected, and as a result have well-developed thoughts of how they want to spend time after retirement. Therefore, elderly people are now being regarded as a new customer segment for property developers as well as other allied services providers for creating a proper assisted living environment for them (Press Trust of India, 2014).

The introduction of elderly service homes is relatively recent, and these include residential buildings, communities, nursing homes and day-care centre, which are built in accordance with the needs of aged people. So far, only the Housing Society in Hong Kong offers life-lease flats tailored for elderly tenants. With the upfront payment as an entry contribution, in return, the elderly can get the right to occupy the life-time elderly service flats with self-contained facilities (Tan & Lo, 2013). For example, through the Senior Citizen Residence Scheme, it provides purpose-built housing with integrated health care facilities for the middle income group. For, the low-income group, although Hong Kong Housing Society currently offers rental flats for the lower income group at about half the market rate, it only has about 900 such flats in its portfolio (Tan & Lo, 2013). Besides, the Housing Society is also experimenting with a new type of elderly housing projects which would be completed in the next few years. They primarily aim at those who already have their own houses, but expect to liquidate fixed assets. Moreover, they don't require the tenants to go through means testing and they are not subsidized. These projects would also charge the tenants an entry contribution, which would be some 50%-60% of the market price (Tan & Lo, 2013).

3.6 Elderly Housing Providers in Hong Kong

There are two main providers of public rental housing and subsidized housing in Hong Kong, they are the Hong Kong Housing Authority and non-government Hong Kong Housing Society.

The Hong Kong Housing Authority

The Hong Kong Housing Authority (HA) is a statutory body established in April 1973 under the Housing Ordinance (Hong Kong Housing Authority, 2014). It develops and implements a public housing programme which is to realize the Government's policy objective of meeting the housing needs of people who cannot afford private rental housing. It also plans, builds, manages and maintains different types of public housing, including rental housing estates, interim housing estates, and transit centres. In addition, it supports the Government's policy in providing subsidized home ownership flats to qualified persons (Hong Kong Housing Authority, 2014).

The Hong Kong Housing Society

The Hong Kong Housing Society is an independent and not-for-profit housing organization established in 1948 and incorporated by Ordinance in 1951 (Hong Kong Housing Society, 2014). Providing complementary housing through a number of its own innovative schemes, and as a partner of the government, the Housing Society builds self-contained homes for the people in need at non-prohibitive rates. It has also pioneered innovations in many areas: introducing professional housing management expertise from the UK to manage its rental estates; developed sandwich class housing; implemented various loan schemes for the Government; developed senior citizen housing, participated in urban renewal and assisted owners of old private buildings in building management and maintenance. It has carried out all these activities with either its own financial resources or in partnership with the government.

Public Housing Types in Hong Kong

There are five kinds of housing types for middle and low-income groups in Hong Kong, which are summarized into Table 3.2. They are Public Rental Housing (PRH), Subsidized Home Ownership (SHO), Interim Housing, Housing for Elderly People and Squatter.

Table 3.2 Five Housing Types for Middle and Low-income Groups in Hong Kong

Public housing types	Target population	Remarks
Public Rental Housing (PRH)	The Census and Statistics Department (C&SD) announced a series of figures that about 31% of Hong Kong citizens lived in Public Rental Housing and the number of applicants who are on waiting list for Public Rental Housing is from 90,240 in 2003 to 210,400 in late September of 2012 (Oxfam, 2013).	The provision of assistance to those with genuine housing needs has always been the heart of the Government's housing policy (Hong Kong Information Services Department, 2014).
Subsidized Home Ownership Housing (SHO)	Since 1978, approximately 471,000 subsidized flats have been sold to low-to-middle income households at discounted prices under the Government's various subsidized home ownership schemes (Hong Kong Information Services Department, 2014).	The Housing Authority introduced various subsidized home ownership schemes, including the Home Ownership Scheme (HOS), the Tenants Purchase Scheme (TPS) and the Home Assistance Loan Scheme in the past few decades. The HOS Secondary Market Scheme provides an

		alternative for tenants of public rental housing (PRH) to own a home, which recover more PRH flats for allocation to families in need (Hong Kong Housing Authority, 2014).
Housing for Elderly People	The proportion of elderly people living in Public Rental Housing is about 521,200, higher than 38% by the end of March 2013 (Hui et al., 2014). Updated to March 2014, the average waiting time of elderly applicants was about 1.6 years (Hong Kong Information Services Department, 2014).	The Hong Kong SAR Government continues to giving the elderly priorities of Public Rental Housing, e.g. Senior Citizen Residence Scheme, which is tend to provide integrated health care facilities on a “lease-for-life” for the middle income elderly people in Hong Kong (Tan & Lo, 2013). The Hong Kong Housing Society plans to provide purpose-built elderly housing under a market-driven approach under its <i>Joyous Living Scheme</i> .
Interim Housing	Interim housing is for the people who cannot be access to the permanent public rental housing, but homeless for the time being.	N/A
Squatter	The number of squatters and squatter structures has been reduced in recent years through re-housing and clearance programmes.	N/A

3.7 Summary

In general, a substantial proportion of elderly people are at a disadvantage in facing the threat of urban renewal because of their poor physical, financial and social aspects. The weakening of respect for elderly people and neighbourhood care, coupled with the nuclearization of families, all aggravate the plight of elderly people in Hong Kong (Chui, 2001). Most elderly people in Hong Kong are living in old urban communities (Oxfam, 2013), like West Kowloon, Sham Shui Po and Fanling North, which are on the site questionnaire survey list of this research. These old urban communities are extremely basic, among which the old buildings are decaying, walk-up, with primitive provision of building services. Moreover, the rents of these units are often expensive for the elderly who have no job (Oxfam, 2013). In terms of the new high-rise buildings, they are rapidly being built for young families with children, limited by inflexible layouts and tight space standards (Wong, 2005). When the parents become aged, the buildings, services and facilities of the communities cannot cater for people of such advanced age, because their previous design cannot be advanced or improved by so many years to those of contemporary design (Cheng, 2003). The booming of the property-led economy of Hong Kong has not “trickled down” its benefits evenly to all sectors in the society. The elderly cohort is particularly disadvantaged, as elderly people are more vulnerable to the adverse impacts of urban renewal driven by the property-led market forces. Housing situation is a serious problem for many citizens in Hong Kong and for the elderly, it warrants a separate special study for a closer examination of the plight of Hong Kong’s elders in their need for an appropriate habitat.

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Chapter 4. Comparative Studies on the Best Practice of Age-friendly Initiatives in Six Selected Asian and Western Cities

4.1 Introduction

Hong Kong's elderly population (aged 65 and above), as a proportion of the whole, is projected to be 23% by 2025 (Census and Statistics Department, 2012). This high percentage gives rise to a pressing issue that needs to be addressed, since it has been reported that there is still no comprehensive planning for Hong Kong's ageing society (Kwok & Ng, 2008). As a compact city with an unusually high population density, Hong Kong needs to learn from the exemplary age-friendly approaches of the selected best practice cities in order to design an age-friendly policy that is most suitable for Hong Kong's age-friendly precinct development.

This chapter aims to explain the development of a set of age-friendly precinct design criteria for densely populated cities like Hong Kong. It is based on the World Health Organization (2007) eight *Key Areas for Global Age-friendly Cities*, through a thorough comparative review of the age-friendly best practice cities selected from Asian and western countries. This comparison of the selected best practice cities is focused on the policies and initiatives undertaken to promote the health and wellbeing of the elderly. The findings regarding the differences and similarities will better inform stakeholders such as urban planners, businesses, government, other service providers, end-users, and others about how collectively to achieve a sustainable age-friendly community in Hong Kong.

4.2 Methodology

In the previous chapter (Chapter 3), a comprehensive literature review was undertaken to identify Hong Kong's current situation regarding the provision of elderly precincts and determining the needs of the elderly. The comprehensive review on the best practice age-friendly Asian and western cities, provides a comparison framework to further explore the WHO's eight key areas which will be adopted in Hong Kong.

Examples of Asian and western best practice cities which have successfully implemented age-friendly initiatives were studied, namely: Singapore, Korea and Japan in Asia; while those in the western world include New York, Manchester, and Melbourne. This comparative study helps determine the key elements that are needed in implementing age-friendly programmes among the selected best practice cities, each with different urban environments, socio-cultural and political characteristics. Thus, the comparison of these selected cities' situations will facilitate progress in determining the status of Hong Kong in terms of the Global Age-friendly City indicators as specified by the World Health Organization (WHO, 2007). Tables

4.1 and Table 4.2 present the selection rationale and the demographic profiles of Best Practice Asian and western Age friendly cities.

Table 4.1 Selection Rationale and Demographic Profiles of Best Practice Asian Cities

	Akita	Singapore	Seoul
Highlights/ Issues	Akita is at the forefront of the ageing issue in Japan due to its highest ageing rate of 24.1% in 2012. Akita is the only member of the WHO's Global Network of Age-friendly Cities and Communities among the selected Asian Best Practice Cities.	Singapore is experiencing the fastest growth rate of elderly population from 6% in 1990 to 7.2% in 2000. Its elderly population was 9.3% in 2011. The ageing issue has been on the national agenda of Singapore since the 1980s, and city planning takes the elderly into account.	Seoul's elderly population increases by 50,000 people each year, accounting to 1 million elderly population in 2011.
Brief Profile (Demographics)	Area: 905.67km ² (349.68mi ²) Population: 320,703 (2012) Density: 360/km ² (920/mi ²) 24.1% of the population age 65 and over (2012) 40.1% of the population age 65 and over (2030 projected)	Area: 716.1 km ² (276mi ²) Population: 5.312 million (2012) Density: 7,540/km ² (19,562/mi ²) 10.5% of the population age 65 and over (2012) 9% of the population age 65 and over (2030 projected)	Area: 605.2 km ² (233.7mi ²) Population: 10.44 million (2013) Density: 17,288/km ² (44,776/mi ²) 12.2% of the population age 65 and over (2013) 24.3% of the population age 65 and over (2030 projected)

Sources: Oizumi et al., 2006; Murata, 2010; WHO, 2013; Hozumi, 2012; Northern Housing Consortium, 2010; World Cities Summit, 2012; Ministry of Social and Family Development, n.d.; Wong & Teo, 2011; Ministry of Community Development, Youth and Sports, 2009; Ministry of Community Development, Youth and Sports, 2011; Tsao, 2013; Lee, 2013.

Table 4.2 Selection Rationale and Demographic Profiles of Best Practice Western Cities

	New York City	Manchester	Melbourne
Highlights/ Issues	One of the first member counties of the WHO's Global Network of Age-friendly Cities Awarded as the Best Existing Age-friendly Initiative Award by the International Federation on Ageing in 2013. Awarded the American Public Health association's Public Health Award for Excellence in Program Innovation in 2013. The city has similarities with Hong Kong in terms of being a high rise compact city. In 2010, there were 40 million people age 65 and over in the United States, accounting for 13 percent of the total population. The older population in 2030 is projected to be twice as large as in 2000, growing from 35 million to 72 million and representing nearly 20 percent of the total U.S. population.	One of the first member counties of the WHO's Global Network of Age-friendly Cities Recognized as most age-friendly environment in the UK in 2012. The United Kingdom's second most populous urban area The highest rated city in the UK outside of London and considered a Beta Global City.	One of the participating cities of the WHO project in 2005
Brief Profile (Demographics)	Area: 1,214 km ² (468.9 mi ²) Population: 8.406million (2013) Density: 10,725.4/km ² (27,778.7/mi ²) % of the population age 65 and over :17.2% (2010)	Area: 745.95km ² (288mi ²) Population: 2.553million (2011) Density: 4,051/km ² (10,490/ mi ²) % of the population age 65 and over :10% (2012)	Area: 716.1 km ² (276mi ²) Population: 5.312 million (2012) Density: 7,540/km ² (19,562/mi ²) % of the population age 65 and over: 14% (2011)

Source: New York City Department for Ageing (2012); New York Academy of Medicine (2008); City of New York (2009); Manchester City Council (2014); I'DGO (2007); Australian Bureau of Statistics (2011); Australian Local Government Association. (2006); City of Melbourne (2006)

Since Hong Kong still does not have a comprehensive ageing public policy to prepare for her ageing trend, a selection of best practice Asian and western cities were examined to obtain valuable lessons from their experiences. Besides having a high ageing rate, these selected best practice cities were chosen based on their existing and on-going age-friendly approaches, which can be improved according to what is appropriate for Hong Kong’.

4.3 Best Practice Age-friendly Asian Cities

The statements about age-friendly policy in Akita, Singapore and Seoul from both academic and publicity literature are coded into the indicators under 8 key areas of age-friendly city given by WHO (2007). A deeply detailed summary is given as **Appendix 1**. The following part gives a general summary of the result of our literature review and salient characteristics of each city’s age-friendly policy.

Akita, Japan

Japan enjoys one of the highest life expectancy in the world with relatively low health care costs: 7.9% of its gross national product is spent on health care. It has also implemented a number of policies that have helped contain the potentially sky-rocketing long-term care costs of an ageing population, and also explored effective ways to maintain older adults’ functional abilities and promote independent living (Schabloski, 2008). Japan leads the way on technological advancements for elderly wellbeing, and has been successful in developing advanced and user-friendly communication systems through robotics and information technology in the past two decades (Northern Housing Consortium, 2010). Furthermore, the importance of promoting an age-friendly environment for its community is one of Japan’s policy goals. The government has enforced building codes such as the Universal Design guidelines and barrier-free strategies. Akita’s city vision includes four important aims: to provide a positive image of its elderly population, to promote a barrier-free society, to secure transportation and to prevent the social isolation of older people (Hozumi, 2012). These age-friendly policies can be good examples when implementing age-friendly policies in Hong Kong.

Seoul, South Korea

South Korea’s policy framework, which involves all the stakeholders for the improvement of Seoul as an age-friendly community, is a practical strategy from which Hong Kong could also learn. In order to implement the age-friendly city concept, Seoul has reviewed its policy environment according to the eight areas suggested by WHO Age-friendly City Guide (Lee, 2013; Seoul Welfare Foundation, 2013). Seoul studies the life of senior citizens including baby boomers before designing the age-friendly policy and adjusting it to suit its real and current situation. An integrated diagnosis of the quality of life of the city’s senior citizens has been

undertaken and examined in three dimensions such as the individual psychological level, social level and policy level (Seoul Welfare Foundation, 2013).

Singapore

Singapore's ageing-in-place programme, with a strong focus on family support, is a very practical and applicable model for Hong Kong to implement. Singapore's national agenda for its ageing population can be a good source of reference in formulating Hong Kong's age-friendly policies for ageing. Ageing has been a recognized agenda in Singapore since the 1980s, and the country has set up a number of executive committees to study the ageing trends. Singapore was able to successfully deal with the issue of ageing through its National Policy, which is meant to maintain the physical and mental wellbeing of its senior citizens in order to enable them to lead a valuable and active life (Ministry of Community Development, Youth and Sports, 2009; Ministry of Community Development, Youth and Sports, 2011). The principle of personal responsibility has guided Singapore's policies concerning elderly wellbeing and family support (Ministry of Community Development, Youth and Sports, 2009; Ministry of Community Development, Youth and Sports, 2011). Singapore has adapted the WHO planning criteria appropriately to its own needs in terms of placing more emphasis on the social environment pertaining to emotional and social support (Ministry of Social and Family Development, 2009a; Ministry of Social and Family Development, 2009b; Ministry of Social and Family Development, 2009c). The city's age-friendly initiatives promote social integration of the elderly in the community instead of isolating them as separate residents.

The selected Asian cities are comparable to Hong Kong as compact cities categorized as first world countries. Table 4.3 provides some further comparison of initiatives and strategies of these three Asian cities.

Table 4.3 The Selected Best Practice Asian Cities with Salient Age-friendly Approaches

	Akita	Singapore	Seoul
Salient Age-friendly Approaches	Akita City Age-friendly City Vision Promotion Group was set up in 2010 to promote the concept of Age-friendly City Japan developed new technologies to enable people to live independently and improve the quality life of older and disabled people. Disaster preparedness and community based support in ageing societies.	"A City for All Ages Project Office" was created, as well as public- practitioner –academia research & collaboration at tertiary universities was formed to promote the age-friendly city concept. Ageing in place concept enables the elderly to continually live in the community for a long time without being institutionalized, through robust social networks among families and friends and provision of care and social services.	Seoul Metropolitan Government established 'the 2020 Ageing Society Master Plan' in 2010 which sets 'the Realization of an Age-friendly City as a Policy Goal, representing a paradigm shift in its senior policies, in order to effectively cope with rapidly ageing society' (Seoul Welfare Foundation, 2013).

Sources: Oizumi et al., 2006; Murata, 2010; WHO, 2013; Hozumi, 2012; Northern Housing Consortium, 2010; World Cities Summit, 2012; Ministry of Social and Family Development, n.d.; Wong & Teo, 2011; Ministry of Community Development, Youth and Sports, 2009; Ministry of Community Development, Youth and Sports, 2011; Tsao, 2013; Lee, 2013; Seoul Welfare Foundation, 2013.

Apart from the lessons learnt from the Asian best practice cities, Hong Kong must explore the way age-friendly programmes have been implemented in the western part of the globe. These western cities have implemented effective age-friendly programmes that can be replicated in Asian countries in terms of their pursuit to include the elderly population in the planning process as well as their proactive strategies in prolonging life through health related research and innovations.

4.4 Comparison Framework of the Best Practice Age-friendly Asian Cities with Hong Kong

Similarities among Asian Best Practice Age-friendly Cities

There are a number of similarities between the approaches initiated by the selected best practice Asian cities. First, in terms of the physical environment (outdoor spaces and buildings, transportation and housing), programmes on accessibility, universal accessibility, mobility and safety are implemented in all three of these cities, while there are universal design and innovations implemented by Japan and Singapore. An example of these innovations in outdoor spaces are the snow melting sidewalks in Akita which prevent the risk of falls and fractures, and the Green Man Plus of Singapore which provides additional time for elderly people to cross the road. In addition, a barrier-free, safe and affordable housing are the main emphases of each of these cities, while universal design is applied in Japan and promoting ageing-in-place programmes is now the focus of Singapore. Singapore has gone beyond the physical provisions by tackling the primary and most pressing needs of the elderly such as home ownership, co-residence with family members and its neighbourhood renewal programme, which allow elderly independence and ageing-in-place.

A second similarity between these Asian city age-friendly approaches are the initiatives around social participation and respect and social inclusion. In these, lifelong education programmes are provided to expand the elderly's educational pursuits as well as the promotion of active ageing programmes and other physical and sports activities for elderly people. A good example is Singapore's Golden Opportunities (GO) fund, which supports talented and experienced seniors who are able to suggest projects applicable for seniors. The Golden Opportunities (GO) fund has brought inspiring results, such as the enhancement of active ageing among seniors through active lifestyles, social networks, volunteering, healthy living, lifelong learning and intergenerational bonding (Goh, 2006). Korea also provided financial support to marginalized elderly through its Hope Plus bankbook funding programme (Seoul Welfare Foundation, 2013). Civic participation and employment among the elderly people are also encouraged by these cities wherein opportunities for work and volunteering are the core for Singapore and Korea, while Hong Kong is working towards elderly participation in societal and planning affairs. Noteworthy also are the initiatives of the selected cities wherein they were able to set up their age-friendly promotion centres and socio-economic health care support programmes for the elderly population.

Differences among Asian Best Practice Age friendly Cities

There are also a number of differences identified between these Asian cities in their age-friendly approaches to the social environment. The first one is the different ways these cities have implemented their ageing policy with country-wide support. The second is the contrast between cities in terms of collaborative research and education, as well as innovations: For example, Japan and Singapore have pioneered technological advancements and other medical achievements to ensure the wellbeing of the elderly, while Korea still focuses more on physical and social environment programmes for elderly needs and welfare.

4.5 Best Practice Age-friendly Western Cities

New York, Manchester and Melbourne are dense compact cities with well-designed ageing strategies that were greatly supported by public-private collaborations. New York's successful age-friendly strategies are detailed in their Age-friendly NYC (New York Academy of Medicine, 2008; City of New York, 2009), while Melbourne has its Lifelong Melbourne Plan, and Manchester has its Manchester Ageing Strategy for their age-friendly schemes (Manchester City Council, 2014; Australian Local Government Association, 2006). These selected western cities are considered exemplars in their age-friendly approaches, which offer potential key elements that could be appropriate to Hong Kong's situation. These three western cities have achieved a degree of renowned for their achievements in this area: New York City and Manchester were among the first cities admitted to the WHO Global Network of Age-friendly Cities, and are the most awarded cities for age-friendly aspects (New York Academy of Medicine, 2008; City of New York, 2009; Manchester City Council, 2014). Melbourne, in turn, was ranked the third most liveable city in the world in 2014 (The Economist Intelligence Unit, 2014), which reflects its high quality of life. Therefore, these selected western cities are considered the most appropriate cities from which to derive reflections and high aspiration for the establishment of an age-friendly environment.

From the literature, both scholarly and for publicity, the characteristics of age-friendly practice of each western city are summarized into **Appendix 2** based on the framework given by WHO (2007). The following part the practices are generally summarized and the salient features of each city's practices are highlighted.

New York City, USA

As a compact and dense city like Hong Kong, the collaborative efforts of the government, NGOs, and private and public sectors in making New York City become age-friendly in every aspect, is an achievement that Hong Kong must emulate. The society's will power is supported by private and government sectors, thereby implementing best practice age-friendly programmes in a collaborative manner.

Manchester, UK

Manchester's approach of engaging older people in the policymaking and consultations in terms of ageing related issues and programmes is well received, most especially the creation of the Manchester Ageing Strategy 2012. Manchester's Ageing Strategy was established and sustained on the basis of political leadership, local narrative and partnership strategy (Buffel et al., 2014).

Melbourne, Australia

Melbourne has a well-designed local to national to international network support in terms of promoting strategies for age-friendly built environments. It considered the WHO standards, the UN principles for older people, the policy frameworks from international organizations, and relevant knowledge from the Australian local government associations in formulating the Lifelong Melbourne Plan. The Lifelong Melbourne Plan promotes age-friendly built environments that gather local, national and international support. Table 4.4 shows some more comparison in initiatives and strategies of the three selected western cities.

The selected western cities have already established age-friendly programmes, which receive high support from the government, private sector and civil society. Their endeavours are focused on improving these age-friendly approaches and moving forward to enhance healthy and active ageing through making everything age-friendly from businesses to professions and to the built environment. In addition, these cities are emphasizing strategies that contribute to longevity, health and elderly independence, as well as engaging the elderly sector in the design and planning process of their cities.

Table 4.4 The Selected Best Practice Asian Cities with Salient Age-friendly Approaches

	New York City	Manchester	Melbourne
Salient Age-friendly Features	New York aims at becoming a model city that is capable to support and involve people as they age. Age-friendly programmes implemented to all sectors (eg. Business, schools, colleges, professions, technology, etc). Formulated the Successful Aging Index to encourage and promote best practice among American communities in serving their elderly society.	Valuing Older People (VOP) engagement programme is well established and enjoying recognition as an integral voice in the city. Senior playground promoted by Age UK as pride of place. Inclusive Design for Getting Outdoors (I'DGO): UK's initiative for creating outdoors spaces for enhancing people's lives. Manchester's Generations Together Programme unites older and younger people and the community to improve the local area.	Lifelong Melbourne Plan which aims to build capacity for its ageing population. The Australian Local Government Association (ALGA) promotes strategies for planning and designing age-friendly built environments. Implemented age-friendly programmes to support independence, lifelong learning, aged care services, and funding, self-care, active ageing.

Source:

New York Academy of Medicine, 2008; City of New York, 2009; Manchester City Council, 2014; I'DGO, 2007; Australian Bureau of Statistics, 2011; Australian Local Government Association, 2006; City of Melbourne, 2006.

Similarities among Western Best Practice Age friendly Cities

Apart from political and civil society support, these western cities have some commonalities in terms of their advocacy to support and promote the ageing population's needs at present and in the future. They have these proactive goals of ensuring that all age groups will live independently and vibrantly as they age. Another similarity is that these cities provide intergenerational programmes to promote interaction between young and old peoples. These cities are now effectively answering the social needs of the elderly since they have designed most of their built environments to become age-friendly. Each of these cities has provided strategies that counteract issues associated with loneliness, social inclusion and participation, health care services and community support. For instance, Manchester's objectives are to enable the elderly to be more active and engaged while living in lifetime neighbourhoods, meaning a 'place that allows all ages to have good quality of life' (Buffel et al., 2014). New York on the other hand works on promoting the elderly as vibrant contributors to the city and community as well as fostering their quality of life and community connectedness to all constituents. Moreover, New York is continually responsive to the needs of its vulnerable elderly while Melbourne and Manchester work on the social needs of their ethnic and minority populations, especially vulnerable elderly people.

These western cities may have similar age-friendly approaches pertaining to social aspects, but they also vary in terms of their individual strategies. A few good examples are Melbourne's innovative housing support option based on mutual benefits such as the feasibility of home share with tertiary students and older sole-person householders. Manchester's Generation Together programme allows younger and older generations to interact and develop new skills together. New York also provides intergenerational volunteering and learning programmes.

Differences among Western Best Practice Age friendly Cities

These western cities have similarities in their endeavours to become age-friendly cities although each one has its own distinct strategy to answer the key areas the WHO has established, and these could be attributed to their differing socio-cultural and political needs.

4.6 Discussion with Reference to Hong Kong

Singapore and Hong Kong were previously British colonies and have similarities in terms of culture, demographics and geographical features. Japan and Korea are neighbouring countries with close ties with Hong Kong as well as having commonalities in terms of demographics, and cultural features. However, in terms of innovations, technological advancements and age-friendly approaches, Hong Kong lags behind these selected cities. For instance, Japan and Singapore had pioneered the implementation of universal design as well as ensuring their respective ageing

policies were incorporated in these countries' master plans for development. These cities have created age-friendly city offices to promote the concept of an age-friendly city, and have been able to cope with issues pertaining to a rapidly ageing society.

Age-friendly policies among Asian cities needs more civil society support. The approach here is more top to bottom, while western cities have been able to achieve a bottom-up approach to implementing their age-friendly policies. Asian cities already have exemplary strategies in terms of innovations and technology for their built environments, with Japan and Singapore being comparable to the western cities. In terms of answering the social needs of the elderly, the western cities have implemented effective strategies that can be replicated in Asian cities although Korea was able to establish a more comprehensive social consideration in its age-friendly plan. These selected Asian cities could also benefit from the proactive strategy of New York's planning for the future and Manchester's lifetime neighbourhoods program.

Table 4.5 Asian Cities' Country-level Strategies, Innovations and Technology

Age Friendly Programs	Japan	Singapore	Korea
Country-level: Innovations/ Technological advancements	- Gerontechnology- combines gerontology and technology in order to contribute in the development of technological solutions for the ageing society. - Emergency and disaster preparedness using GIS	- Innovative mobility solutions for all ages - Technology based approaches to solving the last mile problems for seniors - Innovative survey using smartphone and digital technologies for data collection. - Passenger-centric public transportation services for mobility demands - Green man plus- a signalized pedestrian crossing which is intended to provide additional crossing time for older people and persons with disabilities.	
Country level: Strategies	- Age-friendly city promotion - Universal design - Collaborative research and education - Socio-economic and health care support	- Age-friendly city promotion - Collaborative research and education - Socio-economic and health care support	- Age-friendly city promotion - Socio-economic and health care support

Sources: Hozumi, 2013; Northern Housing Consortium, 2010; Canada Mortgage and Housing Corporation, 2014 ; Kadoya, 2013; Muramatsu & Akiyama, 2011; Phillipson, 2011; Fukuda, 2011; Ministry of Community Development, Youth and Sports, 2009; Ministry of Community Development, Youth and Sports, 2011; Ministry of Social and Family Development, 2009a; Ministry of Social and Family Development, 2009b; Ministry of Social and Family Development, 2009c; Goh, 2006; Land Transport Authority, 2014; Lee, 2013; Seoul Welfare Foundation, 2013.

Table 4.6 Western Cities' Country-level Strategies, Innovations & Technology

Age-friendly Programs	New York	Manchester**	Melbourne
Country-level: Innovations/ Technological advancements	- Planning for the future programs - Age friendly business and other age-friendly sector programmes	- Establishing a multi-agency research, policy and practitioner collaborative centre of excellence on urban ageing. - Creating an age-friendly workforce through the development of the Manchester Ageing Studies certificate.	New virtual communities programs via Melbourne's Business Information Services
Country level: Strategies	Successful Ageing Index – first data driven index of its kind wherein its goal is to encourage and	The Valuing Older people (VOP) engagement programme is well established and enjoying recognition as an integral voice	Lifelong Melbourne Plan's purpose to strengthen its capacity for its elderly population and strongly

	promote best practice in how US communities serve ageing Americans. New York's collaborative partnership with private companies, non-profit institutions and the government is its building block in becoming a model city capable of supporting and engaging people as they age.	in the city. Involving Market Mechanism to support Manchester Ageing Strategy objectives through private sector partnerships; multi agency commitments to improving services and communities for older people and planning; attract resources to the city from a range of non-mainstream sources; mobilizing communities and improving services.	advocate support for independency through lifelong learning. - Local governments in Australia promote strategies for designing age-friendly built environments to support the ageing population needs. - Melbourne considers the WHO standards, UN principles for older people, and policy frameworks from international organizations and from the commonwealth govt.
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Sources: New York Academy of Medicine, 2008; City of New York, 2009; Manchester City Council, 2014; Buffel et al., 2014; Australian Local Government Association, 2006; City of Melbourne, 2006.

Tables 4.5 and Table 4.6 show the country-level strategies, innovation and technological advancements in the selected Asian and western best practice cities. These age-friendly programmes are helpful tools for the development of an age-friendly policy for Hong Kong.

4.7 Findings and Summary

From the literature about Hong Kong, the indicator list was also checked in Hong Kong's situation. The result is shown in **Appendix 3**. Based on the above literature review, Table 4.7 shows a comparison of age-friendly city conditions between Hong Kong and the six best-practice cities mentioned above. The factors that were not well implemented by Hong Kong but have been firmly established by some best practice city (cities) are displayed. The table not only shows us the insufficient aspects that need to be improved, but also indicates a reference list of model cities from which we can learn to improve the age-friendly city construction in Hong Kong.

In term of urban development of the physical environment, from the comparative study, we have found the 6 best practice cities have already conducted some outstanding strategies and projects from which Hong Kong can get some inspiration about how to enhance its own age-friendly policies and construct its own age-friendly precincts. Generally, the projects and strategies deserving reference as having the potential to make contributions, are shown in the following indicators of the age-friendly city design: walkways and pathways, age-friendly buildings, special customer services, specialized services for older people, essential services, modifications, and community integration.

Table 4.7 A Comparative Table of the Insufficient Aspects Done by Hong Kong

The Eight WHO Key Areas	Indicators	Akita	Singapore	Seoul	New York	Manchester	Melbourne	Hong Kong
Outdoor Spaces and Buildings	Walkways and pathways	✓	✓	✓	✓	✓	✓	

	Age-friendly buildings	✓	✓	✓	✓	✓	✓	
	Special customer service				✓	✓	✓	
Transportation	Specialized services for older people			✓	✓			
	Driving competence			✓		✓		
Housing	Essential services		✓	✓	✓	✓	✓	
	Modifications	✓	✓		✓	✓	✓	
	Community integration	✓	✓	✓	✓	✓	✓	
Social Participation	Affordability				✓	✓	✓	
Respect and Social Inclusion	Public images of ageing	✓	✓	✓	✓	✓		
	Economic inclusion		✓	✓	✓	✓	✓	
Civic Participation and Employment	Accessibility			✓				
	Valued contributions	✓	✓	✓		✓	✓	
	Entrepreneurship		✓	✓				
	Pay		✓	✓		✓		
Communication and Information	Oral communication	✓			✓		✓	
	Printed information						✓	
	Plain language						✓	
Community Support and Health Services	Voluntary support			✓	✓			

The details are listed below to indicate under each indicator which outstanding practices have been implemented by each best practice city. The information below will instruct us how to learn from the best-practice cities systematically and strategically and help us avoid wasting human and monetary resource in the learning process.

Concerning walkways and pathways, Akita has built all weather pedestrian and roofed areas and snow melting sidewalks. Meanwhile, New York has built some pedestrian-friendly public spaces and has its own Traffic Claiming Scheme. In Manchester, there is sufficient support mobility in its surroundings. Melbourne has a cohesive system of parks for mobility and sufficient pathways through neighbourhoods to connect homes with destinations.

In aspect of age-friendly buildings, three best practice cities, namely Akita, Singapore and New York, have their own universal design guidelines to ensure their buildings serve people of all ages well. Meanwhile in Seoul, the barrier-free public facilities will be checked and a certification issued.

Some special customer services for senior citizens are also provided by certain best practice cities in different aspects. For example, in respect of buildings and neighbourhoods, Melbourne provides low maintenance sustainable gardens for

elderly use. On the other hand, in respect of transportation, there are convenience and relaxation facilities at bus stops in Seoul. Manchester also provides more shelter with seats. In respect of housing, Singapore is good at designing and creating healthcare buildings. Seoul also makes effort to establish a safe and stable housing environment. New York not only provides parking areas for older people in the physical environment, but has also implemented a new zoning code to expedite the production of elderly housing and a policy to improve access to Senior Citizen Rent Increase Exemption. In Manchester, many ordinary homes are designed /adapted to be made to be more suitable for older people.

Some best practice cities also carried out modifications of their houses to make them more suitable for elderly people to live in. For instance, in Akita, the infrastructures are redesigned to make them age-friendly; meanwhile, Singapore has also implemented a neighbourhood renewal programme to establish age-friendly communities. There are also many community integration measures implemented by different best practice cities. In Singapore and Melbourne, social spaces are provided in housing estates. In Singapore, there are also some supporting living arrangements of elderly in the community. In Seoul, there are special housing support centres to encourage and facilitate the mixing of the elderly with the community.

In aspect of the situation in Hong Kong, we find that Hong Kong still lacks the promulgation of an ageing policy and its age-friendly programmes are still directly governed by the Elderly Commission. The creation of its ageing policy will take a long time for implementation if it is aimed at achieving a bottom-up approach. In addition, this would surely need advocacy and will power by the government and key stakeholders. However, this bottom-up approach is a better strategy for the creation of age-friendly programmes that engage the participation of the elderly in the design and planning process.

The comparative study findings would be a necessary foundation in establishing specific guidelines for Hong Kong's condition in terms of achieving an age-friendly physical and social environment that is essential to meet the needs of different socio-cultural and political characteristics of a city. Underlying this process, it is of great importance to contemplate the values that are essential in cultivating a balance and quality of living that fits the needs of elderly populations.

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Chapter 5. Matrix Framework of the Age-friendly Design Criteria and Sustainable Planning Criteria – a Case of Hong Kong

5.1 Introduction

The concept of age-friendly cities emerged due to the pressing needs of elderly people's wellbeing and the issue of ageing societies around the world. In Chapter 4, we introduced a number of best practice cities which patterned their age friendly approaches according to the eight key areas set by the World Health Organization (2007). Through WHO's framework, they all developed strategies appropriate to their country specific needs and requirements. For example, Manchester has a dedicated team helping in the delivery of age-friendly policy through public and private collaborative efforts (e.g. Valuing Older People (VOP) partnership and the concept of lifetime neighbourhood) (Manchester City Council, 2014; Buffel et al., 2014). Furthermore, other countries adopted some key areas where they provided major strategies that fit to the needs of their constituents. For instance Korea focused more on the social environment and considered only six of the key areas from the WHO guidelines (Lee, 2013; Seoul Welfare Foundation, 2013). Japan on the other hand continued to improve the physical environment to make it more age-friendly especially to the elderly people and pave its way to age-friendly technological advancement and innovations (Northern Housing Consortium, 2010; Hozumi, 2013). In addition, some cities, such as Melbourne, were able to develop their own age-friendly approaches while taking into account the WHO guidelines, and then localized them based on the needs of their residents while maintaining the set international standards (City of Melbourne, 2006), likewise Singapore (Ministry of Community Development, Youth and Sports, 2009, Ministry of Community Development, Youth and Sports, 2011) and Manchester (Manchester City Council, 2014; Buffel et al., 2014). Moreover, Northern Netherlands established proactive ageing strategies which focused on prevention and longevity of life (Home and Community Agency, 2009).

Hong Kong, with its unresolved population ageing issues still lacks a comprehensive plan to prepare for its ageing society. It is envisioned that by answering the needs of older people, it is possible to better accommodate the needs of all age groups. The aim of this chapter is to identify and establish a list of sustainable planning criteria for an age-friendly precinct that is appropriate for Hong Kong. The establishment of such a list was achieved by validating it through in-depth interviews with experts and subsequently translating it into an on-street survey questionnaire administered in selected districts. From the data collected, exploratory factor analysis was used to determine the factor(s) that can be regarded as the best interpreter(s) of each fundamental planning criterion of age-friendly precincts in Hong Kong. Seven key categories were identified namely economic considerations, personal development for active ageing (respect), outdoor spaces, social and civic participation,

environmental considerations, community support services and health care services. Further, the survey revealed two distinct age groups with different preferences. These fell into two groups: those below age 60 and those aged 60 and above. These two age groups illustrate some differences in terms of their preferences regarding the important sustainable planning criteria for age-friendly precincts in Hong Kong.

5.2 Methodology Development

Development of the Survey Questionnaire

Prior to the development of the survey questionnaire, a comprehensive literature review was undertaken to identify the current situation in Hong Kong in terms of the provision of elderly precincts and determining the needs of the elderly (Chapter 3). The comprehensive literature review provides the background of the study as well as form the preliminary conceptual framework and questions for the empirical surveys. A comparative study of best practice, of Asian and western cities with age-friendly approaches was undertaken to get insights from these cities that will be applicable or the basis for Hong Kong's conditions (Chapter 4).

The survey questionnaire was developed into two parts; the first part was mainly on the age-friendly design criteria with its seven categories mentioned above while the second part focuses on the list of sustainable planning criteria categorized into economic, environment and social sustainability. The list of sustainable planning criteria was collated based on the literature review on commonly used indicators pertaining to sustainable neighbourhood planning (Hong Kong Planning Department, 2002; Chan & Lee, 2009; American Planning Association, 2000; Blazer, 2011; UN-Habitat, 2013; Australian Sustainable Built Environment Council, 2013). These indicators were reconciled to the sustainable planning considerations and practices of the selected best practice case studies to provide consistency.

Once the lists of age-friendly design criteria and sustainable planning criteria were initially established based on their underpinning literature, interviews with a panel of experts was undertaken to seek expert opinions as to each criterion's applicability to Hong Kong. The panel of experts was composed of 21 professionals selected for their expertise in the fields of urban design, architecture, urban planning, active ageing and public policy. These experts also are the high profile representatives from government and private organizations involved in planning an ageing society such as the Elderly Commission, Asia Pacific Institute of Ageing Studies, Hong Kong Housing Society, Elderly Service, Social Welfare Department and the Institute of Active Ageing.

The innovation of this process is the series of questionnaires drafted to accommodate the different views and feedback from the panel of experts considering the Hong Kong situation, and which prompted some re-thinking that modified and improved the existing WHO guidelines (WHO, 2007). This reflection also evaluated how each

sustainable planning criterion should be weighted according to its degree of importance and appropriateness to Hong Kong’.

The questionnaire survey was conducted among selected eight districts in Hong Kong namely; Central, Fan Ling, Hung Hom, Kwun Tong, Sham Shui Po, Sha Tin, Sheung Shui and West Kowloon. The collected data from the survey was analysed with the Statistical Package for Social Science (SPSS) using Exploratory Factor Analysis (EFA) technique and estimation of the mean values. These analysis methods were undertaken to determine the ranking of age-friendly design criteria and sustainable planning criteria in terms of the degree of their importance, as well as identifying the important design and planning criteria via factor analysis. As a data reduction technique, Exploratory Factor Analysis (EFA) aids in discovering the underlying structure of relatively large set of variables. Thus, the factors are the underlying subgroups of variables among these measured variables (de Vaus, 2001; Norris and Lecavalier, 2009). According to Kline (1994), factor analysis reduces a large matrix of correlations and distinguishes a small number of factors that can explain most of the variables observed, and thus, factor analysis is the preferred technique used in this study to identify the underlying key factors that contribute to creating an age-friendly precinct in Hong Kong.

Rationale for the Selected 8 Districts for Survey and Data Collection

In this section, some detailed information about the eight selected districts will be introduced. The information of three specific areas, Sha Tin, Fan Ling and Sheung Shui, which are specifically studied in the present research under the NDA concept, will be presented, together with five other areas, namely West Kowloon, Kwun Tong, Sham Shui Po, Central and Hung Hom. We chose all the areas for their representative significance of a kind of area in Hong Kong. Sha Tin has been a well-developed NDA for over 20 years; meanwhile the other two are still in the process of developing, so they have a large space to be improved. Central is selected as the representative CBD of Hong Kong. Kwun Tong and Sham Shui Po are typical urban renewal districts. West Kowloon, only a geographical concept, is under the process of planning to be a new cultural district of Hong Kong. Hung Hom is a typical high density old area in Hong Kong. A brief introduction of the 8 districts is shown below, together with a chart of the brief geographical profile of each area as shown below Table 5.1.

Sha Tin

Sha Tin is the most populous administrative district in Hong Kong and is a well-developed new town. It comprises mainly residential areas with over 60% of the population living in public housing, which includes public rental estates, Tenants Purchase Scheme and Home Ownership Scheme courts. Besides, there about 29,000 people living in some 48 indigenous villages. Furthermore, there are four light industrial areas in Sha Tin including Tai Wai, Fo Tan, Siu Lek Yuen and Shek Mun.

Table 5.1 Brief Profile of Each Selected District

The major elderly precincts in Hong Kong	Population (x 1000 persons) (2013)	The proportion of ageing population (above 65 years old) (2013)	Average household income (HK\$) (2013)	Education level (Percentage of elderly with secondary education and above) (2013)	The number of residential care homes (2013)	The number of parks/gardens (2012)	The existing and planned provision of open space (2008)	The gross area per capita for elderly (m ² /person) (2013)
Sha Tin	643.0	12.6 %	24,900	36.6	40	86	240.0	29.7
North (Fan Ling and Sheung Shui)	303.2	11.0 %	21,400	26.4	58	137	119.9	35.9
Yau Tsim Mong (West Kowloon)	311.9	13.8 %	22,000	45.6	56	97	105.4	24.5
Sham Shui Po	382.1	16.3 %	17,900	33.6	79	58	119.2	19.2
Central & Western	250.1	13.1 %	34,300	51.8	47	116	57.1	17.5
Kowloon City (Hung Hom)	376.9	15.0 %	25,100	46.4	94	86	164.5	29.1
Kwun Tong	638.9	16.8 %	17,500	30.9	53	109	231.6	21.5

Fan Ling and Sheung Shui

Fan Ling and Sheung Shui are both administratively parts of North District, which is an area in the New Territories East of Hong Kong. Fan Ling North is one of three new development areas currently being planned for North District, in parallel with Ta Kwu Ling and Kwu Tung North. As a part of Sheung Shui, Sheung Shui Town is part of the Fanling-Sheung Shui New Town in the North District. The population of Fan Ling and Sheung Shui keeps growing. Today many public and private estates can be found in this area.

West Kowloon Cultural District

Stretching across 40 hectares of reclaimed land, the West Kowloon Cultural District is one of the largest cultural projects in the world, blending art, education and open space. Its vision is to create a vibrant cultural quarter for Hong Kong where the local arts scene can interact, develop and collaborate. Providing 23 hectares of public open space with two kilometres of vibrant harbour-front promenade it will also include a variety of arts and cultural facilities that will produce and host world-class exhibitions, performances and arts and cultural events.

Kwun Tong

Kwun Tong is one of the earliest developed urban areas in Hong Kong. It is also one of the first New Towns in Hong Kong and it remains a major industrial area. Its

population has been growing rapidly, and the demand for housing, medical and educational facilities and services has been increasing. In view of this, a number of community development projects, such as the redevelopment of old housing estates and the construction of major parks, have been implemented in recent years.

Sham Shui Po

Situated in the north-western part of the Kowloon Peninsula, Sham Shui Po has a relatively low average household income and the proportion of elderly population is comparatively large, and many new arrivals choose to reside temporarily or permanently in the district. Public and private housing roughly occupy the same percentage in this district. Sham Shui Po is an old district. There are 14 public housing estates, including Shek Kip Mei Estate, Hong Kong's first public rental housing estate built in 1954. As for private housing, there are a significant amount of private blocks, built in the 1950s and 1960s.

Central

As one of the earliest developed areas in the territory, Central is a commercial, financial, legal and political centre of Hong Kong, the prime Central Business District (CBD). This district is full of historical monuments and skyscrapers and best known as the centre of Hong Kong. Some of the commercial buildings here are among the most expensive ones in the world. While a number of urban redevelopment projects are implemented recently to improve the living environment of the local community, efforts are made to preserve the distinctive Chinese and western cultural heritage of the district. Over 90% of the population lives in private buildings, varied from luxury homes to the old tenements on the Peak and in the Mid-levels.

Hung Hom

Hung Hom is administratively part of the Kowloon City District in Kowloon. Hung Hom serves mainly residential purposes, though is mixed with some industrial buildings in the north. There are totally five public housing estates located within Kowloon City District. Among them, Hung Hom Estate is built on a hill along Dyer Avenue and next to Whampoa Estate and Whampoa Garden. It now consists of five residential estates completed in two stages in 1999 and 2011 respectively.

5.3 Setting up the Survey Framework

In the pursuit to determine the appropriate age-friendly guidelines for Hong Kong, an array of earlier studies of planning and design pertaining to age-friendly and healthy neighbourhood environments were gathered. These were matching the age-friendly guidelines set by WHO (2007). These age-friendly design criteria were used in designing the survey questionnaire, with relevance to Hong Kong. The survey

questionnaire was developed into two parts; the first part was concerned with the age-friendly design criteria under its seven categories, while the second part focused on the list of sustainable planning criteria categorized into economic, environment and social sustainability variables. The list of sustainable planning criteria was collated based on the literature review on commonly used indicators pertaining to sustainable neighbourhood planning (as shown in Table 5.3). These sustainability indicators were integrated into the age-friendly design criteria which were identified from the literature review (as shown in Table 5.2), validated and further improved by the selected panel of experts (as shown in Table 5.3).

Table 5.2. Age-friendly Design Criteria and their Underpinning Literature

Age-friendly City Design Criteria	Underpinning Literature
1.Outdoor Spaces and Buildings	
• Universal accessibility	WHO (2007); Age-Friendly Portland Advisory Council, 2013
• Appropriate public facilities	WHO (2007)
• Quality green environment	WHO (2007); Global City Indicators Facility, 2013
• Safe and secure public spaces	WHO (2007); Vliet, 2009; UNECE, 2014
• Special customer services	WHO (2007); Global City Indicators Facility, 2013
• Management and Maintenance	Turel et al., 2007
2.Transportation	
• Affordability	WHO (2007); Vliet, 2009
• Public transport frequency and reliability	WHO (2007); Prasad et al., 2013; Chaterjee & DeVol, 2012
• Travel connectivity to destinations	WHO (2007); Chaterjee et al., 2012
• Proximity to the bus stops on foot	WHO (2007); Prasad et al., 2013; Chaterjee & DeVol, 2012
• Universal access in public transportations: wheel chair users & cyclist friendly	WHO (2007); Prasad et al., 2013; European Innovation Partnership on Active and Healthy Ageing, 2014
• Pedestrian and bus stop signage	WHO (2007)
• Age friendly features	WHO (2007)
• Safety for transportation facilities	WHO (2007); UNECE, 2014
3.Buildings and Neighbourhood	
• Housing options	WHO (2007) ; Prasad et al., 2013; Chaterjee & De Vol, 2012
• Affordability of Housing	WHO (2007); Chaterjee et al., 2012
• Universal access	Phillipson, 2012; Age-Friendly Portland Advisory Council, 2013
• Safe and comfortable facilities	Chaterjee et al., 2012; UNECE, 2014
• Enough housing for younger people in the district	Elderly Commission, 2013
4. Social/ Civic Participation and Employment	
• Affordability, choices and accessibility of events	UN, 1991; WHO (2007) ; Prasad et al., 2013; Age-Friendly Portland Advisory Council, 2013;
• Lifelong learning programs for elderly	WHO (2007); UN, 1991; Vliet, 2009 ; Prasad et al., 2013; Medical Research Council, 2010;
• Addressing isolation and intergenerational programs	WHO (2007); Vliet, 2009; Age-Friendly Portland Advisory Council, 2013
• Recognition of the elderly's contribution	WHO (2007); Age-Friendly Portland Advisory Council, 2013;
4. Social/ Civic Participation and Employment	
• Podium for socializing near to market places	UNECE, 2014;
• Working and volunteering opportunities after retirement	UN, 1991; WHO (2007) ; Medical Research Council, 2010; EuroHealthNet, 2012;
• Elderly participation for community planning and political leadership	UN, 1991; WHO (2007); European Innovation Partnership on Active and Healthy Ageing, 2012; Age-Friendly Portland Advisory Council, 2013; UNECE, 2014
• Addressing discrimination at workplace	UN, 1991; Medical Research Council, 2010;
• Age-friendly and progressive public policy	European Innovation Partnership on Active and Healthy Ageing, 2014;
5. Respect	
• Lifelong learning programs:	WHO (2007); City of Melbourne, 2006
• Personal health care incl. elderly friendly exercises/sports	Chaterjee & de Vol, 2012
6.Communication and Information	
• Printed material in legible size and format	WHO (2007); Age-Friendly Portland Advisory Council, 2013
• Hear/ understand service staff over phone or in person	WHO (2007)
• Technology aids and equipment	WHO (2007) ; Prasad et al., 2013; UNECE, 2014; Global City Indicators Facility, 2013

7.Community Support and Health Services	
• Affordable public health care services	WHO (2007); Vliet, 2009;Chaterjee&DeVol, 2012
• Accessibility and availability of public health care services	UN, 1991; WHO (2007) ; Vliet, 2008; Prasad et al., 2013;EuroHealthNet, 2012; Chaterjee & de Vol, 2012; UNECE, 2014
• Need for in- home assistance for independent living seniors	WHO (2007)
• Promoting personal health care	WHO (2007); Medical Research Council, 2010;Chaterjee & de Vol, 2012;Global City Indicators Facility, 2013
• Image grooming is good to build up elderly self-esteem	Vliet, 2009;

Table5.3 .Sustainable Planning Criteria and their Underpinning Literature

Sustainable Planning Criteria	Underpinning Literature
1.Economic Sustainability	
• Economic growth and employment opportunities	Hyde et al., 2007; Chan & Lee, 2009; Shen et al., 2011; Mega and Pedersen, 1998; Atkins, 2013
• Compact mixed-use development (residential/commercial/retail)	UN-Habitat, 2013; American Planning Association, 2000; Jonathan Rose Companies et al., 2009;
• High quality & efficient public transportation system/networks	Calthrope Associates, 2012; Atkins, 2013;
• Building positive city image (landmarks/visual impacts/landscape/people)	Urban Land Institute, 2012; Home and Community Agency, 2009
• Appropriate use of resource: land &labour etc.	Environment, Heritage & Local Government, 2009; Atkins, 2013
• Promoting fair market system, financial & social equity at the workplace	Blazer, 2011;
• Diversity of economies	Australian Sustainable Built Environment Council, 2013; Shen et al., 2011; Tang,2011 ;
2.Environmental Sustainability	
• Smart growth and green infrastructures	American Planning Association, 2000; Hyde et al., 2007; USGBC, 2012;Welch et al.,2011; Chan & Lee, 2009;
• Zero-waste management (greater adoption of renewable energy/resource/recycling...)	Hyde et al., 2007; Welch et al., 2011; Sustainable Cities International 2012
• Urban greeneries and vegetation	Hyde et al., 2007; Welch et al., 2011; Sustainable Cities International 2012
• Transit Oriented Development (TOD)	American Planning Association, 2000; Welch et al., 2011; Australian Sustainable Built Environment Council, 2013;
2.Environmental Sustainability	
• Biodiversity (maritime/wetland/natural parks...)	Basiago, 1999; Shen et al., 2011; Environment, Heritage & Local Government, 2009; Atkins, 2013;
• Cultural heritage / preservation	Welch et al., 2011; Hong Kong Planning Department ,2002
• Redevelopment of brownfield sites & reuse of existing buildings/sites for development	Welch et al., 2011; Chan & Lee, 2009
3.Social Sustainability	
• Community focus and community delivery (enhancing sense of place...)	Chan & Lee, 2009; Australian Sustainable Built Environment Council, 2013; Atkins, 2013; Blazer, 2011;
• Mixed housing types (for intergeneration and ageing in place)	UN-Habitat, 2013; Goh, 2006
• Social mix in community (cultural/age/gender/income) to foster city liveability	UN-Habitat, 2013; American Planning Association, 2000 Blazer, 2011; Jonathan Rose Companies et al., 2009;
• Efficient public transportation system (easy access to work & public facilities...)	American Planning Association, 2000; USGBC, 2012;Welch et al., 2011;Calthrope Associates,2012; Chan & Lee, 2009; Sustainable Cities International 2012; Mega and Pedersen, 1998
• Age-friendly features, universal design & barrier-free access	Welch et al., 2011;Calthrope Associates, 2012; Atkins, 2013; Jonathan Rose Companies et al., 2009;
• Low carbon communities living program	American Planning Association, 2000; Low Carbon Hub, 2012
• Public participation for community building & public policy consultation	Basiago, 1999; Urban Land Institute, 2012; Chan & Lee, 2009; Mega and Pedersen, 1998; Blazer, 2011;

Interview with Experts

Through a series of interviews conducted with a selected panel of experts, the list of sustainable planning criteria was validated and in turn some design criteria were added according to the experts' inputs. The detailed results are given in the **Appendix 5**. A brief summary is shown in Table 5.4.

Table 5.4. Age-friendly Design Criteria and their Underpinning Expert Inputs

Age-friendly City Design Criteria	Underpinning Expert Inputs
3. Buildings and Neighbourhood	
• Fresh clean air in the buildings/rooms/neighbourhood	Interviews with Expert 4 and Expert 18
• Signage (sufficient, legible/voice activation)	Interviews with Expert 2, Expert 4 and Expert 8
• Management and maintenance	Interviews with Expert 2 and Expert 12
4. Social/ Civic Participation and Employment	
• Podium for socializing near to market places	Interview with Expert 2
• Addressing discrimination at workplace	Interviews with Expert 2 and Expert 5
• Age-friendly and progressive public policy	Interviews with Expert 5 and Expert 6
5. Respect	
o Computer classes	Interview with Expert 5
o History/ cultural heritage	Interview with Expert 13
o Socializing skills/ personal empowerment	Interviews with Expert 7 and Expert 10
o Fashion/ beauty/ styling	Interview with Expert 5
7. Community Support and Health Services	
• Psychological needs for addressing isolation issue	Interviews with Expert 7 and Expert 16

As a result of the panel of expert interviews, 7 key areas are identified which encompass both physical and social environments for creating an age-friendly environment for Hong Kong. These 7 key areas have its own subset of design criteria which were derived from the WHO (2007) guidelines, the supporting literatures and panel of expert interview results. The 7 key areas developed from the original eight key areas of age-friendly guidelines by the World Health Organization (2007), differ only in terms of the segregation of the outdoor spaces and buildings and consider the urban context where buildings and neighbourhood were combined as another area. The WHO key areas 4 and 6 were combined into social/ civic participation and employment while respect is considered as one key area. The 7 key areas of an age-friendly environment for Hong Kong are categorized below and shown in Figure 5.1 while a subset of the design criteria of the 7 key areas are shown in Table 5.2, Table 5.3 and Table 5.4.

It can be noted also that in Figure 5.1, the bubble diagram indicates the relative sizes of the 7 key areas which denotes the level of importance in terms of the experts' views. Most experts have indicated that Transportation, Buildings and Neighbourhood, and Social/ Civic Participation and Employment are the top priority areas to be considered in creating an age-friendly precinct in Hong Kong while Respect is considered the area of least priority.

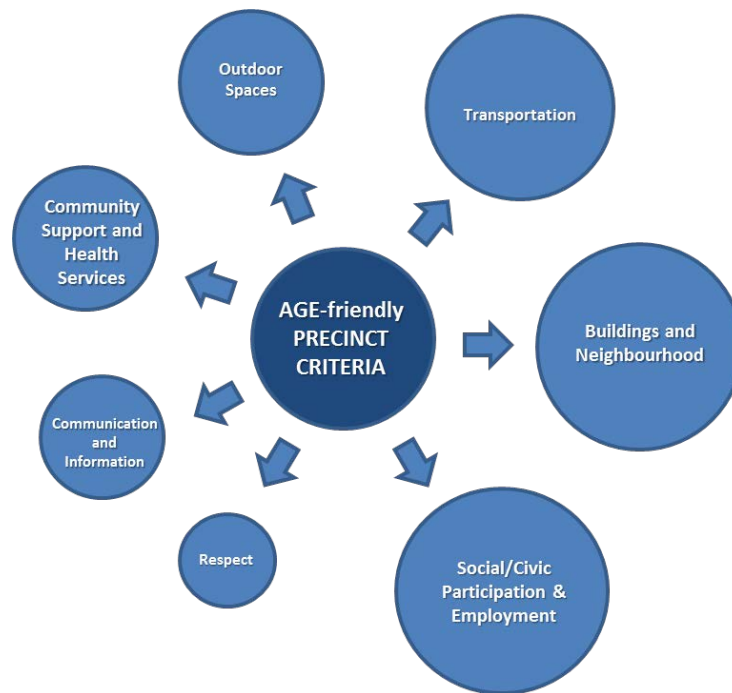


Figure 5.1 Age-friendly Cities Indicators based on Hong Kong’s Situation as per Expert Interviews

As illustrated in Table 5.4, most of the additional criteria were valued contributions from the selected panel of experts and were incorporated in the final survey questionnaire such as:

- The emphasis on “lifelong learning programmes” with distinct topics to stimulate respect among the elderly was a valid and relevant criteria suggested by experts.
- The “podium for socializing near the market place”, “addressing discrimination in the workplace” and “age-friendly and progressive policies are among the criteria that the experts discussed to be under the social/ civic participation and employment key area.
- Although the experts agreed that Hong Kong has an existing building code on “universal access”, still it needs improvement especially in retrofitting old buildings in order to make it age-friendly.
- Aside from universal access, other criteria suggested under the buildings and neighbourhood key area are regarding ‘fresh clean air’, “legible signage” and “management and maintenance” aspects
- Lastly, “psychological needs for addressing isolation” was suggested by the experts to be included in the community support and health services key area.

Based on above work, the finalised survey questionnaire with the combined list of

age-friendly design criteria and sustainable planning criteria is shown in **Appendix 4**.

5.4 Survey Results

A total of 800 respondents were sought in eight selected districts in Hong Kong. Among them 772 respondents are valid. The raw data from respondents is put into **Appendix 6**. According to the raw data gained from street survey, the following part displays the description of results and findings.

The results of questions 1-11 (except the one about monthly income) of the section of 'Elderly Housing Requirement' were not analysed because of the following two reasons. Firstly, as indicated in the questionnaire, this part of the questionnaire is only for our reference, hopefully leading to some pointers for future study. Furthermore, we found the returned answers to these questions were in big divergence and after in-deep personal talk with some of the respondents and pilots, it was revealed that, our respondents had some misunderstanding of this part of questions, which caused the unreliability of the answers to these questions. Housing is too complicated a problem which is not named as part of the objectives of this project. Thus the following focus on the other part of the questionnaire, especially the results of 66 indicators.

As shown in Figure 5.2, out of the 772 respondents, an almost even distribution among male (50.46%) and female (49.54%) respondents were gathered. The largest group of respondents belong to the 61 to 70 age groups which represent 26.17% of the total respondents followed by 51-60 age groups which comprise 20.06% of the total respondents. The age groups representing the below 30 years of age are composed of 19.43% of the total respondents while the rest of the age groups are distributed accordingly such as 41-50 age groups (11.01%), 31-40 age groups (9.97%), 71-80 age groups (9.07%) and 80 above age groups (3.76%). In terms of educational attainment, 19.92% have primary education, 36.36% received secondary education while 28.61% and 10.92% have attained tertiary and above tertiary levels of education respectively. Among the respondents, 19.49% belong to the commercial sector, 14.65% belongs to the professional sector, and 8.33% comes from the academics while the rest represents the government (6.72%), the private sectors/NGOs (6.18%), and the planning and development sector (2.82%). A large majority indicated 'others' for the 'sector' category which could mean they are non-working, retirees or those who don't want to reveal their representation.

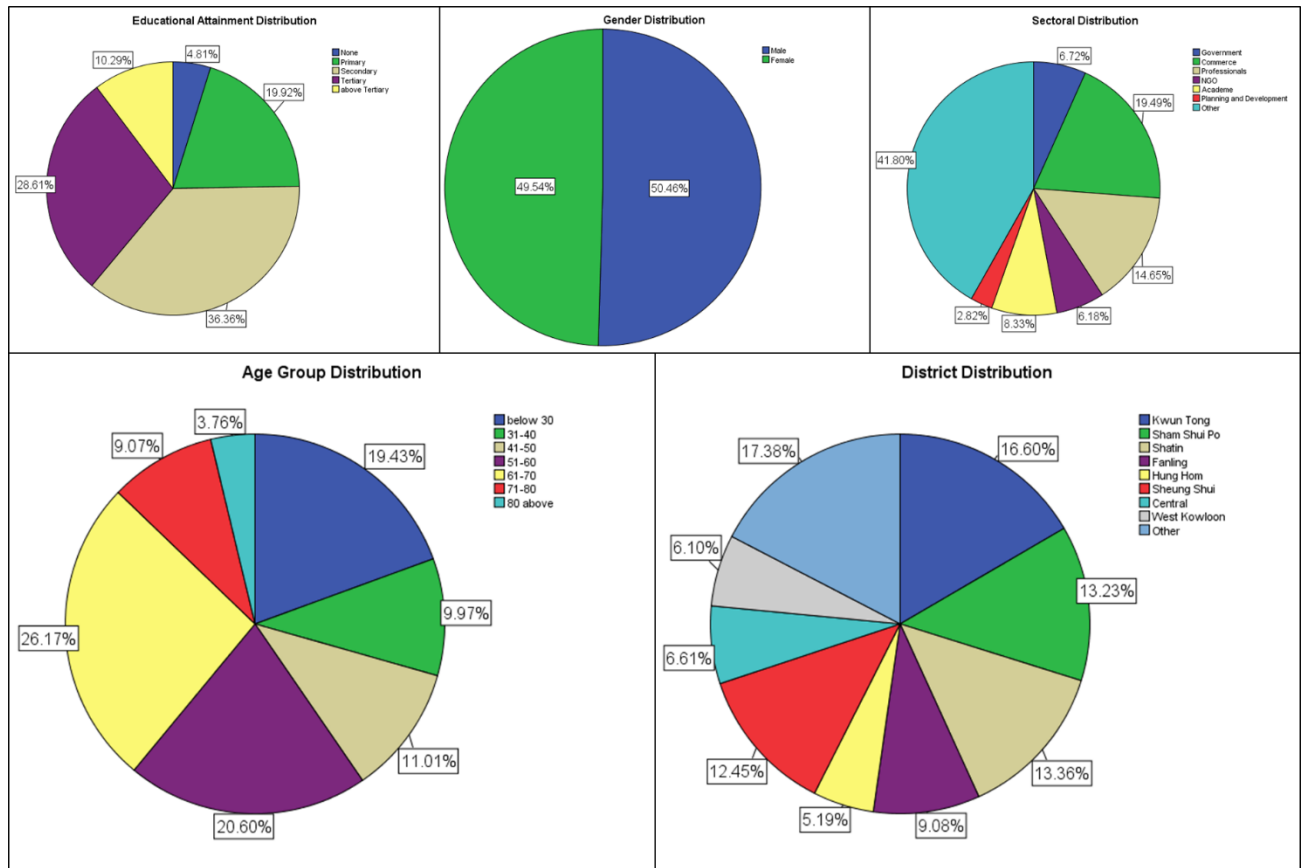


Figure 5.2. Demographic Profile of Respondents of all 8 Districts (Mixed Age Groups)

The largest group of respondents live in Kwun Tong which composed of 16.25% of the total respondents. The next two largest groups live in Sham Shui Po and Shatin which represents 13.00% for each district while 12.50% lives in Sheung Shui and the rest are in Fan Ling (9.00%), Central (6.88%), West Kowloon (6.13%) and Hung Hom (5.50%).

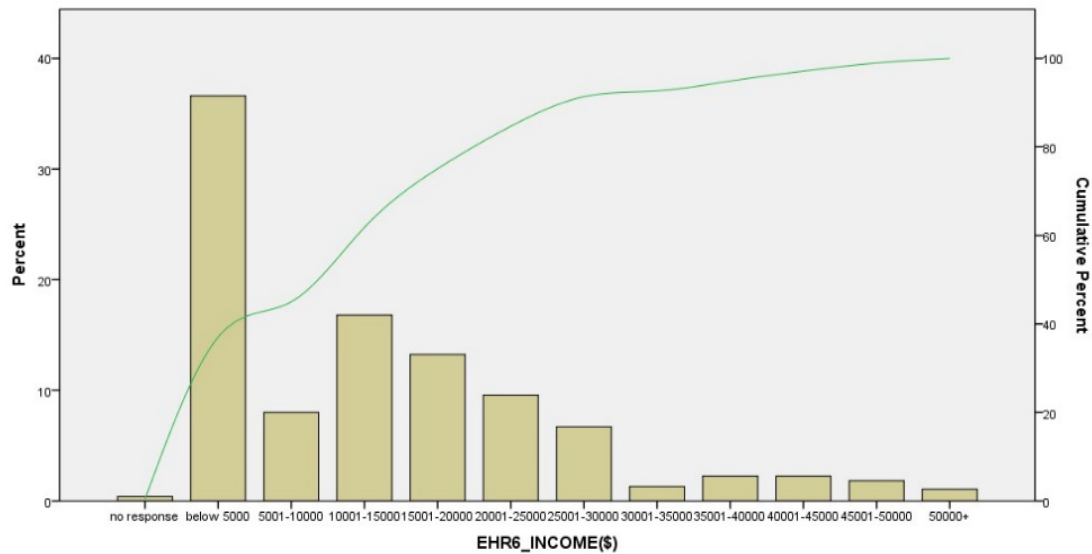


Figure 5.3 Income Profile of all Respondents

The Figure 5.3 reflects people's monthly income level (after tax) in 8 districts, which would influence their attitude towards affordability of housing and transportation. As indicated in Figure 5.3, the largest group of respondents belong to the below HK\$5,000 monthly income group, which comprised 36.61% of the total respondents, while 16.80% belong to the income groups of \$10,001-\$15,000 and 13.25% \$15,001-\$20,000 respectively. There are 9.58% who receive a monthly income of \$20,001-\$25,000 while 8.01% receive a monthly income of \$5,001-\$10,000 and the rest are distributed according to the income ranges of \$25,001-\$30,000 (6.69%), \$45,001-\$50,000 (1.84%), \$50,001 and above (1.05%) and 2.23% for the income groups of \$35,001-\$40,000 and \$40,001-\$45,000. As the chart shows, the majority of respondents are low-income (below monthly \$5,000). Others' income level concentrates on the range of \$5,001 to \$30,000. Few of the respondents are high-income (\$30,001 and above).

Estimation of the Mean Value

The 66 age-friendly design criteria and sustainable planning criteria are applicable to the local context, as identified and verified through a panel of expert interviews that comprised the list of criteria specified in the survey questionnaires. An on-street survey was conducted by eight pairs of research assistants who were assigned to the eight selected districts in Hong Kong. Each team of research assistants had a flipchart and a banner standee to aid them in communicating about the research study and the purpose of the survey. All interested respondents were given self-administered questionnaires and they were asked to rate the degree of importance of the age-friendly design criteria and sustainable planning criteria enumerated in the survey questionnaire according to a five-point Likert scale where '1' depicts *Not Important at all*, '2' as *Less Important*, '3' as *Neutral* while '4' pertains to *Important*

and ‘5’ indicates *Very Important*. The list of age-friendly design criteria and sustainable planning criteria was weighted and ranked according to their level of importance as preferred by the 772 valid survey respondents. Table 5.5 has shown the distribution and ranking of the age-friendly design criteria and sustainable planning criteria with their corresponding mean results. The conducted survey’s reliability is high since its Cronbach Alpha value is 0.955, therefore the results of the survey are acceptable. Meanwhile, the distribution and ranking for the respondents whose age above 60 is also calculated and summarized into Table 5.6. The Cronbach Alpha value of 0.958 also indicates the result is acceptable for this age group.

Table 5.5 The Age-Friendly Design Criteria and Sustainable Planning Criteria and their Ranking Per Key Areas (Overall)

Design Criteria and Sustainable Planning Criteria	Mean	Std. Dev.	Rank
Outdoor Spaces			
• Appropriate Public Facilities	4.47	.643	1
• Universal Access	4.46	.644	2
• Quality of Green Environment	4.44	.668	3
• Safe and Secure Public Spaces	4.43	.675	4
• Special Customer Service	4.12	.823	5
• Management and Maintenance	4.11	.802	6
Transportation			
• Affordability	4.53	.653	1
• Safety of Transportation Facilities and Services	4.40	.687	2
• Travel Connectivity to Destinations	4.39	.660	3
• Proximity of Bus Stops On Foot	4.37	.672	4
• Universal Access in Public Transportation	4.35	.716	5
• Age-Friendly Features	4.31	.754	6
• Pedestrian and Bus Stop Signage	4.28	.751	7
• Public Transport Frequency & Reliability	4.26	.762	8
Buildings and Neighbourhood			
• Affordability of Housing	4.45	.696	1
• Universal Access of Buildings	4.42	.686	2
• Safe and Comfortable Facilities	4.39	.667	3
• Fresh Clean Air	4.30	.685	4
• Building Signage	4.23	.747	5
• Building Management and Maintenance	4.16	.741	6
• Housing Options	4.14	.790	7
• Enough Housing for Younger People	3.93	.914	8
Social/ Civic Participation & Employment			
• Addressing Isolation and Intergenerational Programs	4.11	.806	1
• Affordability, Choices and Accessibility of Events	4.09	.773	2
• Podium for Socializing Near to Market Places	4.05	.849	3
• Addressing Discrimination in the Workplace	4.04	.874	4
• Age-friendly and Progressive Public Policy	4.03	.839	5
• Working and Volunteering Opportunities	3.96	.877	6
• Lifelong Learning Programs	3.94	.871	7
• Recognition of Elderly Contributions	3.84	.918	8
• Elderly Participation for Community Planning	3.67	.961	9
Respect			
• Personal Health Care	4.28	.839	1
• Computer Classes	3.90	.939	2
• Socializing Skills/Personal Empowerment	3.75	.951	3
• History/ Cultural Heritage	3.49	.963	4
• Fashion/ Beauty/ Styling	3.26	1.031	5
Communication & Information			
• Hearing/ Understanding Service Staff	4.36	.694	1
• Printed Material	4.13	.788	2
• Technological Aids And Equipments	3.99	.879	3
Community & Health Services			
• Affordable Public Health Care Services	4.55	.621	1
• Accessibility and Availability of Public Health Care Services	4.53	.605	2

• Need for In-Home Assistance for Independent Living Elderly	4.45	.690	3
• Psychological Needs for Addressing Isolation Issue	4.27	.757	4
• Promoting Personal Health Care	4.23	.766	5
• Image Grooming	4.21	.775	6
Economic Sustainability			
• Economic Growth	4.30	.656	1
• High Quality and Efficient Public Transportation	4.29	.731	2
• Appropriate Use Of Resources	4.23	.708	3
• Diversity of Economies	4.21	.795	4
• Promoting Fair Market	4.16	.796	5
• Building Positive City Image	4.13	.783	6
• Compact Mixed Use Development	4.07	.729	7
Environmental Sustainability			
• Urban Greeneries and Vegetation	4.38	.706	1
• Zero-Waste Management	4.30	.707	2
• Smart Growth	4.30	.697	3
• Transit Oriented Development	4.24	.756	4
• Redevelopment of Brownfield Sites	4.14	.820	5
• Biodiversity	4.12	.785	6
• Cultural Heritage/Preservation	4.08	.830	7
Social Sustainability			
• Efficient Public Transportation	4.34	.695	1
• Age-friendly Features, Universal Design, Barrier-Free Access	4.33	.704	2
• Low Carbon Communities Living Program	4.16	.757	3
• Social Mix	4.16	.745	4
• Community Focus and Delivery	4.11	.733	5
• Mixed Housing Types	4.10	.739	6
• Public Participation for Community Building	4.09	.817	7

Table 5.6 The Age-Friendly Design Criteria and Sustainable Planning Criteria and their Ranking Per Key Areas (above 60)

Design Criteria and Sustainable Planning Criteria	Mean	Std. Dev.	Rank
Outdoor Spaces			
• Appropriate Public Facilities	4.57	.6104	1
• Quality of Green Environment	4.50	.6774	2
• Universal Access	4.46	.6562	3
• Safe and Secure Public Spaces	4.45	.6654	4
• Special Customer Service	4.22	.8497	5
• Management and Maintenance	4.18	.8447	6
Transportation			
• Affordability	4.62	.608	1
• Travel Connectivity to Destinations	4.49	.603	2
• Universal Access in Public Transportation	4.44	.712	3
• Safety of Transportation Facilities and Services	4.43	.687	4
• Age-Friendly Features	4.42	.724	5
• Proximity of Bus Stops On Foot	4.39	.682	6
• Pedestrian and Bus Stop Signage	4.33	.776	7
• Public Transport Frequency & Reliability	4.31	.754	8
Buildings and Neighbourhood			
• Universal Access of Buildings	4.48	.724	1
• Safe and Comfortable Facilities	4.46	.665	2
• Affordability of Housing	4.42	.724	3
• Fresh Clean Air	4.34	.652	4
• Building Signage	4.26	.788	5
• Housing Options	4.25	.784	6
• Building Management and Maintenance	4.18	.758	7
• Enough Housing for Younger People	4.02	.915	8
Social/ Civic Participation & Employment			
• Addressing Isolation and Intergenerational Programs	4.20	.828	1
• Affordability, Choices and Accessibility of Events	4.18	.772	2
• Podium for Socializing Near to Market Places	4.16	.863	3
• Age-friendly and Progressive Public Policy	4.03	.858	4
• Lifelong Learning Programs	4.03	.900	5
• Addressing Discrimination in the Workplace	4.00	.933	6
• Recognition of Elderly Contributions	3.99	.952	7

• Working and Volunteering Opportunities	3.95	.923	8
• Elderly Participation for Community Planning	3.74	1.027	9
Respect			
• Personal Health Care	4.32	.823	1
• Computer Classes	3.92	.964	2
• Socializing Skills/Personal Empowerment	3.65	.978	3
• History/ Cultural Heritage	3.55	1.004	4
• Fashion/ Beauty/ Styling	3.27	1.050	5
Communication & Information			
• Hearing/ Understanding Service Staff	4.33	.754	1
• Printed Material	4.17	.817	2
• Technological Aids And Equipments	3.94	.956	3
Community & Health Services			
• Accessibility and Availability of Public Health Care Services	4.56	.583	1
• Affordable Public Health Care Services	4.54	.645	2
• Need for In-Home Assistance for Independent Living Elderly	4.43	.735	3
• Psychological Needs for Addressing Isolation Issue	4.28	.767	4
• Promoting Personal Health Care	4.27	.776	5
• Image Grooming	4.24	.751	6
Economic Sustainability			
• Economic Growth	4.29	.653	1
• High Quality and Efficient Public Transportation	4.22	.778	2
• Appropriate Use Of Resources	4.21	.710	3
• Diversity of Economies	4.20	.797	4
• Promoting Fair Market	4.13	.800	5
• Building Positive City Image	4.11	.789	6
• Compact Mixed Use Development	4.06	.698	7
Environmental Sustainability			
• Urban Greeneries and Vegetation	4.41	.584	1
• Smart Growth	4.30	.666	2
• Zero-Waste Management	4.30	.656	3
• Transit Oriented Development	4.24	.772	4
• Redevelopment of Brownfield Sites	4.15	.825	5
• Biodiversity	4.15	.769	6
• Cultural Heritage/Preservation	4.08	.822	7
Social Sustainability			
• Efficient Public Transportation	4.36	.676	1
• Age-friendly Features, Universal Design, Barrier-Free Access	4.34	.724	2
• Social Mix	4.17	.764	3
• Low Carbon Communities Living Program	4.15	.747	4
• Public Participation for Community Building	4.10	.825	5
• Community Focus and Delivery	4.06	.779	6
• Mixed Housing Types	4.05	.760	7

Kaiser-Meyer-Olkin Test (KMO) and Bartlett's Test of Sphericity

To determine if there are sufficient numbers of significant correlations among the variables, the Kaiser-Meyer-Olkin Test (KMO) and Bartlett's Test of Sphericity were performed. In executing factor analysis, the KMO test is conducted to measure the sampling adequacy in terms of distribution of values while the Bartlett's Test of Sphericity is used to determine if the correlation matrix is an identity matrix. In terms of the KMO test, Kaiser (1974) recommended that only the values that are greater than 0.5 are acceptable (see Table 5.7).

As shown in Table 5.8, the Kaiser-Meyer-Olkin Test (KMO) measure of sampling adequacy was 0.936 which is 'Marvelous'. Further, the value of the Bartlett's Test of Sphericity was 23104.359 and the associated significance level was small indicating that the correlation matrix was not an identity matrix. Based on these statistical

results, it could be concluded that factor analysis was an appropriate statistical method for this research study.

Table 5.7 Kaiser-Meyer-Olkin (KMO) Test Range of Acceptance

KMO Value	Comment
0.90 – 1.00	Marvelous
0.80 – 0.89	Meritorious
0.70 – 0.79	Middling
0.60 – 0.69	Mediocre
0.50 – 0.59	Miserable
0.00 – 0.49	Unacceptable

Table 5.8 Results of KMO & Bartlett's Test for the Age-friendly Design Criteria and Sustainable Planning Criteria

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.936
Bartlett's Test of Sphericity Approx. Chi-Square	23104.359
df	2145
Sig.	.000

5.5 Exploratory Factor Analysis (EFA)

To identify the underlying factors essential for creating an age-friendly precinct in Hong Kong, exploratory factor analysis (EFA) was used. Through the EFA technique in this study, the 66 age-friendly design criteria and sustainable planning criteria were simplified into a small number of latent factors. To produce factor loadings for the factors extracted from the sample size of 772 respondents, Principal Axis Factoring (PAF) using Promax rotation was performed to generate factor loadings for the factors extracted from a sample of 772 responses. Promax rotation with a power (Kappa) of 4 was executed so as to attain the significant and easy to interpret factors. According to Norušis (2006), Promax rotation is characterized for quality because it can yield substantively meaningful factors. In addition, Pett et al. (2003) pointed out that the correlations among the extracted factors as determined by Promax rotation are reasonable assumptions in real life. Based on Pett et al. (2003), there are three basic solutions applicable to determine how many factors can be extracted to denote the variables, such as:

1. Eigenvalues greater than 1.0;
2. Last factor accounting for only a small portion of the explained variance (< 5%);
and
3. Examination of the extracted factors by means of a scree plot were adopted (Pett et al., 2003)

In factor analysis, Pett et al. (2003) specifies that all eigenvalues should be greater than 0 since they denote the sum of explained variance in the variables linked with a common factor. Table 5.9 shows the eigenvalue of each factor, the total variance

explained by each factor and the percentage of total variance contribution to each of them. Thus, the first 15 factors with eigenvalues greater than 1.0 are extracted to represent the data.

Table 5.9 Total Variance Explained

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	16.989	25.741	25.741	9.619
2	3.510	5.381	31.058	9.559
3	3.199	4.846	35.905	6.954
4	2.040	3.091	38.996	9.427
5	1.902	2.881	41.877	10.877
6	1.772	2.684	44.561	8.190
7	1.599	2.423	46.985	8.838
8	1.480	2.243	49.228	7.867
9	1.377	2.086	51.314	2.550
10	1.306	1.979	53.293	4.787
11	1.227	1.860	55.153	5.071
12	1.130	1.711	56.864	6.113
13	1.081	1.638	58.503	4.891
14	1.026	1.555	60.058	7.384
15	1.000	1.515	61.573	6.166

However, when looking into the scree plot, a different result could be obtained (see Figure 5.4) since the fourth factor is the cut off factor where the straight line breaks. The well-defined breaks in the slope of the plot of the extracted factors against their eigenvalues in descending order of importance can be identified in the scree plot. Therefore, only the first four factors are considered the most representing components for creating an age-friendly precinct that is applicable to Hong Kong's situation.

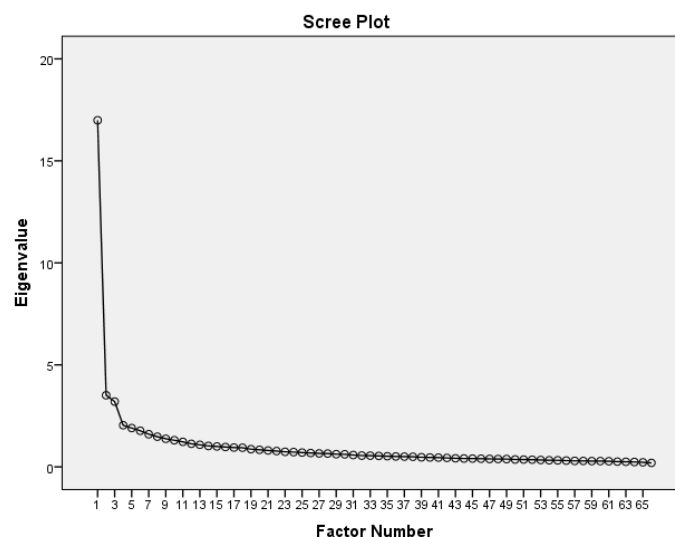


Figure 5.4 Scree Plot of the Calculated Factor Analysis

5.6 Findings and Summaries

According to their Eigenvalues greater than 1.0, the 15 underlying factors extracted from the 66 age-friendly design criteria and sustainable planning criteria as shown in Table 5.10 are all the criteria identified by factor analysis.

Table 5.10 Factor Structure of the Sustainable Planning Criteria for Age-friendly Precincts in Hong Kong (Mixed Age Groups)

Sustainable Planning Criteria for Age-Friendly Precincts	Factor Loading (in descending order)	% of Variance explained	Cumulative % of variance
Factor 1 ECONOMIC CONSIDERATIONS			
1. Appropriate use of resource: land & labour etc.	.706	25.741	25.741
2. Promoting fair market system, financial & social equity at the workplace	.704		
3. High quality & efficient public transportation system/networks	.692		
4. Building positive city image (landmarks/visual impacts/landscape/people)	.692		
5. Diversity of economies	.686		
6. Compact mixed-use development (residential/commercial/retail)	.643		
7. Economic growth and employment opportunities	.611		
Factor 2 SOCIAL AND CIVIC PARTICIPATION (MICRO-LEVEL)			
1. Recognition of elderly contributions (certificates/banquets etc.)	.778	5.381	31.058
2. Lifelong learning programs for elderly	.731		
3. Elderly participation for community planning & political leadership (public consultation/parties)	.688		
4. Working & volunteering opportunities after retirement	.683		
5. Addressing isolation& intergenerational programs	.663		
6. Podium for socializing near to market places (outdoor coffee shops/garden...)	.639		
7. Affordability, choices and accessibility of events	.629		
Factor 3 PERSONAL DEVELOPMENT FOR ACTIVE AGEING (RESPECT)			
1. History/cultural heritage	.792	4.846	35.905
2. Socializing skills/ Personal empowerment	.775		
3. Fashion/beauty/styling	.676		
4. Computer classes (video chat/SMS/internet)	.668		
5. Printed material(brochures/menus) in legible size and format	.439		
6. Personal health care including elderly friendly exercises/sports	.410		
Factor 4 OUTDOOR SPACES			
1. Management & maintenance of outdoor spaces	.667	3.091	38.996
2. Special customer services (special queue for elderly/care kiosk for elderly & children)	.647		
3. Appropriate public facilities (toilets/seats along long corridors to the public transport/venues)	.624		
4. Quality of green environment (fresh air/nature)	.609		
5. Safe& secure public spaces (hotlines for emergency rescue/ well maintained sidewalks)	.581		
6. Safety of transportation facilities & services	.496		
7. Fresh clean air in the buildings / rooms / neighbourhood	.462		
Factor 5 SOCIAL CONSIDERATION			
1. Mixed housing types for intergeneration and ageing in place	.710	2.881	41.877
2. Social mix in community (cultural/age/gender/income) to foster city liveability	.697		
3. Public participation for community building & public policy consultation	.659		
4. Community focus and community delivery (enhancing sense of place...)	.648		
5. Low carbon communities living program	.628		
6. Age-friendly features, universal design & barrier-free access	.573		
7. Efficient public transportation system (easy access to work & public facilities...)	.554		
Factor 6 ENVIRONMENTAL CONSIDERATIONS (COMMUNITY LEVEL)			
1. Zero-waste management (greater adoption of renewable energy/resource/recycling...)	.781	2.684	44.561
2. Smart growth and green infrastructures	.745		
3. Urban greeneries and vegetation	.673		

4.	Transit Oriented Development (TOD)	.610		
Factor 7 COMMUNITY SUPPORT SERVICES				
1.	Psychological needs for addressing isolation issue(talking/consultation)	.792	2.423	46.985
2.	Promoting personal health care (wellness programs/workshops/arts/recreations/parks...)	.746		
3.				
4.	Image grooming is good to build up elderly self-esteem	.694		
5.	Need for in-home assistance for independent living elderly	.620		
Factor 8 TRANSPORTATION (AGE-FRIENDLY)				
1.	Universal access in public transportations: wheelchair users & cyclists friendly	.668	2.243	49.228
2.	Pedestrian & bus stop signages (sufficient/legible)	.665		
3.	Age-friendly features (seatings/bus stop shelters/toilets inside stations etc.)	.624		
4.	Signages (sufficient/legible/voice activation: elevator buttons/ placement of housing names)	.574		
Factor 9 HEALTH CARE SERVICES				
1.	Affordable public health care services	.715	2.086	51.314
2.	Accessibility and availability of public health care services	.607		
3.	Affordability (user-friendly programs: \$2 fare using octopus card)	.376		
Factor 10 TRANSPORTATION (CONNECTIVITY)				
1.	Travel connectivity to destinations	.692	1.979	53.293
2.	Public transport frequency & reliability	.581		
3.	Proximity to the bus stops on foot	.539		
Factor 11 ENVIRONMENTAL CONSIDERATIONS (LOCAL LEVEL)				
1.	Cultural heritage / preservation	.764	1.860	55.153
2.	Redevelopment of brownfield sites&reuse of existing buildings/sites for development	.686		
3.	Biodiversity (maritime/wetland/natural parks...)	.631		
Factor 12 BUILDINGS AND NEIGHBOURHOOD (HOUSING SUPPLY: ACCESSIBILITY AND AFFORDABILITY)				
1.	Universal access (Buildings: doors/elevators; Neighbourhood: ramps for wheelchair users...)	.610	1.711	56.864
2.	Affordability of housing	.545		
3.	Fresh clean air in the buildings / rooms / neighbourhood	.523		
4.	Universal accessibility (pedestrian crossings/pathways/cycle paths/ parks/open spaces)	.454		
5.	Housing options(availability and types)	.446		
Factor 13 BUILDINGS AND NEIGHBOURHOOD (NEIGHBOURHOOD CONDITION)				
1.	Enough housing availability for younger people in the neighbourhood	.651	1.638	58.503
2.	Management & maintenance	.554		
Factor 14 SOCIAL AND CIVIC PARTICIPATION (POLICY-LEVEL)				
1.	Addressing elderly discrimination in the workplace	.714	1.555	60.058
2.	Age-friendly & progressive public policy(integrated networks/minority groups support)	.710		
Factor 15 COOMUNICATION AND INFORMATION				
1.	Hearing/understanding service staff over the phone or in person	.632	1.515	61.573
2.	Technological aids & equipment (voice activation/motion detection/learning computer)	.519		

With the pursuit to understand deeper the specific basic factors of the elderly in terms of designing an age-friendly precinct in Hong Kong, the survey respondents were grouped into two age groups. One group represents the below 60 years old which comprises almost 60% of the total sample size while the other group is composed of the above 60 years old and above respondents which is represent almost 40% of the total number of survey respondents. The results are shown in Table 5.11 and Table 5.12, respectively, representing the age groups of below 60 and above 60 (including 60).

Table 5.11 Factor Structure of the Sustainable Planning Criteria for Age-friendly Precincts in Hong Kong (Below 60)

Sustainable Planning Criteria for Age-friendly Precincts	Factor Loading (in descending order)	% of Variance explained	Cumulative % of variance
Factor 1 SOCIAL/ CIVIC PARTICIPATION (MICRO-LEVEL)			

1. Elderly participation for community planning & political leadership(public consultation/parties)	.753	24.758	24.758
2. Recognition of elderly contributions (certificates/banquets etc.)	.739		
3. Lifelong learning programs for elderly	.695		
4. Working & volunteering opportunities after retirement	.676		
5. Affordability, choices and accessibility of events	.611		
6. Addressing isolation& intergenerational programs	.605		
7. Podium for socializing near to market places (outdoor coffee shops/garden...)	.603		
8. Addressing elderly discrimination in the workplace	.583		
Factor 2 ECONOMIC CONSIDERATIONS			
1. Promoting fair market system, financial & social equity at the workplace	.678	5.114	29.872
2. Diversity of economies	.678		
3. Compact mixed-use development (residential/commercial/retail)	.643		
4. Economic growth and employment opportunities	.635		
5. High quality & efficient public transportation system/networks	.609		
6. Appropriate use of resource: land & labour etc.	.590		
7. Building positive city image (landmarks/visual impacts/ landscape/people)	.580		
8. Transit Oriented Development (TOD)	.470		
Factor 3 PERSONAL DEVELOPMENT FOR ACTIVE AGEING (RESPECT)			
1. History/cultural heritage	.780	4.731	34.603
2. Socializing skills/ Personal empowerment	.776		
3. Computer classes (video chat/sms/internet)	.669		
4. Fashion/beauty/styling	.626		
5. Personal health care including elderly friendly exercises/sports	.519		
6. Printed material(brochures/menus) in legible size and format	.463		
Factor 4 COMMUNITY AND HEALTH CARE SERVICES			
1. Psychological needs for addressing isolation issue(talking/consultation)	.729	3.485	38.088
2. Image grooming is good to build up elderly self-esteem	.680		
3. Promoting personal health care (wellness programs/workshops/arts/recreations/parks...)	.663		
4. Need for in-home assistance for independent living elderly	.662		
5. Accessibility and availability of public health care services	.602		
6. Affordable public health care services	.504		
Factor 5 BUILDINGS AND NEIGHBOURHOOD (HOUSING SUPPLY: ACCESSIBILITY AND AFFORDABILITY)			
1. Affordability of housing	.570	2.902	4.990
2. Universal access (Buildings: doors/elevators; Neighbourhood: ramps for wheelchair users...)	.566		
3. Universal accessibility (pedestrian crossings/pathways/cycle paths/ parks/open spaces)	.492		
Factor 6 OUTDOOR SPACES			
1. Special customer services (special queue for elderly/care kiosk for elderly & children	.628	2.586	43.576
2. Public transport frequency & reliability	.621		
3. Management & maintenance of outdoor spaces	.612		
4. Appropriate public facilities (toilets/seats along long corridors to the public transport/venues)	.515		
5. Quality of green environment (fresh air/nature)	.502		
Factor 7 ENVIRONMENTAL CONSIDERATIONS (COMMUNITY LEVEL)			
1. Zero-waste management (greater adoption of renewable energy/resource/recycling...)	.790	2.525	46.101
2. Smart growth and green infrastructure	.765		
3. Urban greeneries and vegetation	.723		
Factor 8 SOCIAL CONSIDERATIONS (SOCIAL INTEGRATION)			
1. Mixed housing types for intergeneration and ageing in place	.739	2.260	48.361
2. Social mix in community (cultural/age/gender/income) to foster city liveability	.676		
3. Community focus and community delivery (enhancing sense of place...)	.563		
4. Public participation for community building & public policy consultation	.495		
Factor 9 ENVIRONMENTAL CONSIDERATIONS (LOCAL LEVEL)			
1. Cultural heritage / preservation	.760	2.050	50.411
2. Biodiversity (maritime/wetland/natural parks...)	.683		
3. Redevelopment of brownfield sites & reuse of existing buildings/sites for development	.646		
Factor 10 TRANSPORTATION (AGE-FRIENDLY)			
1. Pedestrian & bus stop signages (sufficient/legible)	.661	1.964	52.375
2. Age-friendly features (seatings/bus stop shelters/toilets inside stations etc.)	.639		
3. Universal access in public transportations: wheelchair users & cyclists	.565		

friendly			
4. Safe& secure public spaces (hotlines for emergency rescue/ well maintained sidewalks)	.425		
Factor 11 BUILDINGS AND NEIGHBOURHOOD (NEIGHBOURHOOD CONDITION)			
1. Enough housing availability for younger people in the neighbourhood	.660	1.885	54.260
2. Management & maintenance	.619		
3. Housing options(availability and types)	.490		
4. Signages (sufficient/legible/voice activation: elevator buttons/ placement of housing names)	.486		
Factor 12 TRANSPORTATION (CONNECTIVITY)			
1. Proximity to the bus stops on foot	.691	1.749	56.009
2. Travel connectivity to destinations	.684		
Factor 13 SOCIAL CONSIDERATIONS (SOCIAL INFRASTRUCTURE)			
1. Age-friendly features, universal design & barrier-free access	.685	1.732	57.740
2. Age-friendly & progressive public policy(integrated networks/minority groups support)	.545		
3. Low carbon communities living program	.542		
4. Efficient public transportation system (easy access to work & public facilities...)	.530		
5. Safety of transportation facilities & services	.461		
Factor 14 COOMUNICATION AND INFORMATION			
1. Hearing/understanding service staff over the phone or in person	.717	1.641	59.382
2. Technological aids & equipment (voice activation/motion detection/learning computer)	.554		
Factor 15 TRANSPORTATION (AFFORDABILITY)			
1. Affordability (user-friendly programs: \$2 fare using octopus card)	.491	1.570	60.952
Factor 16 BUILDINGS AND NEIGHBOURHOOD (NEIGHBOURHOOD INFRASTRUCTURE)			
1. Fresh clean air in the buildings / rooms / neighbourhood	.502	1.553	62.505
2. Safe & Comfortable facilities/environment (interior design/handrail/non-slip flooring...)	.440		

Table 5.12 Factor Structure of the Sustainable Planning Criteria for Age-friendly Precincts Hong Kong (Above 60)

Sustainable Planning Criteria for Age-friendly Precincts	Factor Loading (in descending order)	% of Variance explained	Cumulative % of variance
Factor 1 ECONOMIC CONSIDERATIONS			
1. Appropriate use of resource: land & labour etc.	.826	27.477	27.477
2. Building positive city image (landmarks/visual impacts/ landscape/people)	.775		
3. Compact mixed-use development (residential/commercial/retail)	.767		
4. High quality & efficient public transportation system/networks	.706		
5. Promoting fair market system, financial & social equity at the workplace	.703		
6. Diversity of economies	.687		
7. Economic growth and employment opportunities	.677		
Factor 2 PERSONAL DEVELOPMENT FOR ACTIVE AGEING (RESPECT)			
1. History/cultural heritage	.830	6.320	33.798
2. Socializing skills/ Personal empowerment	.807		
3. Fashion/beauty/styling	.748		
4. Computer classes (video chat/SMS/internet)	.741		
5. Technological aids & equipment (voice activation/motion detection/learning computer)	.553		
Factor 3 TRANSPORTATION (AGE-FRIENDLY)			
1. Universal access in public transportations: wheelchair users & cyclists friendly	.731	4.961	38.758
2. Signage (sufficient/legible/voice activation: elevator buttons/ placement of housing names)	.665		
3. Universal access (Buildings: doors/elevators; Neighbourhood: ramps for wheelchair users...)	.663		
4. Age-friendly features (seatings/bus stop shelters/toilets inside stations etc.)	.656		
5. Signages (sufficient/legible/voice activation: elevator buttons/ placement of housing names)	.624		
6. Safe & Comfortable facilities/environment (interior design/handrail/non-slip flooring...)	.564		
7. Affordability of housing	.540		
8. Proximity to the bus stops on foot	.516		
9. Affordability (user-friendly programs: \$2 fare using octopus card)	.480		

10. Safety of transportation facilities & services	.446		
11. Fresh clean air in the buildings / rooms / neighbourhood (Some pollution might be from cars)	.438		
12. Personal health care including elderly friendly exercises/sports	.402		
Factor 4 SOCIAL AND CIVIC PARTICIPATION (MICRO-LEVEL)			
1. Recognition of elderly contributions (certificates/banquets etc.)	.795	3.800	42.558
2. Working & volunteering opportunities after retirement	.748		
3. Podium for socializing near to market places (outdoor coffee shops/garden...)	.728		
4. Lifelong learning programs for elderly	.720		
5. Addressing isolation& intergenerational programs	.690		
6. Elderly participation for community planning & political leadership (public consultation/parties)	.678		
7. Affordability, choices and accessibility of events	.650		
Factor 5 ENVIRONMENTAL CONSIDERATIONS (COMMUNITY-LEVEL)			
1. Zero-waste management (greater adoption of renewable energy / resource / recycling...)	.794	3.208	45.766
2. Smart growth and green infrastructures	.738		
3. Urban greeneries and vegetation	.711		
4. Transit Oriented Development (TOD)	.547		
5. Printed material(brochures/menus) in legible size and format	.446		
Factor 6 OUTDOOR SPACES			
1. Safe& secure public spaces (hotlines for emergency rescue/ well maintained sidewalks)	.749	3.068	48.835
2. Management & maintenance (outdoor spaces)	.675		
3. Special customer services (special queue for elderly/care kiosk for elderly & children)	.671		
4. Quality of green environment (fresh air/nature)	.643		
5. Appropriate public facilities (toilets/seats along long corridors to the public transport/venues)	.533		
6. Universal accessibility (pedestrian crossings/pathways/cycle paths/ parks/open spaces)	.513		
Factor 7 SOCIAL CONSIDERATIONS			
1. Public participation for community building & public policy consultation	.754	2.720	51.555
2. Low carbon communities living program	.695		
3. Social mix in community (cultural/age/gender/income) to foster city liveability	.691		
4. Mixed housing types for intergeneration and ageing in place	.660		
5. Age-friendly features, universal design & barrier-free access	.632		
6. Efficient public transportation system (easy access to work & public facilities...)	.628		
7. Community focus and community delivery (enhancing sense of place...)	.621		
Factor 8 COMMUNITY SUPPORT SERVICES			
1. Promoting personal health care (wellness programmes / workshops / art / recreation / parks...)	.766	2.447	54.002
2. Psychological needs for addressing isolation issue (talking/consultation)	.759		
3. Image grooming is good to build up elderly self-esteem	.694		
4. Need for in-home assistance for independent living elderly	.587		
Factor 9 SOCIAL AND CIVIC PARTICIPATION (POLICY-LEVEL)			
1. Age-friendly & progressive public policy (integrated networks/minority groups support)	.822	2.230	56.232
2. Addressing elderly discrimination in the workplace	.777		
Factor 10 BUILDINGS AND NEIGHBOURHOOD (NEIGHBOURHOOD CONDITION)			
1. Enough housing availability for younger people in the neighbourhood	.734	2.085	58.317
2. Management & maintenance	.734		
3. Housing options (availability and types)	.558		
Factor 11 TRANSPORTATION (ACCESSIBILITY)			
1. Travel connectivity to destinations	.666	2.033	60.350
2. Public transport frequency & reliability	.601		
Factor 12 HEALTH CARE SERVICES			
1. Affordable public health care services	.805	1.873	62.223
2. Accessibility and availability of public health care services	.573		
Factor 13 ENVIRONMENTAL CONSIDERATIONS (LOCAL-LEVEL)			
1. Cultural heritage / preservation	.697	1.758	63.981
2. Redevelopment of brownfield sites & reuse of existing buildings/sites for development	.600		
3. Biodiversity (maritime/wetland/natural parks...)	.536		
Factor 14 COOMUNICATION AND INFORMATION			
1. Hearing/understanding service staff over the phone or in person	.552	1.598	65.579

Table 5.13 Comparison of Factors embracing the Sustainable Planning Criteria for Age-Friendly Precincts per Overall, Below 60 and Above 60 Age Groups

Group No.	Overall Age Group		Below 60 Age Group		Above 60 Age Group	
	Factors embracing the Sustainable Planning Criteria for Age-Friendly Precincts	% of Variance explained	Factors embracing the Sustainable Planning Criteria for Age-Friendly Precincts	% of Variance explained	Factors embracing the Sustainable Planning Criteria for Age-Friendly Precincts	% of Variance explained
1	Economic Considerations	25.741%	Social and Civic Participation (Micro-Level)	24.758%	Economic Considerations	27.477%
2	Social and Civic Participation (Micro-Level)	5.381%	Economic Considerations	5.114%	Personal Development for Active Ageing (Respect)	6.320%
3	Personal Development for Active Ageing (Respect)	4.846%	Personal Development for Active Ageing (Respect)	4.731%	Transportation (Age-Friendly)	4.961%
4	Outdoor Spaces	3.091%	Community Support Services	3.485%	Social and Civic Participation (Micro-Level)	3.800%
5	Social Considerations	2.881%	Buildings and Neighbourhood (Housing Supply: Accessibility and Affordability)	2.902%	Environmental Considerations (Community-Level)	3.208%
6	Environmental Considerations (Community Level)	2.684%	Outdoor Spaces	2.586%	Outdoor Spaces	3.068%
7	Community Support Services	2.423%	Environmental Considerations (Community Level)	2.525%	Social Considerations	2.720%
8	Transportation (Age-Friendly)	2.086%	Social Considerations (Social Integration)	2.260%	Community Support Services	2.447%
9	Health Care Services	1.979%	Environmental Considerations (Local Level)	2.050%	Social and Civic Participation (Policy-Level)	2.230%
10	Transportation (Connectivity)	1.860%	Transportation (Age-Friendly)	1.964%	Buildings and Neighbourhood (Neighbourhood Condition)	2.085%
11	Environmental Considerations (Local Level)	1.711%	Buildings and Neighbourhood (Neighbourhood Condition)	1.885%	Transportation (Accessibility)	2.033%
12	Buildings and Neighbourhood (Housing Supply: Accessibility and Affordability)	1.638%	Transportation (Connectivity)	1.749%	Health Care Services	1.873%
13	Buildings and Neighbourhood (Neighbourhood Condition)	1.555%	Social Considerations (Social Infrastructure)	1.732%	Environmental Considerations (Local Level)	1.758%
14	Social and Civic Participation (Policy-Level)	1.515%	Communication and Information	1.641%	Communication and Information	1.598%
15	Communication and Information		Transportation (Affordability)	1.570%		
16			Buildings and Neighbourhood (Neighbourhood Infrastructure)	1.553%		

Table 5.13 illustrates that there are some differences in the criteria of the three groups in terms of sustainable planning criteria for age-friendly precincts. By studying the

three groups, there are 8 common factors ranked within the top 10 places in each group. These 8 common factors are selected as the sustainable planning criteria for age-friendly precinct. The detail is shown as below.

Factor 1 indicates that the overall perception of the respondents is focused on the factor of **Economic Considerations** (see Table 5.10). ‘Appropriate use of resource’ and ‘promoting fair market system, financial & social equity at the workplace’ are the key sustainable planning criteria for age-friendly precinct most related to this factor. For the **people above 60**, the criteria of ‘appropriate use of resource’ is all highly related to this factor (see Table 5.12).

Factor 2 refers to **Social and Civic Participation (Micro-Level)** (see Table 5.10), which covers the areas of citizens’ daily life. ‘Recognition of elderly contributions’ and ‘Lifelong learning programs for elderly’ are the two most relevant key criteria to the factor. Under this factor, the **people above 60** show a high emphasis on ‘Recognition of elderly contributions’, ‘Working & volunteering opportunities after retirement’, ‘Podium for socializing near to market places’ and ‘Lifelong learning programs for elderly’ (see Table 5.12)..

Factor 3 covers the items which pertain to the **Personal Development for Active Ageing (Respect)** (see Table 5.10). ‘History/culture heritage’ and ‘Socializing skills/personal empowerment’ are the most related key criterion to the criterion. The **people above 60** regard the same things as key criterion to this factor (see Table 5.12)..

Factor 4 contains the items which supports **Outdoor Spaces** (see Table 5.10), ‘Management and maintenance of outdoor spaces’ and ‘Special customer services’ are two key criteria most related to the factor. For this factor, **the people above 60** emphasise mostly on ‘Safe & secure public spaces’(see Table 5.12)..

Factor 5 represents the items which promotes **Social Considerations** (see Table 5.10). Under this factor, ‘Mixed housing types for intergeneration and ageing in place’ is the key criteria. Under this factor, **the people above 60** emphasise mostly on ‘Public participation for community building & public policy consultation’ (see Table 5.12).

Factor 6 is composed of the items which reinforces **Environmental Consideration (Community Level)** (see Table 5.10). ‘Zero waste management’ and ‘Smart growth and green structures’ are the two most relevant key criteria. The **people above 60**, besides the above two sub-factors, find ‘urban greeneries and vegetation’ is also high relevant to this factor (see Table 5.12).

Factor 7 consists of the items that provides **Community Support Services** (see Table 5.10). ‘Psychological needs for addressing isolation issue’ and ‘Promoting

personal health care' are the two most related key criteria under this factor. The **people above 60**, agree both criteria mentioned in the mixed group are regarded as highly relevant (see Table 5.12).

Factor 8 is Transportation (Age-friendly) (see Table 5.10), 'Universal access in public transportations' and 'Pedestrian & bus stop signages' are the two most related key criteria under this factor. For this factor, 'Universal access' is the most related criterion for the **people above 60** (see Table 5.12).

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Chapter 6 Validation of Street Survey Findings

6.1 Introduction

Based on the results from the questionnaire survey, we conducted two further checks to validate them.

Firstly, we invited some experts and elderly people to check the validity of the results of our research in the form of roundtable discussions and focus group meetings. Totally, two roundtable meetings and three focus groups were held by the end of March 2015. From these meetings, the results and findings were reviewed and further probed for insights. We not only have validated our findings and results, but also derived some very stimulating questions deserving more research in the future.

Secondly, at the end stage of the project, we conducted field observations in Kwun Tong, Sheung Shui and West Kowloon. The aim of this work was to check the physical environments of these places. We used the results of the field observations to review those we obtained from the street survey.

6.2 Methodology

Roundtable Meeting and Focus Groups

The initial aim to hold roundtable meetings was to validate the results of our earlier data collection and analysis. However, through two meetings with totally 8 experts from different locations, we moved beyond validation, and were able to achieve an improvement of our study, not only just in the findings, but also in the aspects of conceptual definitions, methodology, the message we were presenting, and the implications of applying the findings.

Besides the roundtable meeting with the experts, we also sought to validate our results through discussions with some of the elderly who had already been experiencing the age-friendly policies and facilities in Hong Kong. We used the methodology of focus group meetings. The definition of focus group meeting was given by Edmunds (1999). His intention of the focus group was to bring a small group of people together (who were qualified by their knowledge and experience) to discuss a particular topic. Although the number involved is usually 8-10, some exceptions are also shown to be valid (Barrett & Kirk, 2000). Furthermore, Edmunds (1999) also mentioned a sequence of 'utilities' of focus groups including: to validate new concepts, to appraise advertising, to evaluate promotion, to establish new questionnaire, to bring about ideas or support brainstorming, to position a product and to evaluate product usability. Although Edmunds advice comes from his experience within the business marketing domain, the first point of the utilities listed is relevant to this study. As our findings are more concerned with new concepts, this first 'utility' well

supports our decision that focus groups are the right methodology to be used at this stage in order to validate the findings of the present study.

Three focus groups were held at the end of March 2015. We chose one elderly centre from each of three main locations of Hong Kong, Hong Kong (Central), Kowloon and New Territories. The elderly centres helped with organizing 5-15 elderly to participate in each focus group meeting. Each focus group took from one and half hours to two hours duration. The process followed was initiated by the moderator of the focus group, who firstly introduced the eight sustainable planning criteria for age-friendly precincts that could be adopted in Hong Kong's situation. Then ten key questions were presented and the participants invited to join the discussion. All the questions were formed based on the tentative findings to date. Because of the limitation of the time of each focus group, we only chose the most controversial findings that had been identified in the earlier roundtable meetings with the experts.

Field Observations

Field observation is the most direct way to measure /evaluate the condition of the physical environment of an urban district. In the scholarly domain of urban studies, field observations have been widely used to research many worthwhile issues, such as walkable and safe conditions (Neckerman et al., 2009), driving behaviour under intersection-safety systems (Chan, 2006), and visibility of warning and advisory signage (Ward & Wilde, 1995). In many studies, field observation is conducted as a supplementary step for many other kinds of indirect methodologies in urban studies, or more generally empirical studies or social science studies, such as GIS measurements (Neckerman et al., 2009), questionnaire surveys, interviews and laboratory experimentation (McCall, 1984)

In our research, we chose the locations to conduct field observations based on the following facts. Sheung Shui was selected as the sample of a New Development area; meanwhile, Kwun Tong and West Kowloon were selected as the samples of other areas of Hong Kong. The fact that the majority of Hong Kong's elderly people are living in the old urban areas, like Kwun Tong and West Kowloon, makes the two locations a suitable choice to conduct the field observations in the present study.

What is more, all the three areas have their own characteristics that make them worthwhile to be studied in the present research. As a New Development Area, Sheung Shui is still in the process of developing, and thus, has a large space to be improved. Central is selected as the representative of CBD of Hong Kong. Kwun Tong is a typical urban district where a high-density of senior citizens reside. West Kowloon, some parts of which until now have been only a geographical concept, is under the process of planning to be a new cultural district of Hong Kong. It indicates that this area might be a place for elderly people to live, relax and participate in social activities in the future. The following table and paragraphs provide a general

description of the three areas.

Table 6.1 Brief Profile of Sheung Shui, Kwun Tong and West Kowloon

The major elderly precincts in Hong Kong	Population (,000 persons) (2013)	The proportion of ageing population (above 65 years old) (2013)	Average household income (hk\$) (2013)	Education level (Percentage of elderly with secondary education and above) (2013)	The number of residential care homes (2013)	The number of parks /gardens (2012)	The existing and planned provision of open space (2008)	The gross area per capita for elderly (m ² /person) (2013)
North (Fan Ling and Sheung Shui)	303.2	11.0 %	21,400	26.4	58	137	119.9	35.9
Yau Tsim Mong (West Kowloon)	311.9	13.8 %	22,000	45.6	56	97	105.4	24.5
Kwun Tong	638.9	16.8 %	17,500	30.9	53	109	231.6	21.5

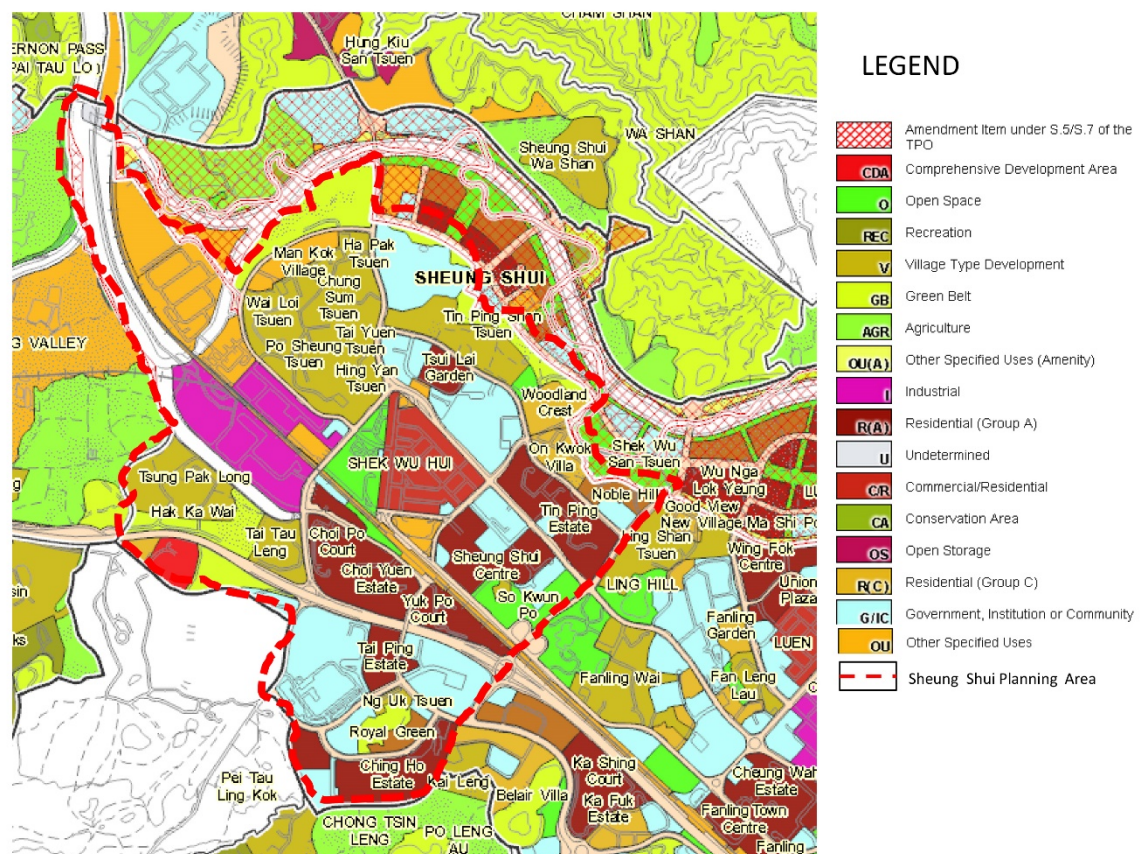


Figure 6.1 Map of Sheung Shui

Sheung Shui

Sheung Shui is administratively a part of North District, which is an area in the New Territories East of Hong Kong. It is a part of Sheung Shui/Fanling Plain, which is the second largest and second most important plain in the New Territories (Baker, 1968).

Sheung Shui Town is part of the Fanling-Sheung Shui New Town in the North District. The population of Sheung Shui continues to grow. Today many public and private estates can be found in this area.

West Kowloon Cultural District

Stretching across 40 hectares of reclaimed land (West Kowloon Cultural District Authority, 2013), the West Kowloon Cultural District is one of the largest cultural projects in the world, blending art, education and open space. Its vision is to create a vibrant cultural quarter for Hong Kong where the local arts scene can interact, develop and collaborate (Dynamic Star International Limited, 2004). Providing 23 hectares of public open space with two kilometres of vibrant harbour-front promenade, it will also include a variety of arts and cultural facilities that will produce and host world-class exhibitions, performances, arts and cultural events.

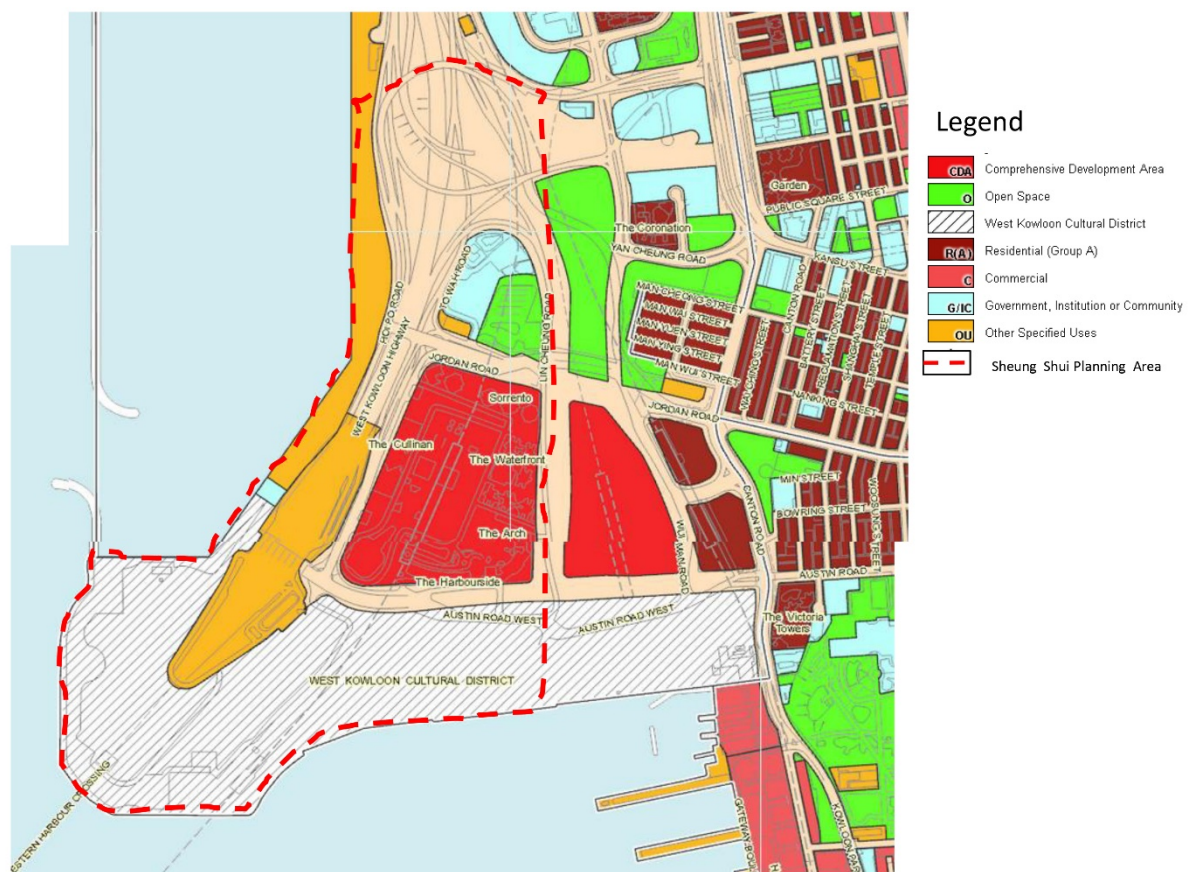


Figure 6.2 Map of West Kowloon

Kwun Tong

Kwun Tong is one of the earliest developed urban areas in Hong Kong. It is also one of the first new towns in Hong Kong and it remains a major industrial area (Home Affairs Department, 2015). Its population has been growing rapidly, and the demand

for housing, medical and educational facilities and services has been increasing. In view of this, a number of community development projects, such as the redevelopment of old housing estates and the construction of major parks, have been implemented in recent years.

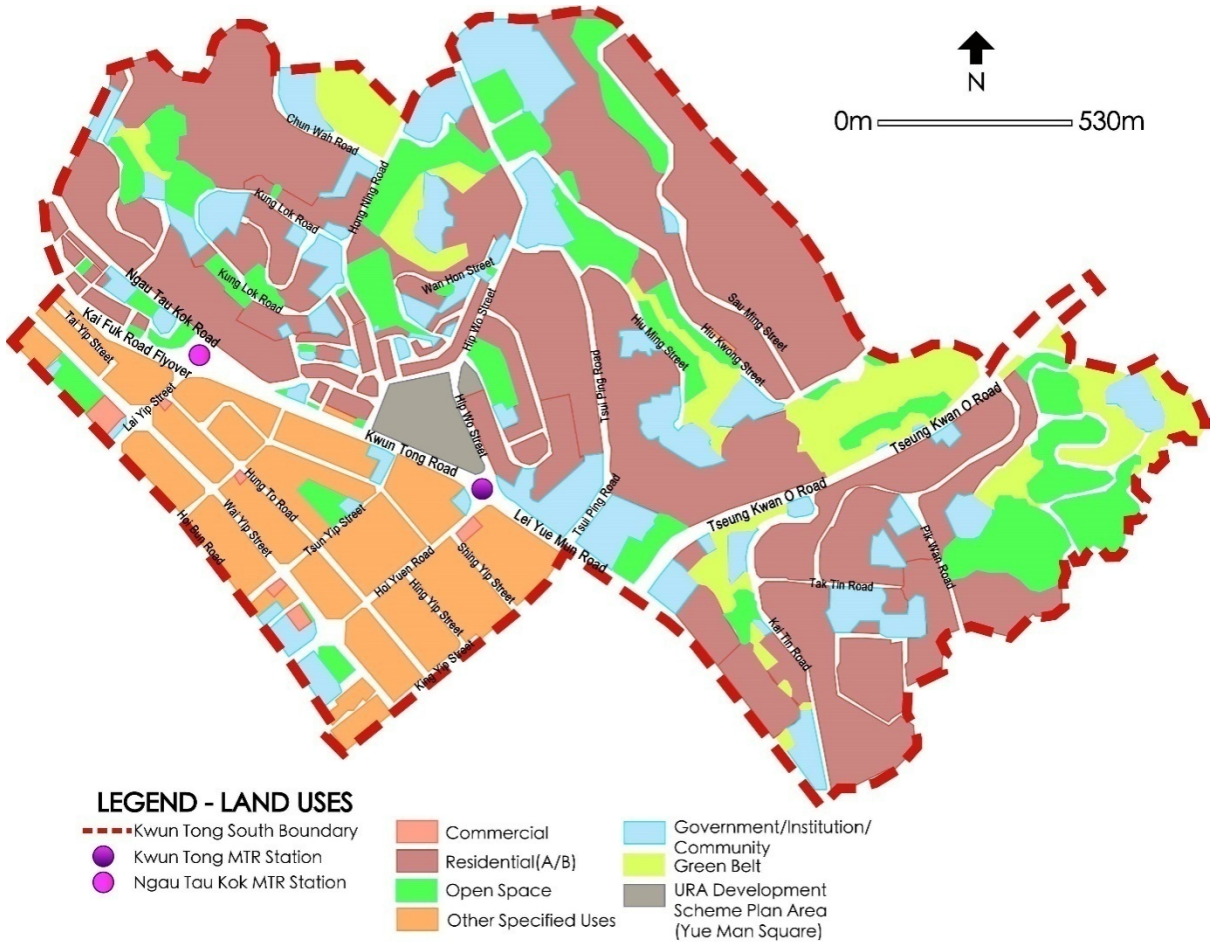


Figure 6.3 Map of Kwun Tong

6.3 Findings and Summary

Roundtable Meetings

It is better to see the roundtable meetings as rather an improvement of the findings of the present research than a validation. Our findings were refined by 8 experts who are outstanding professionals in different but related areas. The results are listed in the Table 6.2.

Table 6.2 Validation Input from Roundtable Meetings with Experts

Bottom-Up or Not
(1) The expert from the Elderly Commission does not feel he is the policy maker. Most policies are made by government. The

government just consult the Elderly Commission. Actually, it is the government that has the decision power.
(2) Government will take what they want to take from experts.
(3) The definition of the 'bottom-up' approach should be reviewed. It means the decision is made from a lower structural, not exactly paying particular attention to actual demand.
(4) The process contains two elements. The views from the experts and the public. These views are divergent. Thus it is necessary to consider the views from the majority of people. Incorporation is a good strategy.
(5) It is important for people to get familiar with the concept of age-friendly criteria, thus, they can think of its importance.
(6) Age changing, criteria changing. Thus, get the public participating.
Age-Friendly Design Criteria and Sustainable Planning Criteria for Age-friendly Precincts
(1) Overall
● For factor analysis, some of the factors are overlapping.
● The WHO's 66 factors is just a check list, that you do not need to acquire everything.
● The number of criteria is also too large. Some of the factors are not sufficiently defined. I think it needs some more work.
● Some of them can be grouped further.
● Some of the overlapping factors can be deleted. You can also keep the top five factors. Make them really impact.
● Maybe you can ask why about the ranking. For example why you do not like to live with younger people.
● You can also separate the age groups.
● The name of each factor should be reconsidered.
● We did not consider the diversity of non-elderly group
● To mix sustainability may be make the policy making process too complicated.
● The perceptions of elderly and younger people are different. So it will be reflected by underlying factors.
● The findings could be used for making law.
● The findings could be used by CDA.
(2) Outdoor Spaces
● Not only provide money, but something else like outdoor space for them to participate in society.
(3) Transportation
● Harbour tunnel bus—connectivity.
(4) Housing and Neighbourhood
● It is shocking that the old people need light and air, yet they may live in very unsuitable rooms. They may live in dark rooms, that is, a no window room.
● Housing affordability is not a serious concern. Because people already live in the public housing. You should make this point more apparent.
● Sociology's perspective----mixed housing
● To ask why elderly don't like to live with intergeneration
● “长幼共用”, + elderly close to son -----intergeneration living
● 筲箕湾 only 10 person rent elderly house
● Young people lifestyle, different daily routine, generation gap
● 长者屋 close to young people's living area—town planning
● The reason why they need air and light is 2000 for 2 people cannot rent a house with good light and air
● The actual spending shows the elderly people are living in the public housing.
● Some of the elderly should live with their younger families, because they should take care of their grandchildren.
(5) Respect
● Use other countries' case to explain HK people's expectations. Elderly don't want to be ignored
(6) Economic Sustainability
● There is no social security.
● The elderly people still pay attention to the basic needs.
(7) Social Participation
● The elderly people need social participation, but at a low cost. So they need life-long learning, but no need to pay.

(8) Environmental Sustainability
● This is surprising, the elderly people also care about the big environment. Maybe for the further work, you should split the age group. Because it is the overall. I think the sustainable development is more a concern of the younger group. ● For the elderly people, they keep collecting things. That is why they also think environmental sustainability is important.
System Dynamics Modelling
● It is very unreasonable to assume just one thing. You should do some separation of the land cost. High middle and low. The average is not valid. The average will also change. Also depends on the location ● Pick three ranges. You can find the land cost range ● In some not very good location of the elderly housing. Construction is more expensive than land cost. ● This research team tried to study the willingness of the developer to build elderly housing. So I think you can find the land price range. ● But the private data is difficult to get, because there is no private data. You could research why they have not cared about the elderly market. ● And what is the profit tax should be considered and explained more. ● It may be easier to find some data from some place with a history of developing the elderly housing. Then you compare those data with the situation of Hong Kong. Then you also should pay attention to the profit margin of the developers in those countries. Compare with the profit margin for Hong Kong developers. There is no market in Hong Kong. You could foresee the market in Hong Kong. ● For Housing Society, if the developers develop elderly housing, they do not need to pay for the land cost. ● So we can use the case from the House Society and add the land cost for estimate. ● It seems the first thing they consider is whether they have a chance to buy the housing unit. You should revise the affordability. It determines whether there would be a market and whether the developer would like to provide the elderly housing. ● The Western situation is not suitable to Hong Kong. Because Hong Kong's system is different from other countries. Hong Kong does not establish a protecting system for elderly people. There also no guaranteed profit. Hong Kong is total capitalism. ● Sometimes age-friendly housing is not age-friendly because they are too far away. ● Hong Kong lack of elderly housing policy. Elderly do not seek subsidize housing. They seek alternative affordable housing. The developers do not take the elderly as an affordable group. ● Profit margin of developers can drive developers. ● Compare normal housing with elderly housing about profit margin in private market. ● Land cost is key barriers for elderly housing in private market. ● Income, spendable income. ● To tell expected housing rent and actual rent ● To separate middle class, and higher class. ● Land cost depends on location. If assume private elderly housing is for rich people in good location, land cost will be high. ● Explore why developers didn't go to that market. ● Experts would like to improve, talking about high-level housing. For low-income people, high-level facilities may not be the main concern. They need more basic things. ● “天伦乐”——proposed by Housing Department

From the roundtable meetings, the comments are mainly gathered from three aspects. They are a bottom-up approach, age-friendly design criteria and sustainable planning criteria for age-friendly precincts, and system dynamics modelling.

Firstly, the findings from the comparative study were improved. The experts, who are familiar with the Elderly Commission, gave us their opinions about the actual situation of the elderly programme delivery. It is not true that the Elderly

Commission is in charge of the elderly programme. The main decisive power is still owned by government. The Elderly Commission just works as a consultant for government in this process. Furthermore, the experts in the related area also give us a more official definition of a bottom-up approach in decision-making. It means the lower level has the power to make decisions. The age-friendly policy should be established by those who are familiar with the concept of age-friendly. A co-operation among different parties is a good strategy.

For age-friendly design criteria and sustainable planning criteria for age-friendly precincts, firstly, some general suggestions for EFA are given. The results of factor analysis were also improved from the roundtable discussions. After revising and discussing, generally, it was mentioned that the number of the factors is too large and some of the factors are overlapping each other. Thus, some more analyses were suggested. Firstly, some more factor analysis work needed to be done based on a classification of different age groups. Secondly, as there were some overlapping factors, some of them could be regrouped or deleted. Thirdly, for the large amount, we can just focus on the factors that have a relatively higher percentage of variance explained. Lastly, the name given to each factor should be reconsidered to make each of them reflect the set of variables that underpinned them, so that the label was reasonable and easily understood. (Note: These suggested improvements have been incorporated in the data analysis presented in Chapter 5.)

For specific age-friendly and sustainable planning criteria for age-friendly precincts, some inferences about the reason for certain street survey results was given by the experts. For example, according to the high ranking of need for air and light in the apartment, it is inferred by experts that most elderly people live in a poor condition, more likely to be a public rental apartment. Other experts highlighted some findings that are controversial, compared to their own knowledge and experience. For instance, elderly people ranked living with younger people lowest in the sub-factors of buildings and neighbourhood, this being an unexpected response.

The last thing, but of significant importance, that should be mentioned in this section is the expert's comment on the systems thinking study. We have reported that there were some shortcomings with using the systems thinking (ST) model for this study. When we tried to locate all the construction/development cost data to run the tests, we found most of the data are confidential, even with good support from the Housing Society that is the main provider of private age-friendly housing. According to this situation, the experts recognised the limitation of using ST in here and suggested to conduct some other related research in future, such as to explore the willingness and feasibility of developers to construct private elderly housing. Other future related research topics could also include a special focus on the elderly real estate market, profit margins, and the barriers to the future development of elderly real estate.

Focus Groups

From the focus groups, some findings that have not been validated by field observation and roundtable meetings were reviewed by the elderly people from three elderly centres located in Central, Sheung Shui and West Kowloon. The results of three focus group meetings are displayed in the Table 6.3. The responses from the elderly respondents are described in the following part, and their influence on our recent findings will be discussed.

Table 6.3 Validation Input from Focus Groups with Elderly People

Q1. Validation of 7 areas of Age-Friendly Design Criteria			
FG1 New Territory	Open Space	2	Facility not enough; Occupied
	Transportation	5	Expensive; No desired routine; Not enough in number; Signage not clear enough; Need seat in stations and stops; Access facilities;
	Social/Civic Participation and Employment	1	Not specified.
	Respect	10	Not specified.
	Communication and Information	3	No access to information; Computer class
	Community Supports and Health Services	11	Difficult to access; Not large enough; Not enough in number
FG 2 Hong Kong	Open Space	8	Not enough space.
	Transportation	8	No desired routine.
	Buildings and Neighbourhood	8	Not affordable.
	Social/Civic Participation and Employment	7	Not specified.
	Respect	7	Not specified.
	Communication and Information	7	Not specified.
	Community Supports and Health Services	10	Not enough dentists; Not enough in number.
FG 3 Kowloon	Open Space	2	Not specified.
	Transportation	2	Not specified.
	Buildings and Neighbourhood	4	Poor condition; No specific elderly housing.
	Social/Civic Participation and Employment	2	Not specified.
	Respect	2	Not specified.
	Communication and Information	4	Need information about activities.
	Community Supports and Health Services	8	Isolated from community; Not enough in number.
Q2. Bottom-up or not			
FG 1	Agree Bottom-Up (Elderly)	0	-
	Agree Bottom-Up (Elderly Commission)	10	Government does not know the need.
	Disagree Bottom-Up	10	Government has the power.
FG 2	Agree Bottom-Up (Elderly)	6	Know the needs.
	Agree Bottom-Up (Elderly Commission)	2	More professional; Can hear the elderly's voice.
	Disagree Bottom-Up	1	Not specified.
FG 3	Agree Bottom-Up (Elderly)	2	Government does not know the needs.
	Agree Bottom-Up (Elderly Commission)	6	Government has other duties; More Professional.
	Disagree Bottom-Up	1	Government has the ideology.
Q3. Validation of Sustainable Planning Criteria for Age-Friendly Precincts			
FG1	Economic Sustainability	20	Fundamental function.
	Respect	1	Seats are not given on public transportation.
	Open Space	1	Not enough facilities.
	Public participation	10	Not specified.
	Transportation	10	More seats needed
	Social Sustainability	10	Like to communicate and live with the younger generation

FG2	Respect	2	Seats are not given on public transportation.
	Open Space	2	Need more to do activities.
	Environmental Sustainability	1	More greenery is needed to have a better environmental quality.
	Community Supports	1	Not specified.
	Transportation	3	Need more seats
FG3	Economic Sustainability	8	Fundamental functions
	Environmental Sustainability	2	Not specified.
	Community Support	8	Basic for other aspects
Q4. Transportation & Housing Accessibility & Affordability			
FG1	Transportation	Cannot afford; Relatively accessible.	
	Housing	Public housing is affordable; Private housing rent is too high.	
FG2	Transportation	Relatively accessible; Accessible is important; Relatively affordable.	
	Housing	Not very affordable.	
FG3	Transportation	Affordability and Accessibility are important; Relatively accessible; Relatively affordable.	
	Housing	Housing rent is too high and increasing.	
Q5. Transportation Age-Friendly Feature			
FG1	1. Need more seats; 2. Access and safety facilities and obvious signage; 3. Need new buses; 4. Improve the routing of rural bus.		
FG2	1. Need access facilities and obvious signage; 2. More seat in the stop or station; 3. More assist services and drivers’ consideration; 4. Design should consider the elderly; 5. Need more seats in public transportation; 6. Flexible to get off.		
FG3	1. More seat in public transportation; 2. Toilet in public transportation; 3. Shed, seats and toilets in stop and station; 4. Need access facilities; 5. Need assist services and drivers’ consideration.		
Q6. More Younger People or Not			
FG1	More	15	Help take care of the elderly.
	Less	3	Afraid of conflicts; Like living with peers.
FG2	More	1	Need to recognise each other
	Less	1	Too noisy
	Whatever	2	The personality matters; Not too much interaction with neighbourhood.
FG3	More	6	Help take care of the elderly; Increase interaction and reduce isolation.
	Less	2	Too noise; Less facilities for the elderly.
	Whatever	3	The personality matters.
Q7. Different House Choosing Opinion between Younger and Elderly			
FG1	Younger	Near central, and easy to take public transportation.	
	Elderly	Concern more about community facilities; Like living near market.	

FG2	Younger	Like more entertainment facilities; Easy to take public transportation.
	Elderly	Concern more about community facilities.
FG3	Younger	Entertainment facilities;
		Near public transport.
	Elderly	Safety design;
		Park;
		Quiet surrounding.

According to the discussion of Question 1, which is to validate the age-friendly design criteria in Hong Kong, all the seven areas of age-friendly design criteria were validated with a relatively high number of supporters. The potential additional criteria suggested are listed below and followed by *.

Outdoor Spaces:

- Appropriate public facilities;
- Management and maintenance;
- Size of the space*.

Transportation:

- Affordability;
- Public transport frequency and reliability;
- Universal access in public transportations;
- Pedestrian and bus stop signage;
- Age-friendly features;
- Desired routing*.

Buildings and Neighbourhood:

- Affordability of housing;
- Safe and comfortable facilities.

Communication and Information:

- Accessibility*;

- Content about activity*.

Community Supports and Health Services:

- Affordable public health care services;
- Accessibility and availability of public health care services;
- Special desired services (dentist)*.

Discussion on the Focus Group Responses

Some responses reflected agreement with the existing criteria, that are also ranked high, and some with a higher score obtained from the street surveys than others. Generally, there was support for items such as appropriate public facilities (outdoor spaces), affordability (transportation), affordability of housing (buildings and neighbourhood), safe and comfortable facilities (building and neighbourhood), affordable public health care services (community supports and health services), and accessibility and availability of public health care services (community supports and health services).

Some controversial criteria can be explained by special circumstances. For example, concerns were expressed about management and maintenance mainly from the focus group in New Territories where the elderly complained the outdoor spaces were occupied by tourists.

Another controversial factor appeared to be transportation. As this research has not taken a view from the perspective of a transportation professional, in the following part a simple and preliminary discussion is given. According to EFA, it is indicated that there are two criteria related to transportation. One of them includes travel connectivity, proximity and public transport frequency & reliability, which indicates the accessibility of public transportation; the other one includes universal access, age-friendly features and signage such as age-friendly items. However, only the one about age-friendly features appeared in our list of eight factors for sustainable planning criteria for age-friendly precincts.

Such deviation can be explained by the answers to the Questions 4 and 5 in the focus groups. Hong Kong has done relatively well in terms of affordability and accessibility, which are generally acknowledged as important by Hong Kong senior citizens. On the other hand, the elderly in Hong Kong think public transportation in Hong Kong can be further improved by adding a lot of various age-friendly features. Thus, all three criteria under the factor of age-friendly transportation are of great importance for the

elderly people.

The discussions also pointed the research team to consider a more accurate definition about what a 'bottom-up' approach to making policy actually is. The Question 2 gave three paths which represent the original governmental-oriented path (top-down), semi-bottom-up path which is led by the Elderly Commission and totally bottom-up path led by elderly citizens. We asked the elderly people in the focus group to choose their preference. The semi-bottom-up approach is the most preferred because the Elderly Commission is considered as being professional in this area. The result echoes the statement from roundtable meetings that only people familiar with the concept of age-friendly can and should establish the policy. Despite this majority view, alternatives such as a top-down approach led by government, which has enough power to enforce the policy, and a bottom-up approach by elderly people themselves, who know their needs better than others, were also preferred by a certain number of people. Thus, another statement from roundtable meetings, cooperation between different parties as a good strategy, is also reflected in these findings.

All the eight sustainable planning criteria for age-friendly precincts are validated through Question 3. The statements from participants helped to refine the structure and definition of sustainable planning criteria for age-friendly precincts. Economic sustainability is regarded as the basis to enhance the age-friendly city construction. Furthermore, both by the number of appearances of the statements and the reasons given, community support and health services can be regarded as the essential social infrastructure of an age-friendly city. The other three ensure the elderly can continuously participate in social life, which can be judged from the statement of the reasons.

Lastly, the focus group also explored the willingness and feasibility for elderly people to live with younger people. From the roundtable meeting, it is mentioned by experts that the survey result of living with younger people ranked the lowest in the principles of building and neighbourhood is relatively controversial. Thus, the focus group used Question 6 and Question 7 to collect the opinions from the elderly people. According to Question 6, the majority of elderly people like living with younger people. This is because they can get more help and a chance to talk with the younger generation. However, from the answers to Question 7, it is indicated that there are different standards or perceptions about preferences in choosing where to live between the elderly people and younger people. Especially in Hong Kong, being such a compact the city, the two standards may cause conflicts in the community construction. As a result, the elderly may have to give up the idea of living with the younger generation in order to find a community which can cater for their own needs first.

Field Observations

We also conducted a field survey in West Kowloon to try to find some evidence to

validate to the ranking we obtained from previous research. According to the results from the field observations, the aspects that are regarded as insufficient to cater for the elderly people's needs are highlighted in the following tables.

Table 6.4 Field Observations of Kwun Tung Open and Outdoor Spaces

1. Urban Furniture and Amenities	Condition	Comment(s)	
Kiosks	3	Quantity	No kiosk but only automatic vending machine available, each vending machine located far apart
Signage	4	Quality	Fair
		Quantity	Insufficient,
Directional map	4	Quality	Good
		Quantity	Insufficient, only a few direction guides available
2. Pedestrian infrastructure	Condition	Comment(s)	
Covered Walkways	4	Quality	Good
		Quantity	fair
Pedestrian crossing	4	Quality	fair
		Quantity	good
Bikeways	5	Quality	Not visible in the area
		Quantity	
Street signage and symbols	3	Quality	Good
		Quantity	Lack of signage and indication along the way
Entrance / exits	4	Quality	Fair
		Quantity	good
3. Proximity to Community Facilities	Condition	Comment(s)	
Local Shops	3	Quantity	insufficient
Traditional Clinics	3	Quantity	Not available in visible area
Market	3	Quantity	Not available in visible area
Library	5	Quantity	Not available in visible area
Food shops	3	Quantity	Not available in visible area
Housing units	3	Quality	Well-connected
		Quantity	About 10 mins walk away
Aged care centres	3	Quantity	Not available in visible area
Podium / Coffee shops / Gardens for socializing	3	Quality	good
		Quantity	About 10 mins walk away
4. Physical / Outdoor activities infrastructure	Condition	Comment(s)	
Reflexology path	5	Quality	Not available in visible area
		Quantity	
5. Related attributes	Condition	Comment(s)	
Safety alarm	5	Quality	Not found in visible area
		Quantity	
Emergency hotlines	3	Quality	Good
		Quantity	Only one emergency phone in the park
Blind Navigation System (Map, Braille map, voice, sound, etc)	5	Quality	Not available in visible area
		Quantity	
Security (Surveillance) camera, security guard	3	Quality	Security guard is inattentive
		Quantity	Not available in visible area
First-aid kit	5	Quality	Not available in visible area
		Quantity	
6. Overall ambience	Condition	Comment(s)	
Safety & Security	3	Quantity	Not available in visible area

Table 6.5 Field Observations of Sheung Shui Building and Neighbourhood

1. Facilities & furniture	Condition	Comment(s)	
Signage & directions	4	Quality	Clear and well-designed with good quality material
		Quantity	Insufficient signage available to show directions and indications either inside or outside of buildings
Emergency call bell	5	Quality	Not available in visible area
		Quantity	
Voice-over system	5	Quality	Not available in visible area
		Quantity	

Table 6.6 Field Observations of Sheung Shui Transportation

1.Transport & age-friendly infrastructure	Condition	Comment(s)	
Public toilets		Quality	Well maintained and equipped with disabled toilet
		Quantity	Only available at the paid area of the station
Priority seating for elderly & disabled		Quality	Not available in visible area
		Quantity	
Queuing arrangements		Quality	Good and well-managed by management body
		Quantity	Large area for queuing is available at all time
2. Secure and safety	Condition	Comment(s)	
First-aid	5	Quality	Not available at visible area
		Quantity	Not available at visible area

Table 6.7 Field Observations of Sheung Shui Open and Outdoor Spaces

1. Urban Furniture and Amenities	Condition	Comment(s)	
Directional map	5		
2. Pedestrian infrastructure	Condition	Comment(s)	
Barrier-free access (e.g. Ramps, Handrails, disability path)	3	Quality	Ramp, handrail is available at a few entrance of the park; Most entrances of the park are narrow due to the setting up of balustrades, some of them are insufficient for wheel-chair to pass through
		Quantity	A few
Covered Walkways	5	Quantity	Not available within the park area
Street signage and symbols	4	Quality	Clean, well-maintained but small, lack of directional signage
		Quantity	Several
3. Physical / Outdoor activities infrastructure	Condition		Comment(s)
Mechanical exercise equipments for public fitness	5	Quality	Not available in the visible area
		Quantity	
Reflexology path	5	Quality	Not available in the visible area
		Quantity	
4. Related attributes	Condition		Comment(s)
Safety alarm	5	Quality	Not available in the visible area
		Quantity	
Emergency hotlines	5	Quality	Not available in the visible area
		Quantity	
Safety warnings	3	Quality	Safety
		Quantity	Available
First-aid kit	5	Quality	Not available in the visible area
		Quantity	

Table 6.8 Field Observations of West Kowloon Building & Neighbourhood

1. Facilities & furniture	Condition	Comment(s)	
Voice-over system	5	Quality	Not available in visible area
		Quantity	
2. Proximity to amenities & facilities	Condition	Comment(s)	
Local Shops	3	Quality	Fair condition with good variety of shops
		Quantity	Plenty, located more than 15mins of walk away (Jordan District) from the complex under covered walkway
Traditional Clinics	3	Quality	Fair condition with good variety of shops
		Quantity	Available, located more than 15mins of walk away (Jordan District) from the complex under covered walkway
Library	5	Quality	Not available in visible area
		Quantity	
3. Overall ambience	Condition	Comment(s)	
Free from noise and any nuisance	3	Quality	Fair, due to construction of high speed railway station and residential development in the neighbourhood, it suffers mild noise disturbances, the outdoor environment is

			equipped with mosquito exterminator
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Table 6.9 Field Observations of West Kowloon Transportation

1. Barrier-free access	Condition	Comment(s)	
Ramps	5	Quality	Not found in visible area
		Quantity	
Handrails	5	Quality	Not found in visible area
		Quantity	

Table 6.10 Field Observations of West Kowloon Open and Outdoor Space

1. Urban Furniture and Amenities	Condition	Comment(s)	
Kiosks	3	Quantity	No kiosk but only automatic vending machine available, each vending machine located far apart
Signage	4	Quality	Fair
		Quantity	Insufficient, small signage on park facilities and does not cover the whole park, only available in a few facilities
Directional map	4	Quality	Good
		Quantity	Insufficient, only a few direction guide available at the entrance, no floor plan nor direction signs to where the pathway leads
2. Pedestrian infrastructure	Condition	Comment(s)	
Covered Walkways	4	Quality	Good
		Quantity	Very little covered area compared to the size of the park, only the seating, toilets and office area are covered well
Pedestrian crossing	4	Quality	Disorganized due to construction work
		Quantity	Lack of proper crossing infrastructure, such as bollard, road crossing island
Bikeways	5	Quality	Not visible in the area
		Quantity	
Street signage and symbols	3	Quality	Good
		Quantity	Lack of signage and indication along the way
Entrance / exits	4	Quality	Fair
		Quantity	Only two entrance / exits in the whole park, which is very far apart (around 3-4 km)
3. Proximity to Community Facilities	Condition	Comment(s)	
Local Shops	3	Quality	Remote and not well connected
		Quantity	About 10 mins walk away to shops in Elements, about 20-25 mins walk away from local shops in Jordan
Traditional Clinics	3	Quality	Remote and not well connected
		Quantity	About 3 clinics around, about 15mins walk away
Market	3	Quality	Remote and not well connected
		Quantity	About 15-20 mins walk away
Library	5	Quantity	Not in visible / studied area, the nearest library is at Yau Ma Tei District
Food shops	3	Quality	Remote and not well connected
		Quantity	About 15 mins walk away
Housing units	3	Quality	Remote and not well connected
		Quantity	About 15mins walk away
Aged care centres	3	Quality	Remote and not well connected
		Quantity	About 15-20 mins walk away
Podium / Coffee shops / Gardens for socializing	3	Quality	Remote and not well connected
		Quantity	About 15-20 mins walk away
4. Physical / Outdoor activities infrastructure	Condition	Comment(s)	
Reflexology path	5	Quality	Not available in visible aerated
		Quantity	
5. Related attributes	Condition	Comment(s)	
Safety alarm	5	Quality	Not found in visible area
		Quantity	
Emergency hotlines	3	Quality	Good
		Quantity	Only one emergency phone in the park
Blind Navigation System (Map, Braille map, voice, sound, etc)	5	Quality	Not available in visible area
		Quantity	
Security (Surveillance) camera,	3	Quality	Security guard is inattentive

security guard		Quantity	Only one guard is on duty around the area,no surveillance camera along way
First-aid kit	5	Quality	Not available in visible area
		Quantity	
6. Overall ambience	Condition	Comment(s)	
Safety & Security	3	Quality	Fair, hard to find assistance in case of emergency

Previous findings as indicated in the comparative study, have shown that to construct age-friendly city Hong Kong have to improve its physical environment in the following aspects: walkways and pathways, age-friendly buildings, special customer services for older people, essential services, modifications and community integration. Most of the above aspects are well validated by the results of field observation. All the three districts show deficiencies in constructing pedestrian infrastructure. The field observations of West Kowloon regarding “Transportation” show the barrier-free access is still missing in some infrastructure in Hong Kong. It also indicates that the current buildings and public facilities need some modification to make it suitable for elderly people to live in and use. Some essential services, such as first-aid kit, library and supermarket, or customer specialized services, such as aged-care centres and reflexology paths, are still not easy for elderly people to access. As most of the above facilities and places are missing, it is also difficult for elderly people to be included in the society.

The results from the field observation explain why both experts and the public regarded the public facilities and universal accessibility as the top criterion of importance. About the transportation, it is also shown that most of the items concerning transportation are well-developed in Hong Kong, except the criteria about connectivity, such as ramps and handrails. Poor conditions for pedestrians also will decrease the connectivity between very good transport facilities. This validates the findings that although the transportation system is well-developed, the connectivity for pedestrians is weak in Hong Kong. The lack of sufficient-barrier-free access explains why accessibility is regarded by respondents as very important, but lacking in the physical environment. It also echoes the finding that the current situation of accessibility needs to be improved.

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Chapter 7 Discrepancies between the Public and the Experts in their Views of Sustainable Age-friendly Development – a case of Hong Kong

7.1 Introduction

This chapter aims to examine some observed discrepancies between different data sets. These differences are apparent from the priorities identified by various stakeholders in the Hong Kong ageing society. These so-called prioritized preferences show a discrepancy between the views of the public and those of the experts for the planning of age-friendly precincts in Hong Kong.

Some factors of sustainable planning criteria for age-friendly precincts are prioritized from the questionnaire survey results. Additionally, some prioritized factors of sustainable planning criteria for age-friendly precincts are identified through interviews with several experts. A triangulation analysis is conducted to compare the prioritized factors of sustainable planning criteria for age-friendly precincts from the questionnaire survey and interview, so that the key discrepancies are identified.

7.2 Research Methodology

To Design the Interview Questions and the Questionnaire Survey

The literature review was conducted to design the interview questions and the questionnaires. It started with an extensive literature review of relevant age-friendly city and physical design from journal articles, conference papers, PhD theses, master dissertations, textbooks, internet information, and professional journals to capture the background knowledge about worldwide age-friendly cities and Hong Kong's current situation (see Chapter 3 and 4). Interview questions and questionnaires (see chapter 5) were derived from these sources.

As reported in Chapter 5, the questionnaire survey was conducted in 8 districts in Hong Kong, aiming to investigate the physical design preferences of residents. Respondents consisted of elderly and young people to see both the older people's needs and young people's expectations about the physical environment when they are getting old.

Interviews were conducted respectively to further validate the data collected from the questionnaire survey. In total, 21 professionals were interviewed including architects, landscape architects, professor of the Elderly Commission, director of the Institute of Ageing Studies, director of the Social Welfare Department, and a project associate of the Institute of Active Ageing.

Selection of the 8 Districts for Survey: Justifications

This study selected 8 districts in Hong Kong, including Sheung Shui, Kwun Tong, Hung Hom, Sha Tin, Fan Ling, West Kowloon, Central, and Sham Shui Po. This list covers the new development areas, old districts (some of them are in the process urban renewal), central business districts, and new towns. Basically, people from these districts are able to represent all the typical groups in Hong Kong. Piecing together the 8 districts could present a remarkable snapshot of Hong Kong current situation. The study has 772 respondents, covering all the ranges of ages, but almost 40% of them older than 60. In each district, 100 questionnaires were distributed and there are almost 40 respondents of 60 years old or older. Data from them enables us not only to see the design preferences of older people, but they also indicate what physical environment younger people prefer when they are getting old and would like their parents to live in. More details have been given in Chapter 5 (Rationale for selected 8 districts for survey and data collection).

Data Analysis Approach

For processing the interview data, a qualitative data analysis software package (NVivo) was used to analyse interview data by word frequency function. This function catalogues the words used most often in the data, up to 1000 words (Bazeley & Jackson, 2013). The words that express the same or similar meanings were adjusted manually to make the calculation of word frequency more accurate. For example, the term 'barrier-free' is equal to 'universal accesses'. For processing the survey data, SPSS was used for statistical analysis. Thus the findings we conclude in this paper have been obtained from a triangulation analysis of the questionnaire survey and face-to-face interviews with professionals.

7.3 Findings and Summaries (1): questionnaire survey

Age-friendly Physical Design Aspects

As calculated and shown in Table 6.1, the order of design priority under the theme of **outdoor open space** is (1) appropriate public facilities; (2) quality of green environment; (3) universal access; (4) safe & secure public spaces; (5) special customer services; and (6) management & maintenance.

For the theme of **transportation**, the order of design priority is (1) affordability; (2) safety for transportation facilities & services; (3) travel connectivity to destinations; (4) universal access in public transportations; (5) proximity to the bus stops on foot; (6) age-friendly features; (7) public transport frequency & reliability; and (8) pedestrian & bus stop signage.

In respect of **building & neighbourhood**, the order is (1) affordability of housing; (2) universal access; (3) safe & comfortable facilities/environment; (4) fresh clean air

in the buildings/rooms/neighbourhood; (5) signage, housing options; (6) management & maintenance; and (7) enough housing availability for younger people in the neighbourhood.

From the survey results, it is obvious that our open space, transport, and building and neighbourhood are important physical design aspects, as more than 80% of respondents think they are “very important” or “important”. For each design criterion in three themes, less than 2% of respondents think any “design” criteria is not important. The top 3 criteria under each theme are highlighted in bold in Table 7.1.

Table 7.1 Age-friendly Physical Design Priorities

Design Principles	Mean	Std. Dev.	Rank
1. Outdoor Spaces			
Appropriate Public Facilities	4.47	.643	1
Universal Accessibility	4.46	.644	2
Quality of Green Environment	4.44	.668	3
Safe and Secure Public Spaces	4.43	.675	4
Special Customer Service	4.12	.823	5
Management and Maintenance	4.11	.802	6
2. Transportation			
Affordability	4.53	.653	1
Safety of Transportation Facilities and Services	4.40	.687	2
Travel Connectivity to Destinations	4.39	.660	3
Proximity of Bus Stops On Foot	4.37	.672	4
Universal Access in Public Transportation	4.35	.716	5
Age-Friendly Features	4.31	.754	6
Pedestrian and Bus Stop Signage	4.28	.751	7
Public Transport Frequency & Reliability	4.26	.762	8
3. Buildings and Neighbourhood			
Affordability of Housing	4.45	.696	1
Universal Access of Buildings	4.42	.686	2
Safe and Comfortable Facilities	4.39	.667	3
Fresh Clean Air	4.30	.685	4
Building Signage	4.23	.747	5
Building Management and Maintenance	4.16	.741	6
Housing Options	4.14	.790	7
Enough Housing for Younger People	3.93	.914	8

Age-friendly Social Aspects

Regarding *social/civic participation and employment*, the policy priority should be given to (1) addressing isolation and intergenerational programmes; (2) affordability, choices and accessibility of events; (3) podium for socializing near to market places; (4) addressing discrimination in the workplace; (5) age-friendly and progressive public policy; (6) working and volunteering opportunities; (7) lifelong learning programs; (8) recognition of elderly contributions; and (9) elderly participation for community planning.

In terms of *respect*, the order is like (1) personal health care; (2) computer classes; (3) socializing skills; (4) Fashion/beauty/styling; and (5) history/cultural heritage.

In respect of *communication and information*, the importance of the criteria is arranged like (1) hearing/understanding service staff; (2) printed material; and (3) technology aids and equipment.

Regarding *community and health services*, the sequence of the importance of each criteria is like (1) affordable public health care service; (2) accessibility and availability of public health care service; (3) in-home assistance for independent living elderly; (4) psychological needs for addressing isolation issues; (5) image grooming to build up elderly self-esteem; and (6) promoting personal health care. The Table 7.2 shows the prioritized criteria for each aspect of age-friendly social design to be noted from the views of the public mass survey, and the top 3 criteria under each theme are highlighted in bold.

Table 7.2 Age-friendly Social Design Priorities

Design Principles	Mean	Std. Dev.	Rank
4. Social/ Civic Participation & Employment			
Addressing Isolation and Intergenerational Programs	4.11	.806	1
Affordability, Choices and Accessibility of Events	4.09	.773	2
Podium for Socializing Near to Market Places	4.05	.849	3
Addressing Discrimination in the Workplace	4.04	.874	4
Age-friendly and Progressive Public Policy	4.03	.839	5
Working and Volunteering Opportunities	3.96	.877	6
Lifelong Learning Programs	3.94	.871	7
Recognition of Elderly Contributions	3.84	.918	8
Elderly Participation for Community Planning	3.67	.961	9
5. Respect			
Personal Health Care	4.28	.839	1
Computer Classes	3.90	.939	2
Socializing Skills/Personal Empowerment	3.75	.951	3
History/ Cultural Heritage	3.49	.963	4
Fashion/ Beauty/ Styling	3.26	1.031	5
6. Communication & Information			
Hearing/ Understanding Service Staff	4.36	.694	1
Printed Material	4.13	.788	2
Technological Aids And Equipments	3.99	.879	3
7. Community & Health Services			
Affordable Public Health Care Services	4.55	.621	1
Accessibility and Availability of Public Health Care Services	4.53	.605	2
Need for In-Home Assistance for Independent Living Elderly	4.45	.690	3
Psychological Needs for Addressing Isolation Issue	4.27	.757	4
Promoting Personal Health Care	4.23	.766	5
Image Grooming to build up elderly self esteem	4.21	.775	6

7.4 Findings and Summary (2): Discrepancy in Views of Age-friendly Physical and Social Priorities—between the Public Survey and Expert Interviews

Unstructured interviews were conducted to pursue in-depth information around this topic and further deepen our understanding of the elderly's preferences from their perspective. Each physical design theme was mentioned. But not all the design criteria in these three themes were mentioned by the experts. To some extent, this reflects the importance of each design criteria from a professional perspective. Figure 7.1 shows the key words frequently mentioned by interviewees and could indicate what professionals are usually concern about. After processing the high-frequency words in Figure 7.1, a shortlist of key words could be statistically recorded by NVivo software. The list includes: elderly needs, people, active ageing, care, accessibility, culture, age-friendly, environment, and affordability.

Table 7.3 compares the results of interview and survey data concerning outdoor open spaces. The interview ranking was based on word frequency mentioned by experts. From the two rankings in the table, it is obvious that the importance of each design criteria captured in the survey is echoed by those captured from interviews. Appropriate public facilities, universal accessibility, and quality of green environment are regarded as the most important criteria. This is supported by both the questionnaire survey and interview. The review of literature also found that these indicators are frequently mentioned.

The results from the two methods are similar. These results were also validated by focus group data. Appropriate public facilities, universal accessibility, and quality of green environment are seen as the top three important criteria, while safe and secure public spaces, special customer service, and management and maintenance are the last three important criteria, a pattern which is supported by both the interview and questionnaire survey data.

Transportation

Table 7.4 In-depth Interview and Comparison of Interview and Survey Data in Transportation

Ranking based on Survey	Above 60	Below 60	Design and Planning Criteria for age-friendly	Mentioned Frequency by experts	Representative statement of experts	Ranking based on interview
Transportation						
1	1	1	2.1 Affordability	8/21	- There is a strong link between Transportation (Affordability and Connectivity) and Economic Sustainability (Economic Growth) - Better transportation can encourage elderly to go enjoy outdoor recreations locating in suburb.	2
2	4	2	2.8 Safety of Transportation Facilities and Services	6/21	Walkways need to be well improved to secure safety of elderly if they walk on it.	3
3	2	4	2.3 Travel Connectivity to Destinations	3/21	- Elderly tend to make many trips per day because they have so much free time in hand, - Affordability of transportation and travel connectivity to destinations are very crucial	5
4	6	3	2.4 Proximity of Bus Stops On Foot	2/21	Many elderly actually enjoy walking due to plenty of time in hand	6
5	3	5	2.5 Universal Access in Public Transportation	4/21	Universal accessibility in HK is lacking for wheelchair users	4
6	5	6	2.7 Age-Friendly Features	9/21	Not enough of priority seats, especially in the tram because HK elderly do enjoy tram ride because it is cheap	1
7	7	7	2.6 Pedestrian and Bus Stop Signage	0/21	—	8
8	8	8	2.2 Public Transport Frequency & Reliability	1/21	In transportation, do not expect Public Transport Frequency & Reliability ranks no. 8 this low.	7

Table 7.4 compares the results of interviews and surveys concerning transportation. The results of interviews and questionnaire survey are very similar, except the design criteria of age-friendly features. In the survey, age-friendly features ranked 6/8, while it ranked 1/8 in the interviews, which means experts and respondents have very different opinions. Affordability and safety of transportation facilities and services are relatively important among the indicators, which is supported by both interview and survey data.

For transportation, affordability and safety of transportation facilities and services are the top three important criteria. However, there are some obvious differences between them. Age-friendly features of transportation ranked 1 in the interview, while it ranked 6 in the survey. Travel connectivity to destinations was ranked 5th in the interview while it was ranked 3rd in the survey.

The results can be explained by discussion about the focus group results in the last chapter. Although the public transportation system is well-developed, the age-friendly features relating to connectivity still need to be improved. It makes the design criteria under the theme of transportation separate into three categories of great importance respectively, affordability, accessibility and age-friendly feature. Each of them should be considered simultaneously and separately.

Building and Neighbourhood

Table 7.5 In-depth Interviews and Comparison of Interview and Survey Data in Buildings and Neighbourhood

Ranking based on Survey	Above 60	Below 60	Design and Planning Criteria for age-friendly	Mentioned Frequency by experts	Representative statement of experts	Ranking based on interview
Buildings and neighbourhood						
1	3	1	3.2 Affordability of Housing	3/21	The definition of quality of life is affordable housing, transportation and public health care	3
2	1	3	3.3 Universal Access of Buildings	6/21	Built environment need to provide universal access, especially in the public buildings and public estate housings which have not been done too well so far.	2
3	2	2	3.4 Safe and Comfortable Facilities	1/21	For underground level, there is engineering and fire safety issues need to be solved.	5
4	4	4	3.5 Fresh Clean Air	1/21	Fresh Clean Air is no. 3 because it relates to health properly.	5
5	5	5	3.6 Building Signage	1/21	Entrances and signage for easy access and recognition are needed	5
6	7	6	3.8 Building Management and Maintenance	3/21	Maintenance and management is key to support sustainability	3
7	6	7	3.1 Housing Options	0/21	-	8
8	8	8	3.7 Enough Housing for Younger People	8/21	Family-oriented setting for the new town development is important for Asian culture.	1

Table 7.5 shows that affordability of housing and universal access of building are the

top design criteria under the theme of building and neighbourhoods, according to survey and interview data. It is worth mentioning that a sufficient supply of housing for younger people ranked the last in survey, while it is ranked 1st in the interviews, which implies that the experts have the opposite views to respondents.

In terms of design criteria under building and neighbourhood, the two results are not very close. Another apparent difference is a sufficient supply of housing for younger people ranked 1 in the interview while ranked the last one in the survey. Its standard deviation (that is the largest value in the Table 7.5 illustrates that respondents' opinions are not very consistent. Such differences have also been discussed in the focus groups. The elderly people like to live with the younger generation. However, due to a lack of space to develop the facilities favoured by both elderly people and young people in the community, the elderly can only choose to cater for their basic needs of facilities first.

The difference with criteria 3.8 can also be explained with the results from the roundtable and focus group meetings. Hong Kong citizens are concerned more about the affordability of housing. Thus, public rental units are their best choice, although it means giving up their wish for a higher level of management and maintenance service that is available in private housing.

Social/Civic Participation and Employment

From Table 7.6, there is a big difference between rankings based on the survey and interviews in terms of affordability, choice and accessibility of events, and lifelong learning programme. Affordability, choice and accessibility of events ranked 2nd in the overall survey results, while these ranked 5th in interviews. Lifelong learning programmes ranked 7th in overall survey results, while they ranked 2nd in interviews. Regarding overall ranking based on survey and ranking by group (above 60, and below 60), a large difference appears in two factors. One is addressing discrimination in the workplace. It ranked 7th by respondents above 60 and ranked 2nd by people below 60. The other is recognition of the elderly contribution, ranking 4th by people above 60 and 8th by people below 60.

For the criteria 4.9, it is concluded by the results of roundtable and focus groups that a semi-bottom-up approach which, being led by the Elderly Commission, is the most preferred by the elderly. And based on the current situation, where experts only play a consultant role in the policy making process, the experts gave it the lowest consideration.

Table 7.6 In-depth Interview and Comparison of Interview and Survey Data in Social/Civic Participation and Employment

Ranking based on	Above 60	Below 60	Design principles	Mentioned Frequency by experts	Representative statement of experts	Ranking based on interview
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survey (Overall)						w
4. SOCIAL/CIVIC PARTICIPATION AND EMPLOYMENT						
1	1	1	4.3 Addressing Isolation and Intergenerational Programs	5/21	● Elderly prefer to participate intergenerational programs with the younger people, but not living with or near to them.	1
2	2	3	4.1 Affordability, Choices and Accessibility of Events	1/21	● Regarding with affordability, programs introduced by the government should be user-friendly and easy to implement.	5
3	3	5	4.5 Podium for Socializing Near to Market Places	1/21	● Private housing in HK has no communal space where people can socialize due to limited land, so people die or disappear without being noticed by neighbors.	5
4	7	2	4.8 Addressing Discrimination in the Workplace	2/21	● In public, e.g. at MTR, there is people discrimination to elderly. Also elderly home @ private buildings are not too welcome by the local residents.	3
5	5	4	4.9 Age-friendly and Progressive Public Policy	0/21	-	9
6	8	6	4.6 Working and Volunteering Opportunities	2/21	● After retirement, elderly find that they live for no purpose, so providing activities, jobs, learning opportunities and volunteering opportunities in order to help them re-identify their purposes in life.	3
7	6	7	4.2 Lifelong Learning Programs	3/21	● HK does well at lifelong learning programs for seniors, paid employment can be done better, and volunteering opportunities after retirement can be promoted better.	2
8	4	8	4.4 Recognition of Elderly Contributions	0/21	-	8
9	9	9	4.7 Elderly Participation for Community Planning	0/21	-	8

Respect

From Table 7.7, regarding respect, rankings based on two methods are echoed. Also, respondents above and below 60 give the same ranking. It is worth mentioning that the criterion of personal health care has dominant priority among all criteria, while fashion/beauty/styling is not very important, in that no interviewee mentioned it.

Table 7.7 In-depth Interview and Comparison of Interview and Survey

Data in Respect

Ranking based on survey (Overall)	Above 60	Below 60	Design and Planning Criteria	Mentioned Frequency by experts	Representative statement of experts	Ranking based on interview
5.RESPECT						
1	1	1	5.5 Personal Health Care	10/21	● The definition of quality of life is affordable housing, transportation and public health care	1
2	2	2	5.1 Computer Classes	1/21	● Lifelong learning programs are helpful for seniors, provision of computer courses for seniors and market experience are good questions.	3
3	3	3	5.3 Socializing Skills/Personal Empowerment	1/21	● Private housing in HK has no communal space where people can socialize due to limited land, so people die or disappear without being noticed by neighbours.	3
4	4	4	5.2 History/Cultural Heritage	5/21	● Heritage conservation for the new development area is important because it is the memory of the past for the elderly.	2
5	5	5	5.4 Fashion/Beauty/Styling	0/21	-	5

Communication and information

Table 7.8 In-depth Interview and Comparison of Interview and Survey Data in Communication and Information

Ranking based on survey (Overall)	Above 60	Below 60	Design and Planning Criteria	Mentioned Frequency by experts	Representative statement of experts	Ranking based on interview
6. COMMUNICATION AND INFORMATION						
1	1	1	6.2 Hearing/Understanding Service Staff	1/21	● In communication & information, Hearing/Understanding Service Staff and Printed Material are ranked no. 1 & 2 because without communication, nothing can be done or delivered for the sake of the elderly.	1
2	2	2	6.1 Printed Material	1/21	● In communication & information, Hearing/Understanding Service Staff and Printed Material are ranked no. 1 & 2 because without communication, nothing can be done or delivered for the sake of the elderly.	1
3	3	3	6.3 Technological Aids And Equipment	0/21	---	2

From Table 7.8, data analysis results of survey and interview about Communication and Information are almost same. Specifically, the mentioned frequency of three criteria in interview is almost same. Respondents above and below 60 reached a

consensus on the rankings of each factor.

Community and Health Services

From Table 7.9, regarding community and health service, data analysis results of interview and survey are very similar, except that the factor of need for in-home assistance for independent living elderly ranked 3rd in the survey and the last in the interviews. That means no experts mentioned it at all in the interviews. However, both the public and experts have a consensus about the priority to development an age-friendly community and health services is to improve their affordability and accessibility, which is also revealed by focus group results.

Table 7.9 In-depth Interview and Comparison of Interview and Survey Data in Community and Health Services

Ranking based on survey (Overall)	Above 60	Below 60	Design and Planning Criteria	Mentioned Frequency by experts	Representative statement of experts	Ranking based on interview
7. COMMUNITY AND HEALTH SERVICES						
1	1	1	7.1 Affordabl e Public Health Care Services	11/21	For Community and Health Services, the ranking is high and affordability ranks no. 1.	1
2	2	2	7.2 Accessibi lity and Availabili ty of Public Health Care Services	3/21	Government has established programs to take care of the elderly under the social welfare and health care policies through/ administered by the Social Welfare department.	2
3	3	3	7.3 Need for In-Home Assistanc e for Independ ent Living Elderly	0/21	---	6
4	4	4	7.5 Psycholo gical Needs for Addressi ng Isolation Issue	1/21	Elderly have hard time to express themselves, not only physically, also psychological needs.	3
5	5	5	7.4 Promotin g Personal Health Care	1/21	Government has established programs to take care of the elderly under the social welfare and health care policies through/ administered by the Social Welfare department.	3
6	6	6	7.6 Image Groomin g to build up elderly	0/21	---	6

			self esteem			
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7.5 Findings and Summary (3)

Based on the rankings of the survey and interview data results, and the discrepancies indicated by the comparison of the ranks of the two kinds of result, some other conclusions about the Hong Kong contextual situation of elderly life condition and age-friendly city construction are also generated. They are discussed below in this section.

(1) Hong Kong people value affordability and accessibility very much in physical environment

Comparing the findings of survey and interviews, universal access and affordability are always top design criteria. Accessibility and affordability in the physical environment are recognized as universal design criteria by both respondents and professionals. This indicates that core human values lean towards an elderly-friendly physical environment based on the particular situation in Hong Kong.

(2) The majority of elderly are not well-protected by retirement schemes

Many reasons can explain why Hong Kong people care more about affordability. First of all, the majority of elderly are not well-protected by retirement schemes (Chan, 2005). According to the Census and Statistics Department (2002), only 16.7% of elderly had retirement protection. Almost all (99.6%) of older people had personal income from various sources, such as interest from savings, financial support from children, and old age allowance, etc. Among them, elderly who had less than HKD 1,000 per month account for 17%. Only 21% of elderly had HKD 5,000 and above.

(3) High Dependence on public rental housing

One interviewee indicated that older people in this generation didn't have high education and they worked their whole life. Hence, it is reasonable for them to value much on the affordability aspect. On the other hand, high-price housing in Hong Kong also increases the importance of affordability. Under these conditions, the elderly are more dependent on public rental housing (PRH) (Chan, 2005). However, the increasing number of PRH applicants has extended the time in the waiting list. A survey in 2013 illustrated that 73.7% of respondents had not yet been approved to move to PRH even after waiting 4.4 years on average (Oxfam, 2013).

(4) Current situation of accessibility for elderly people needs to be

improved

Currently, accessibility in Hong Kong is not well developed. For example, universal access of transportation is lacking for wheel-chair users, as mentioned by an interviewee from the Elderly Commission. To some degree, most of the people notice and perceive the importance of accessibility, which indicates that Hong Kong needs to improve the situation. As an architect interviewee said, accessibility analysis plays an important role in urban planning. It is essential to put more emphasis on universal access in urban planning and design.

As discussed before, accessibility is significant for urban planning and many people express concerns about travel connectivity to destinations, especially under the trend of an ageing society. However, these needs are not stressed in the Hong Kong Planning Standards and Guidelines (HKPSG), which are used to control land uses and provision of facilities and infrastructure in town planning. . The HKPSG is civil-engineering-development-oriented and has undergone no change for some time. After years of building the physical environment, the present urbanization is well-developed in Hong Kong. Also, with the development of socio-economics and ageing society, HKPSG needs to integrate people's psychological and physical needs into environment design. Thus, people-oriented design should be dominant. That may explain why related key words, such as: people, needs, care and age-friendly, are frequently mentioned by professionals in the interviews.

(5) Well-developed public transportation system but weak age-friendly features in Hong Kong

Hong Kong has developed a good public transportation system and learned from many cities and regions (Chan et al., 2002; Zhou, et al., 2005). This is recognized by many professionals. However, it does not mean the transportation system has a good connectivity to destinations. Gwilliam (2001) claimed that connectivity is a common problem of transport planning in a high-density city that relies on public transportation.

In Hong Kong, for people travelling by public transport, most of the work trips need to transfer especially from those origins in New Town and old districts (Lau and Chiu, 2004). This not only increases travel expenses indirectly, but also affects connectivity to destinations. For example, when the Mass Transit Railway (MTR) Tseung Kwan O extension line was established, the original bus routes connecting Tseung Kwan O new town and urban areas would be cut due to government pressure not to compete with the MTR (Legislative Council, 2002). Hence residents had to pay more with each additional transfer than the cost of direct trips. Also, whilst it is not physically difficult for young people to transfer, this adds obstacles to the elderly. That's why respondents think connectivity is more important than many other criteria.

However, there are still some deviations of opinion between experts and the public that cannot be explained through our roundtable meetings, focus groups and field observations, such as the difference opinions about life-long learning. Some of the opinions revealed in this study need more systematic research to support and confirm, such as finding our logic to explanation about the difference of the opinion about the desirability of more young people living in the neighbourhood. Besides the explanation, the solution of these kinds of sacrifices is what is actually needed. The detailed solutions revealed under the direction and vision given by this study also requires further research in the future.

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Chapter 8 Conclusions and Recommendations

8.1 Introduction

This study is based on the eight Key Areas published by World Health Organization (WHO 2007) for Global Age-friendly Cities, and set out to develop a set of sustainable planning criteria suitable for age-friendly precincts in Hong Kong. Using the New Development Areas (NDAs) in North East New Territories (NENT) as a case study, it aimed to develop a framework matrix considering both sustainable planning criteria and age-friendly design priorities. The preliminary set of parameters was developed through a literature review and a desktop comparative study between the panel data of Hong Kong and selected best-practice age-friendly cities worldwide. The framework matrix was then tested with Hong Kong data obtained from interviews with experts and a field survey of stakeholders. Through an arduous research process from the literature review to interviews with experts, and survey results, the study was able to establish a set of sustainable planning criteria for age-friendly precincts in Hong Kong. After triangulating the results from the questionnaire survey and interviews with experts, some typical issues already apparent in overseas cities are also revealed in Hong Kong. In the following part of this section a summary of the major conclusions of this study are given.

8.2 Conclusions (Major findings)

Lessons learned from International Comparative Studies on the Best Practice of Age-friendly Initiatives

From the comparative study in Chapter 4, in term of urban development of the physical environment, we have found the 6 best practice cities (Akita, Singapore, Seoul, New York, Manchester and Melbourne) have already conducted some outstanding strategies and projects from which Hong Kong can get some inspiration about how to enhance its own age-friendly policies and construct its own age-friendly precincts. Details of the findings are shown in Section 4.7 of Chapter 4. The comparative study findings could be a foundation for establishing specific guidelines for Hong Kong's condition in terms of achieving an age-friendly physical and social environment.

We would like to note particularly that Hong Kong still lacks the promulgation of a comprehensive ageing policy and its age-friendly programmes are still directly governed by the Elderly Commission. Learning from best practice of other cities, bottom-up approach is a better strategy for the creation of age-friendly programmes that engage the participation of the elderly in the design and planning process.

Creating ageing policy will take a long time particularly if we aim at achieving a bottom-up approach and the process would need strong advocacy and will power by the government and key stakeholders.

Key Factors for Planning a Sustainable Age-Friendly Precincts in Hong Kong and the Corresponding key Sustainable Planning Criteria

Through exploratory factor analysis of the street survey results (see Chapter 5), eight factors are generated to represent the key sustainable planning criteria for age-friendly precinct in Hong Kong, as seen by the general public of all ages. The factors' descriptions and the most significant criteria for under each of the factors for overall public respondents are highlighted in the following.

1. Economic Considerations: embracing the key sustainable planning criteria for age-friendly precinct of:

- 'Appropriate use of resource' and
- 'Promoting fair market system, financial & social equity at the workplace'.

2. Social and Civic Participation (Micro-Level): embracing the key sustainable planning criteria for age-friendly precinct of:

- 'Recognition of elderly contributions' and
- 'Lifelong learning programs for elderly'.

3. Personal Development for Active Ageing (Respect): embracing the key sustainable planning criteria for age-friendly precinct of:

- 'History/culture heritage' and
- 'Socializing skills/personal empowerment'.

4. Outdoor Spaces: embracing the key sustainable planning criteria for age-friendly precinct of:

- 'Management and maintenance of outdoor spaces' and
- 'Special customer services'.

5. Social Considerations: embracing the key sustainable planning criteria for age-friendly precinct of:

- 'Mixed housing types for intergeneration and ageing in place' and
- 'Social mix in community (cultural/age/gender/income) to foster city liveability'

6. Environmental Consideration (Community Level): embracing the key sustainable planning criteria for age-friendly precinct of:

- 'Zero waste management' and
- 'Smart growth and green structures'.

7. Community Support Services: embracing the key sustainable planning criteria for age-friendly precinct of:

- 'Psychological needs for addressing isolation issue' and
- 'Promoting personal health care'.

8. Transportation (Age-friendly): embracing the key sustainable planning criteria for age-friendly precinct of:

- 'Universal access in public transportations' and
- 'Pedestrian & bus stop signages'.

Simply put, the economic consideration is the basis of all other factors. Based on that, community support improves the basic well-being of the elderly people. The remaining factors further help improve the elderly people's well-being by encouraging them to participate in public social life. The corresponding key sustainable planning criteria for age-friendly precinct identified in this study are the important criteria which to be considered for planning a sustainable age-friendly precincts in Hong Kong. In our data analysis, we study the factors and corresponding key sustainable planning criteria for age-friendly as seen by the general public of all ages and by the respondents who are above 60 years old. For conclusion reporting, we opine that the overall views of general public of all ages can better represent the sustainable planning criteria for age-friendly, as sustainable city development should be concerning all members of general public.

Some Controversial Views between the Public and the Experts

In the study of discrepancies between the public and the experts in their views of sustainable age-friendly development, we found several conflicting views (see Chapter 7). The following highlights and explains some of points where the views of the experts and the respondents who are above 60 years old do not match.

Affordability:

Experts generally rank affordability, choice and accessibility of events, and age-friendly progressive public policy lower than the above 60's respondents do, who put affordability and transportation as their top priorities.

More younger people in age-friendly neighbourhood:

Experts also rank “More younger people in their neighbourhood”, “Maintenance and management”, “Working and volunteering opportunities”, and “Lifelong learning program” much higher than the above 60's respondents do. In fact, the elderly people tended not too care about whether there would be more younger people in their neighbourhood. They also were not worried about whether there is enough housing choice or their housing condition should be improved through better building management and maintenance. They are more concerned about affordability.

Connectivity:

Although, the public transportation system in Hong Kong is agreed by all as well-developed, the above 60's respondents find that the connectivity, particularly for pedestrian routes, is relatively weak and needs enhancement.

Priorities of Age-friendly Design Requirements

Hong Kong has its unique situation for planning/design age-friendly city. According to the local context and demand, some prioritized physical design preferences are highlighted that are instructive in knowing how to build an age-friendly Hong Kong through the construction of new development areas (NDAs). In terms of age-friendly design priorities for NDAs, we have identified the list as selected by the overall public respondents as follows (in descending order of importance, e.g. under outdoor spaces, ‘(1) appropriate public facilities’ is the most important).

For Physical Design:

A. Outdoor Spaces:

(1) Appropriate Public Facilities;

(2) Universal Accessibility;

(3) Quality of Green Environment.

B. Transportation:

(1) Affordability;

(2) Safety of Transportation Facilities and Services;

(3) Travel Connectivity to Destinations (incorporated with “Age-Friendly Features”).

C. Buildings and Neighbourhood:

(1) Affordability of Housing

(2) Universal Access of Buildings;

(3) Safe and Comfortable Facilities.

For Social Design:

A. Social/ Civic Participation & Employment:

(1) Addressing Isolation and Intergenerational Programmes;

(2) Affordability, Choices and Accessibility of Events;

(3) Podium for Socializing Near to Market Places.

B. Personal Development for Active Ageing (Respect):

(1) Personal Health Care;

(2) Computer Classes;

(3) Socializing Skills/Personal Empowerment.

C. Communication & Information:

(1) Hearing/ Understanding Service Staff;

(2) Printed Material.

D. Community & Health Services:

(1) Affordable Public Health Care Services;

(2) Accessibility and Availability of Public Health Care Services;

(3) Need for In-Home Assistance for Independent Living Elderly.

The above prioritised list of age-friendly design requirements under each aspect of the physical and social considerations can be a useful reference for policy-makers and planners/designers in make decision on physical and social design requirements for new town development areas in Hong Kong.

Physical Features Needing Improvement in our Existing Urban Areas

The above important sustainable planning and design items or wish list are also echoed by the results of field observation conducted in 3 representative districts in Hong Kong (see Chapter 6). They confirm that the following aspects of physical environment should be improved to make it more an age-friendly city:

Basic facilities: Kiosks, local shops, traditional clinics, market, library, food shops, aged care centres, podium/coffee shops/gardens for socializing, voice-over system, and fitness facilities.

Safety: Signage, directional map, street signage and symbols, safe alarm, emergency hotlines, security, first-aid kit, safety warning, and free from noise and any nuisance.

Walkways: Covered walkways, pedestrian crossing, bikeways, entrance and exits, accessibility from housing units, reflexology path, blind navigation system, barrier-free access, covered walkway, ramp, and handrail.

8.3 Recommendations for Policy Making

The above conclusions supported with research findings will better inform stakeholders such as urban planners, businesses, government, other service providers, and end-users, in achieving a sustainable age-friendly community in Hong Kong.

With an integrated reflection on the different findings, the following are some specific areas of recommendations for policy making:

1. Hong Kong still lacks a comprehensive ageing policy and the current practice with its age-friendly programmes directly governed by the Elderly Commission need to be reviewed, particularly to incorporate “bottom-up approach” as in the best practice of other cities. To achieve a bottom-up approach, the government and key stakeholders should not shy away from vigorous debates and public engagement for a age-friendly city
2. Resulted from this study, the prioritized design requirements and sustainable planning criteria for age-friendly designs with due consideration of sustainability, provide an important reference and starting point to design and plan other similar communities and precincts. The prioritized design requirements can also be used as a set of reference standards to assess objectively the amenities of existing age-friendly urban precincts.
3. The study highlighted the grave concerns about the affordability of age-friendly housing and connectivity of public transportation. Such concerns deserve close attention in policy design before allocating resources to pursue detailed design of areas that would be ideal to have.
4. The elderly people’s main concerns are still focusing on “affordability of housing and transportation” and the simple improvement of physical environment with those aspects relating to Basic facilities, Safety and Walkways. Their paramount need demanding big resource consideration and the basic request involving small funding for simple improvement works are the clear immediate tasks for government to create sustainable age-friendly community. Government and NGOs should focus their effort and resource on these two concerns first. Too much study and debate on high sounding principles such as mixed neighbourhood for young and old people, or building up elderly self-esteem etc. seem to be irrelevant to most of the elderly people in Hong Kong. No wonder there are mismatches between the views of the experts and people of above 60s for the sustainable planning criteria for age-friendly.
5. From a long term perspective, the results of this study provide a set of guidelines for the detailed planning of the new development areas (NDAs) to incorporate the ageing-friendly design requirement and sustainable planning criteria for ageing-friendly as a whole in the precinct planning.

8.4 Future Studies

To address the elderly people’s main concern on “affordability of housing”, if cost

data of elderly housing development projects in private or semi-government organisations are available through official coordination, it will be possible to further investigate the appropriate allocation of financial resources to provide a reasonable level of elderly housing.

This study focused on design requirements and sustainable planning criteria for ageing-friendly prescient, but it has dug up many issues relating to social needs and equitable distribution which may not be addressed by design and planning alone. These issues deserve further in-depth investigation to ensure new development areas in Hong Kong are planned and managed for overall sustainability.

Appendix 1 Best-Practice Age-friendly Asian Cities in accordance to WHO's 8 Key Areas

WHO 8 Key Areas		Akita	Singapore	Seoul	Best-Practice Cities' Age-friendly Approaches
1. Outdoor Spaces and Buildings	Outdoor seating	√	√	√	A good example is Singapore's enhancement of the built environment for liveability by converting void decks in neighbourhood buildings into social spaces.
	Accessibility	√	√	√	Singapore's example on promoting universal accessibility and safety of houses and its entire built environment is a good one.
	Secure environment	√	√	√	Singapore promotes the concept of liveability while Seoul provides a secure environment through promulgating a pleasant city to live in together, conducting public security activities and expanding relevant facilities to prevent crimes, offering communication devices and constructing emergency support systems (hotline) as well as bolstering the management of its environment to maintain clean air, decrease noise and eradicate foul smells.
	Walkways and pathways	√	√	√	Akita has all weather pedestrian areas and roofed areas at station and shops, as well as creates snow melting sidewalks to prevent elderly risk of falls and fractures. Singapore on the other hand promotes a highly walkable community and its pedestrianization campaign. Singapore also created a Future Urban Mobility Group which develops innovative mobility solutions for people of all ages. Seoul campaigns for a walkable environment to bolster urban stability and convenience.
	Adequate public toilets	√	√	√	All three cities have provided adequate public toilets in their outdoor spaces and buildings
	Age-friendly buildings	√	√	√	In promoting age-friendly buildings, both Akita and Singapore continue to endorse their universal design guidelines, while Seoul expands its certification for barrier-free public facilities.
	Special customer service				None of the three cities have provided any special customer service for the elderly in their outdoor spaces and buildings.
2. Transportation	Affordability	√	√	√	Akita has their coin bus project where elderly can ride a fixed route bus for 100 yen regardless of the distance while Seoul continues to implement their current free subway riding policy.
	Reliability and frequency	√	√	√	Accessibility of transport is one of Singapore's transport strategies while Seoul continues to strengthen its public transport system.
	Travel destinations	√	√	√	Akita has electric buses that can stop at any locations While Singapore's Future Urban Mobility Group develops innovative mobility solutions for people of all ages. Seoul on the other hand shortens the distance among public transport modes & expands the moving facilities inside the subway complex.
	Age-friendly public transportation facilities	√	√	√	Singapore developed passenger-centric public transport services to meet mobility demands in real time while Seoul increased their number of low-floor buses.
	Specialized services for older people			√	Seoul expands its convenience & relaxation facilities at bus stops, etc.
	Priority seating and passenger courtesy	√	√	√	All three cities have provided priority seating and passenger courtesy signboards in their public transport.
	Drivers with the capacity to serve the elderly				None provided
	Safety and comfort	√	√	√	As an example, Japan has developed 11 Robots to assist the elderly with housework and serve as personal transportation capable of replacing the automobile. Singapore develops innovative mobility solutions for all people as well as put up the Green Man plus pedestrian crossing to give additional crossing time to elderly. Seoul works on strengthening the easiness of walking and embodying a safe transport environment, as well as implementing its Safety Helper Fostering Education for bus and cab drivers concerning CPR during emergency situations.
	Transport stops and stations	√	√	√	All three cities have these facilities that cater for all ages.
	Taxis	√	√	√	All three cities have these facilities that cater for all ages.
	Community transport	√	√	√	Akita provided community buses for elderly use.
	Information		√	√	Singapore provided technology-based information and communication systems to enable more efficient ride-sharing schemes and other services. Seoul improves the design and visibility of transfer signboards.
	Driving competence			√	Seoul bolsters education and training programmes on traffic safety for elderly drivers.
	Special service towards older passengers				None provided
	Parking				None provided
3. Housing	Affordability	√	√		Singapore continues to promote house ownership for elderly, expands and supplies customized elderly residential facilities, as well as supports elderly houses' living expenses. Seoul provides low income elderly people the financial support to stabilize their housing conditions.
	Essential services		√	√	Singapore's CPG Healthcare specializes in designing and creating healthcare buildings in Asia' while Seoul continues to create a safe & stable housing environment.
	Design	√	√	√	Akita fosters barrier-free, accessibility and universal design guidelines, while Singapore develops its first stand-alone studio apartment for senior residents with built-in features and facilities tailored to elderly needs. Singapore also accommodates the present & preferred social living arrangements of elderly users. Seoul continues to supply convenient houses to live in and builds community-specific welfare infrastructure.

	<i>Modifications</i>	√	√		Akita redesigns its infrastructure to meet the challenges posed by its ageing population, while Singapore made improvements through its neighbourhood renewal programme.
	<i>Maintenance</i>		√	√	Singapore has a home improvement programme while Seoul supports the house remodelling cost for the elderly and conducts safety inspections to prevent accidents.
	<i>Ageing in place</i>	√	√	√	Singapore's ageing in place programmes & services are well established and effective (e.g. household headed by elderly, neighbourhood renewal programme, co-residence of elderly with family members, multiple generation living scheme, advanced level of family housing grant and married child priority scheme). Seoul also supports self-help life in its village-oriented community
	<i>Community integration</i>	√	√	√	Singapore promotes elderly's community integration via providing social spaces in housing estates, the neighbourhood renewal programme, encouraging physical proximity of married children and supports living arrangement of elderly in the community. Seoul provides housing support centres and village community support systems to mix the elderly with the community.
	<i>Housing options</i>	√	√	√	Akita has housing programmes for people at various life stages while Singapore has land-use policies which aim to provide a comprehensive range of housing options, retirement villages, nursing homes and government welfare homes or sheltered housing. Seoul expands and supply customized elderly residential facilities and even shifted to open elderly houses too.
4. Social Participation	<i>Accessibility of events and activities</i>		√	√	Singapore encourages sports participation while Seoul strengthens support for active leisure and cultural activities as well as expands its infrastructure and programmes to establish a customized new elderly culture.
	<i>Range of events and activities</i>	√	√	√	Akita promotes physical activity programmes for the elderly to combat social isolation while Singapore establishes public education on ageing programme, sports participation and active ageing programmes. Singapore's Golden Opportunities (GO) fund which supports talented and experienced seniors while Seoul expands its social participation opportunities by developing diverse programmes that considers elderly needs, interests & concerns, as well as providing diverse leisure & cultural programmes for its marginalized population.
	<i>Affordability</i>				None provided
	<i>Facilities and settings</i>			√	Seoul provides transportation for the physically weak people and allows the residents to use the community's public facilities during events & activities.
	<i>Promotion and awareness of activities</i>	√	√	√	Singapore conducts active ageing programmes /festival as well as the Public Education on Ageing (PEA) programme to increase awareness on active ageing among seniors. Seoul builds up its social environment to activate social participation and constructs infrastructure that offer suitable information based on the elderly's characteristics and needs while preparing measures that allows elderly participation in the process of planning events.
	<i>Addressing isolation</i>	√	√		Akita has physical activity programmes to combat social isolation such as the semi-monthly aqua-kinetics in heated indoor pools as well as establishes the Senior Citizen's College for elderly's needs. Singapore continues to address elder abuse and neglect as well as encourage frequency of meetings with friends to prevent social isolation of the elderly.
	<i>Fostering community integration</i>	√	√	√	Akita has strong and cooperative neighbourhood support. Singapore promotes social life and community participation such as the Many Helping Hands programme which enable collaborative partnership among the community, family and elderly .
5. Respect and Social Inclusion	<i>Respectful and inclusive services</i>	√	√	√	Singapore has its co-residence scheme with members of the family and the physical proximity to married child scheme. Seoul promotes a culture of respecting the elderly, e.g. enact & declare Seoul Human Rights Charter).
	<i>Shaping positive public images of ageing</i>	√	√	√	Japan's Gerontological Society is devoted to ageing society studies and dissemination of information related to ageing since 1959. Singapore endorses Active Ageing Carnival and Roadshow, Grandparents Day, Active Agers Awards and encourages the psychological wellbeing of the elderly. Seoul enhances the elderly's positive image to the public as well as bolsters the education & publicity for citizen's awareness of the elderly and elderly's rights to live a respectable life.
	<i>Intergenerational and family interactions</i>		√	√	Singapore has well established approaches such as the tax incentives for children looking after their aged parents and introduces pro-family practices in the workplace, strengthening interaction & participation with family members, encouraging regular visits by non-resident married offspring and constancy of talking to non-resident children as well as ensuring that there is participation of family in looking after the grandchildren. Seoul also has good strategies such as endorsing family functions to promote intergenerational family ties, supporting communication with grandchildren, developing channels for leisure activities which involve the elderly and their family, providing education programmes to improve communication among family, relatives and neighbours, expanding art, culture & festival events to unite all generations and providing other nursing, learning and fostering services for grandchildren.
	<i>Public education</i>	√	√	√	Akita has a Senior Citizen's College while Singapore has a college for elderly learning opportunities. Seoul has developed strategies such as improving the awareness on the elderly's rights and human rights, developing the lifelong education system to expand diverse elderly educational opportunities and expanding broadcast programmes to boost understanding of the elderly & resolve prejudices.

	<i>Community inclusion</i>	√	√	√	Akita encourages elderly participation in community programmes, such as the resident's opinion questionnaire on age friendly city survey. Singapore's strategies, such as the provision of social spaces, and social life for elderly, establishment of the Young at Heart community, all encourage elderly participation in clubs/ groups as well as ensuring a sense of belonging in the town estates. Seoul provides a village community support system and expands the retiree's participation in society through the establishment of communities in the neighbourhood, dynamic communication and sharing among neighbours.
	<i>Economic inclusion</i>		√	√	Singapore's Central Provident Fund ensures financial independence during retirement. Singapore also encourages elderly participation in the workforce and provides financial support for the caring of elderly, for spouse or older parents.
6. Civic Participation and Employment	<i>Volunteering options</i>		√	√	Singapore provides volunteering and social work programmes for elderly and even supports pro-active elderly interested in organizing community activities. Seoul activates volunteer services for the elderly, bolsters its elderly volunteer service and creates channels for information regarding volunteer agencies as well as expands the elderly volunteer groups' service scope by involving professional retirees.
	<i>Employment options</i>	√	√	√	Akita promotes high labour force participation policies that encourage elderly to engage in productive activities while Singapore encourages elderly participation in the workforce. Seoul provides diverse support for stimulating employment and business enterprise for the elderly population. The city also develops customized enterprises for older people who fit to administrative communities and assist elderly retirees for re-employment.
	<i>Training</i>		√	√	Singapore establishes the skills upgrading programme to facilitate lifelong learning and employability of older workers while Seoul created a base for safe elderly life certification system for companies providing jobs for the elderly as well as provides individually customized jobs that are suited for elderly's capabilities and experiences.
	<i>Accessibility</i>			√	Seoul bolsters its information provision tailored jobs & business enterprise according the professional levels of the elderly.
	<i>Civic participation</i>		√		Singapore's Golden Opportunities (GO) fund.
	<i>Valued contributions</i>	√	√	√	Japan recognizes the contribution of its elderly's knowledge, skills and experiences. Singapore has set up its Golden Opportunities (GO) fund to support elderly projects, and the Tripartite Alliance for Fair Employment Practices which addresses age discrimination at work. Seoul acknowledges the contributions of its elderly in community activities as well as provides opportunities for elderly to transfer their knowledge & experiences to young generations.
	<i>Entrepreneurship</i>		√	√	Examples include Singapore's Golden Opportunities (GO) fund and Seoul's financial strategies (e.g. systematic financial counselling services for the elderly and the priority subscription for the Hope Plus Bank book funding programme to support low income people).
	<i>Pay</i>		√	√	Examples include Singapore's Golden Opportunities (GO) fund and Seoul's systematic financial counselling services for the elderly.
7. Communication and Information	<i>Information Offer</i>	√		√	Akita's support system for older people using GIS and Seoul's expansion of useful information for supporting the elderly life, strengthening communication through activation of neighbour communities and providing comprehensive information for successful elderly life.
	<i>Communication through audio interationt media</i>	√			A good example is Japan's first age-friendly phone (NTTDoCoMO/Raku-Raku)
	<i>Printed information</i>				None provided
	<i>Plain language</i>				None provided
	<i>Automated communication and equipment</i>	√			Japan's innovations such as the Wakamaru Japanese Domestic Robots for elderly care which make simple everyday conversations recognizes faces of up to 10 different people and recognize about 10,000 words and its advanced and user friendly communication systems.
	<i>Computers and the internet</i>	√		√	Akita's application of ICT for people to stay safe and connected and Seoul's initiatives to nurture instructors and maximize elderly education opportunities regarding information technology.
8. Community Support and Health Services	<i>Service accessibility</i>	√	√	√	Examples include Akita's senior homes for elderly care, the Japanese Telehealth Intelligent Toilets that measures user's blood pressure, weight, body fat and urine and sugar level as well as its 24 hour care system to support home-based care. Singapore enhances the planning and design of community-based care services to better integrate in the built environment. Singapore's health care policy is affordable, accessible and appropriate to the locals as well as its Health &Wellness Programme Office helps develop health-related components of the silver industry. Seoul has some strategies such as enhancing the support system for families taking care of their elderly members, encourages the taking care of elderly who are living alone, expanding elderly nursing facilities and increasing the home welfare services, home visitation and health care services through the re-establishment of neighbourhoods and preparation of mutual aid support system.
	<i>Offer of services</i>	√	√	√	Japan's Long-Term Care Insurance (LTCI) system for elderly people is effective and the Japan Posts Co. offers 24 hour counselling for elderly on medical and lifestyle concerns, as well as reports to family members the health and living conditions of their elderly relatives. Singapore develops age-friendly products and services (dining set, walking & toileting aids, variety of wheelchairs), Telemedicine as well as the soap and stocking approach where effective solutions need not necessarily involve complicated technology or be expensive. Seoul expands its need for customized medical welfare, promotes physical and mental health of the elderly, provides counselling on the right exercise and to encourage daily exercise, develops social services that fits the elderly and family's needs and bolsters the promotion of hospice programmes.

	<i>Voluntary support</i>	√		√	Japan postal workers pay regular visits to elderly, act as their personal shoppers, conduct daily phone calls to check up on them. Seoul fosters positive and active management levels for ensuring a healthy life among communities.
	<i>Emergency planning and care</i>	√	√	√	Examples include Akita's GIS-integrated emergency response for elderly people at risk. Japan's disaster preparedness and community based support in ageing societies as well as its age-friendly innovations (powered suits for caregivers to boost their strength to help them perform physical tasks related to the elderly). Japan's Global Leadership Initiative for Age-friendly Society which was established in 2014 which combines 9 graduate schools including 29 specialties to create research that contributes to the solutions of the ageing society. Singapore has developed Smart Hospital Beds and provides strong support in designing and implementing elderly policies. Seoul ensures preventive measures of high-risk elderly concerning sweltering heat & severe cold. Seoul also bolsters its social safety net by catering to marginalized people, visiting and connecting them to the emergency medical information system. Seoul devises procedures to prevent elderly suicides through the systematic early management of depression and the building of suicide prevention networks among the elderly.
Sources: Akita: Hozumi (2013); Northern Housing Consortium (2010); Canada Mortgage and Housing Corporation (2014); Kadoya (2013); Fukuda (2011); Muramatsu & Akiyama (2011); Phillipson (2011) Singapore: Ministry of Community Development, Youth and Sports (2009 & 2011); Ministry of Social and Family Development (2009: Release 1, 2& 3); Goh (2006) Seoul: Lee (2013); Based on the Issues & Solutions of Age-friendly City, Seoul, Korea (Seoul Welfare Foundation, 2013)					

Appendix 2 Best-practice Age-friendly Western Cities in accordance to WHO's 8 key areas

WHO 8 Key Areas		New York	Manchester	Melbourne	Best-Practice Cities' Age-friendly Approaches
1. Outdoor spaces and Buildings	• Outdoor seating	√	√	√	New York increased the seating in bus shelters while Manchester provides older people's playgrounds through AgeUK's pride of place programme. The Inclusive Design for Getting Outdoors (IDGO) is another UK initiative for creating outdoor spaces that enhances people's lives. Melbourne, on the other hand, fosters an age-friendly community planning and design approach.
	• Accessibility	√	√	√	New York identifies age-friendly parks and encourages elderly to use them, while Manchester's Lifetime neighbourhoods programme works towards becoming an environmentally friendly Green City with older people as important partners in achieving this initiative. Melbourne endorses universal accessibility for people of all ages and constructs new facilities along railway stations or public transport routes to make them more accessible.
	• Secure environment	√	√	√	New York redesigned its street intersections to improve safety for older people as well as promote environmental stewardship among the elderly. Manchester also endorses community safety by preventing doorstep crime while Melbourne promotes a safe and secure pedestrian environment.
	• Walkways and pathways	√	√	√	New York has pedestrian friendly public spaces and a traffic calming scheme while Manchester supports mobility in its surroundings. Melbourne develops a cohesive system of parks for mobility as well as builds pathways through neighbourhoods to connect homes with destinations, support walking and cycling clubs for elderly.
	• Adequate public toilets	√			New York provides public restrooms at key locations citywide.
	• Age-friendly buildings	√	√	√	New York promotes universal design guidelines via education and awareness programmes while both Manchester and Melbourne have good programmes to improve their age-friendly built environments. Melbourne also provides social interaction areas such as lounge, cafes for sharing meals and community kitchen, as well as adopts an age-friendly community planning and design approach.
	• Special customer service	√	√	√	New York was the first to introduce 'Age-friendly' concept such as age-friendly businesses, schools, colleges, professions, etc. Manchester also endorses consumer choice for elderly needs while Melbourne has established solid partnerships with the Parks and Recreation and Arts and Culture and other organizations to guarantee that all health promotion programmes will boost active ageing, and cater to the special needs of the elderly. Melbourne also provides low maintenance sustainable gardens for elderly use.
2. Transportation	• Affordability	√	√	√	New York has accessible and affordable transport programmes such as its taxi voucher programme for elderly use. Manchester provides free buses, trams & local trains for over the 60s. Both Manchester and Melbourne provide concessionary transport for elderly people to use.
	• Reliability and frequency	√	√	√	New York improves the Access-A-Ride productivity through furnishing GPS devices and phone notification system in vehicles while Manchester and Melbourne made its public transport more accessible and flexible whilst improving road safety.
	• Travel destinations	√	√	√	Improve services through Manchester's Ring & Ride programme while Melbourne provides door-to-door community bus service and also adhere to their age-friendly community planning and design.
	• Age-friendly public transportation facilities	√	√	√	Manchester enhances its bus services by providing more bus stop shelters with seats and improved driving. Melbourne fosters an age-friendly community planning and design approach.
	• Specialized services for older people	√			New York matches accessible taxis with the users as well as provides bus service for elderly to access grocery stores.
	• Priority seating and passenger courtesy	√	√	√	All three cities have priority seating and passenger courtesy signages in their public transports.
	• Drivers with the capacity to serve the elderly				None
	• Safety and comfort	√	√	√	New York conducts studies to improve elderly mobility as well as promotes road safety and pavements campaign while Manchester provides safer crossing places and promotion of safe use of motorized wheelchairs. Manchester takes initiatives in reducing crime and antisocial behaviour that's happening on public transport while improving safety and security at transport hotspots. Melbourne adopts an age-friendly community planning and design approach.
	• Transport stops and stations	√	√	√	Manchester enhances its bus services by providing more shelters with seats and improved driving in bus stops. Melbourne fosters an age-friendly community planning and design approach.
	• Taxis	√	√	√	New York has its taxi voucher programme as well as develops taxi models that are best suited for elderly use.
	• Community transport		√	√	Manchester provides accessible and flexible as well as delivering demand responsive services. Melbourne has its door-to-door community bus services as well as improves its community transport across the municipality.
	• Information		√		Manchester Age Concern supported a project that encourages older people to use local bus services.
	• Driving competence		√		Manchester promotes older motorists refresher courses as well as bike-ability training for older workers.

	• <i>Special service towards older passengers</i>				None provided
	• <i>Parking</i>				None provided
3. Housing	• <i>Affordability</i>	√	√	√	New York provides inexpensive housing development such as the provision of housing funds. NY is also restructuring the process of constructing low-income elderly housing as well as providing rehabilitation loans and the opportunity of constructing new inexpensive housing. Manchester promotes housing and housing support projects for specific housing needs and care and repair. Melbourne offers the elderly a choice of innovative home based care and support..
	• <i>Essential services</i>	√	√	√	New York provides services such as the assessing parking requirements for inexpensive senior housing and modifies the zoning code to expedite senior housing construction, improves access to Senior Citizen Rent Increase Exemption and expanding its eviction prevention legal services for elderly. Manchester ensures that ordinary homes are suitable for older people. Melbourne offers the elderly a choice of innovative home based care and support. Melbourne also provides Community Aged Care Packages and meeting places for seniors as well as develops robust collaborations among health associates & aged service providers.
	• <i>Design</i>	√	√	√	New York redesigned its senior citizens homes to focus on wellness and develop health outcomes while Manchester promotes design for access standards. Melbourne fosters an age-friendly community planning and design approach in the establishment of new facilities. The Australian Local Government Association has developed a resource for local government to help councils improve the built environment.
	• <i>Modifications</i>	√	√	√	New York's 'Engage NYC' home improvement best-practice contractors for older adult market while Manchester promotes housing and housing support projects for specific housing needs and care and repair. Melbourne as develops robust collaborations among health associates & aged service providers, which enable home modifications and provision of equipment that encourages independence.
	• <i>Maintenance</i>	√	√	√	New York provides loans to the elderly for home repairs while Manchester has undertaken measures to improve the effectiveness of handyperson services. Melbourne promotes ageing in place as a preference for elderly with services such as home modification and maintenance programme. Melbourne also enhances its residential respite care capacity and improves facilities in existing senior citizens centre.
	• <i>Ageing in place</i>	√	√	√	New York has well established ageing in place programmes (e.g. promoting the development and access to new models of housing that support ageing in place and providing additional services to Naturally Occurring Retirement Communities (NORCs). Melbourne encourages ageing in place that includes the approach of an active service model for council services. Melbourne also provides Community Aged Care Packages which offers individually planned and coordinated set of services to people eligible for low level care in the residential facility. Melbourne also has legislative requirements to foster independence of the elderly.
	• <i>Community integration</i>	√	√	√	Manchester has cross-cutting themes to improve the engagement and relationship of elderly with the community while Melbourne's strategies are developing robust collaborations among health associates & aged service providers, providing active & supportive neighbourhoods as well as increasing community connections.
	• <i>Housing options</i>	√	√	√	New York's additional services to Naturally Occurring Retirement Communities (NORCs) while Manchester's new extra care housing and bungalows that were launched in 2010/11. Changes in Manchester's government policy to reduce benefit and housing options for younger people/adult children returning home or remaining at home. Manchester also registered social housing providers to enable better use of existing sheltered schemes through sharing arrangements. Melbourne endorses its state of the art housing assistance founded on mutual benefit such as the feasibility of home share to complement the needs of university students and solitary elderly person. Melbourne also develops a community information strategy to promote housing options for elderly (Homewise Kit).
4. Social Participation	• <i>Accessibility of events and activities</i>	√	√	√	New York establishes citywide partnership between senior centres and libraries while Manchester develops cultural opportunities for older people and provides public health programmes such as free swimming and other physical activities. Melbourne promotes accessible, available and affordable social support including recreation & lifestyle programmes for elderly.
	• <i>Range of events and activities</i>	√	√	√	New York recruits artists to conduct programmes in senior centres and provides cultural enrichment opportunities for the elderly while Manchester's Generations Together programme and Melbourne's Growing Old Living Dangerously (GOLD) programme are well established events for the elderly.
	• <i>Affordability</i>	√	√	√	All three cities have provided discounted events for elderly.
	• <i>Facilities and settings</i>			√	Melbourne provides meeting space & senior citizens' centres to cater for elderly events.
	• <i>Promotion and awareness of activities</i>	√		√	New York provides a guide of discounted arts/ cultural events for elderly while Melbourne partners with organisations that support healthy, safe and active ageing.
	• <i>Addressing isolation</i>	√	√	√	New York promotes cultural & recreational activities as well as establishing an age-friendly concept for businesses, professions, technologies, schools etc. Manchester reviews best-practice guidelines to tackle loneliness and support its campaign against loneliness. Melbourne has a communal living programme to address issues of loneliness associated with living alone and also establishes social supports in neighbourhoods and multi-level communities.
	• <i>Fostering community integration</i>	√	√	√	New York's Age friendly businesses, schools, universities, professions, etc. Manchester's Generations Together programme (e.g. social participation and elderly participation in cultural and learning activities). Melbourne's programmes such as the communities of interest;

					transport & hobby options and a range of common identity programmes. Melbourne also promotes its virtual communities programmes & Council's Business Information Services to explore implementation of new virtual communities.
5. Respect and Social Inclusion	• <i>Respectful and inclusive services</i>	√	√	√	New York ensures that city funded programmes are responsive to the needs and preferences of the most vulnerable elderly and are designed to support their lifestyle and choices. Manchester's partnership with schools to develop ageing studies certificate to front line staff who directly works with older residents across all sectors. Melbourne's options in social support programmes and its active model of service approach.
	• <i>Shaping positive public images of ageing</i>	√	√		New York empowers individuals as they age to live independently and vibrantly while Manchester creates positive images of ageing programmes as well as its anti-discrimination programmes for elderly.
	• <i>Intergenerational and family interactions</i>	√	√		New York creates a more seamless continuum of supports that fosters quality of life and community connectedness in a manner that meets the wide-ranging needs and preferences of elderly and their families. New York also promotes intergenerational volunteering and learning through partnerships with schools and non-profit organizations. Manchester's Generations Together programme and the Generation@school programme where pupils and older people participate and engage in intergenerational dialogue. Manchester also has some strategies like its neighbourhood regeneration and looking at the potential of matching older people who need someone around the house to help with jobs to younger people in need of housing.
	• <i>Public education</i>	√	√	√	New York empowers individuals as they age to live independently and vibrantly while Manchester supports its research community as well as provides Ageing studies certificate which is a new programme that will improve the quality of older resident's contact with services and develop the knowledge and expertise about issues for an ageing society in the workforce. Melbourne ensures lifelong learning programmes for the elderly and encourages further education via discussion groups, book clubs & review & progress current home library service.
	• <i>Community inclusion</i>	√	√	√	New York's Ageing Improvement Districts and Manchester's Generations Together programme. Melbourne's social support in multi-level communities and neighbourhoods. Melbourne also raises legal issues to tackle age discrimination in the workplace and provision of services, elderly abuse, standards of care for service provision, privacy, duty of care responsibilities, & occupational health & safety issues for the workforce.
	• <i>Economic inclusion</i>	√	√	√	New York has a relatively large service sector which provides seniors' chances of securing jobs. Manchester's programmes include the endorsement of consumer choice for elderly needs, increasing the income of older residents and employment rate of older workers through support in job searching and training, as well as promoting equality to the world of work or productive activity. Melbourne undertakes a recruitment strategy that targets workers of all ages. Melbourne also raises legal issues to tackle age discrimination in the workplace and provision of services, elderly abuse, standards of care for service provision, privacy, duty of care responsibilities, & occupational health & safety issues for the workforce.
6. Civic Participation and Employment	• <i>Volunteering options</i>	√	√	√	New York provides up to date volunteer opportunities and maximizes elderly resources through time banking and other enterprises and also promotes volunteering among intergenerations and training via schools and non-profit institutions' partnerships. Manchester's Valuing Older People (VOP) programme is composed of a senior group who are actively involved in participating in the process of policy-making through lobbying. Manchester also promotes and supports over-50s volunteering and learning opportunities. Melbourne promotes and provides a gateway to volunteering & employment opportunities in the aged care sector.
	• <i>Employment options</i>	√	√	√	New York provides job training and search assistance to elderly, increases numbers of paid job opportunities for elderly, and assists elderly who are short of work histories to obtain employment so as to make them eligible for Social Security. Manchester increases the income of older residents and employment rate of older workers through support in job searching and training (include schemes such as working locally, age-friendly work force, support to elderly aged 50 above to stay in work and find their way to the world of work (especially those laid off elderly and those with welfares due to mental health problems). Melbourne promotes and provides a gateway to volunteering & employment opportunities in the aged care sector. Melbourne also undertakes a recruitment strategy that targets workers of all ages and provides services to address employment issues for an ageing workforce & be an advocate for older employees with employers.
	• <i>Training</i>	√	√	√	New York empowers people to live an independent and vibrant life as they grow old. Manchester increases the income of older residents and employment rate of older workers through support in job searching and training. Melbourne provides services to address employment issues for an ageing workforce by encouraging further education via discussion groups, book clubs & review & progress current home library service.
	• <i>Accessibility</i>				None provided
	• <i>Civic participation</i>	√	√		New York's Age friendly businesses, schools, universities, professions, etc. Manchester's Valuing Older People (VOP) programme, civic representation and cultural offer programmes. Manchester also extends the opportunities of the elderly's involvement in decision making, project delivery and service design. Melbourne raises legal issues to tackle work place discrimination due to age, abuse of elderly, service provision in terms of care guidelines and responsibilities, privacy, occupational health and safety concerns of personnel.
	• <i>Valued contributions</i>		√	√	Manchester's Valuing Older People (VOP) programme and its age friendly design and design laboratories as well as encourages creativity among the elderly. Melbourne's approach on active service model which endorses professional retirees like the engineers and scientists to have the opportunity to create gadgets/ tools that assists functional independence.
	• <i>Entrepreneurship</i>				None provided

	• <i>Pay</i>		√		Manchester increases the income of older residents and employment rate of older workers through support in job searching and training.
7. Communication and Information	• <i>Information Offer</i>	√	√	√	New York conducts assessments of local community and neighbourhoods to ascertain their age-friendliness, as well as providing a website that publicizes citywide opportunities for elderly. Manchester's programmes include culture and learning, promoting more accessible and better marketed activities, supporting community-based and intergenerational learning activities and reaching minority ethnic elders and those from disadvantaged areas. Melbourne provides information access to promote independence and a sense of security concerning services that include people from Culturally and Linguistically Diverse (CALD) families, and those who are vision or hearing impaired.
	• <i>Communication through audio interaction media</i>	√		√	New York improves the access of elderly in acquiring food stamps via telephone application and outreach promotions as well as conducts trainings on cultural competency concerning LGBT problems in relation to the city's senior service providers. Melbourne provides accessible information using a range of media and IT such as website, intranet, local papers, publications, ethnic press & radio.
	• <i>Printed information</i>			√	Melbourne provides accessible information using a range of media and IT such as website, intranet, local papers, publications, ethnic press & radio as well as produces large print publications.
	• <i>Plain language</i>			√	Melbourne provides accessible information using a range of media and IT such as website, intranet, local papers, publications, ethnic press & radio.
	• <i>Automated communication and equipment</i>				None provided
	• <i>Computers and the internet</i>	√	√	√	New York redesigns a user friendly Department for the Aging (DFTA's) website and provides more information on elderly services. Melbourne provides accessible information using a range of media and IT such as website, intranet, local papers, publications, ethnic press & radio.
Community Support and Health Services	• <i>Service accessibility</i>	√	√	√	New York's care giving and long term care programmes include expanding training opportunities and other support for paid caregivers. Increase access to community based care, increasing educational support and materials to family members, investigating policies concerning family leave when deemed necessary as well as accessibility to nutritious food through increase efficiency in the city's management of cases and its programme on home delivered meals. Manchester's care & support services are more responsive to the needs of older people, giving them more choice and control. Manchester also offers home support services, adults' directorate's wellbeing grant scheme for low level support searches for older people as well as provides access to services in all communities. Melbourne provides choice & innovation in home-based care & residential care support as well as enhances residential respite care capacity.
	• <i>Offer of services</i>	√	√	√	New York provides assistance to elderly who are at risks in terms of citywide falls prevention as well as promotes long term care insurance through awareness campaign and education. Other services offered by New York city are the conducting of long term care outreach and workshops, and care giving resources to employers, the provision of free air-conditioners and discounts on fitness clubs for elderly as well as offering counselling and support services to grandparents raising grandchildren. New York also maximizes its HIV awareness and health literacy among elderly, and its health insurance options awareness through DFTA's Health Insurance Information Counselling and Assistance Programme (HIICAP). Manchester also increases awareness about health insurance options. It also improves the health of older people through healthy ageing by promoting physical activity, reducing falls, encouraging healthier lifestyles; older peoples exercise classes, healthy living networks and health trainers supporting old people. Manchester was able to enhance its home care and develops all inclusive, adaptable and culturally sensitive services while removing the barriers among minority ethnic elders. Melbourne established service partnership pilots for CALD and indigenous communities as well as providing meals for different cultures. Melbourne also tackles the need for short term aged care home assistance for frail elderly by providing relieving carers as well as through its Community Aged Care Packages. Melbourne also provides a wide range of meal options and social support options.
	• <i>Voluntary support</i>	√			New York conducts outreach to elderly at risk for social isolation and improves the access of elderly in acquiring food stamps via telephone application and outreach promotions.
	• <i>Emergency planning and care</i>	√	√	√	New York's approaches include palliative care and advance directives as well as advocate for state legislation authorizing family members or domestic partners to act as surrogates to make health care decisions on behalf of an incapacitated adult. New York's Silver Alert which notifies the NYC and the Savvy Seniors campaigns in educating elderly concerning identity theft and fraud. New York also improves its management of cases and its programme on home delivered meals. Manchester introduces ageing well programme as an important part of the wider healthy ageing approach. Manchester's other programmes include: the establishment of a multi-agency research policy and practitioner collaborative centre of excellence on urban ageing; its emerging best practice intermediary care; and initiating more cohesive teams and multifactorial assessment. Melbourne has collaborative partners who engage in healthy, safe & active ageing. Melbourne establishes a support system for older people with complicated care needs such as those with psychiatric disability, alcohol and drug abuse. Melbourne also ensures that innovations for in-home monitoring technological aids for do not break regulations pertaining to privacy.
Sources: New York: New York Academy of Medicine (2014); City of New York (2009). Manchester: **Based on the Manchester Age-friendly City Framework and adapted from Buffel et al. (2014). Melbourne: Australian Local Government Association (2006); City of Melbourne (2006).					

Appendix 3 Hong Kong's conditions with reference to the WHO (2007) 8 Key Areas

WHO 8 Key Areas		Hong Kong's Existing Conditions	
1. Outdoor Spaces and Buildings	• Outdoor seating	√	Benches are provided in the outdoor spaces. However, functional seating design which allows social interaction and considers the sun's direction is necessary to improve the outdoor seating condition of Hong Kong.
	• Accessibility	√	Hong Kong is working towards universal accessibility however; it needs to be applied in the old neighbourhood areas.
	• Secure environment	√	Hong Kong is a safe and secure environment. However, it needs to improve its public security activities the way Korea did and adopt Melbourne's crime prevention through environmental design (CPTED) strategies.
	• Walkways and pathways		In terms of international standards, Hong Kong needs to improve its walkways and pathways and keep them clear from other users, such as cyclists.
	• Adequate public toilets	√	Toilets are provided in the outdoor spaces. However, there is a need to locate toilet facilities that are walkable from every area in the outdoor space for elderly mobility as well as the provision of toilets in some MTR stations.
	• Age-friendly buildings		Only the new buildings have some barrier free features. However the old buildings are quite outdated in this respect
	• Special customer service		None
2. Transportation	• Affordability	√	Public transport fare concession scheme for the elderly and persons with disabilities
	• Reliability and frequency	√	Variety and sufficient choices of transport modes
	• Travel destinations	√	Inadequate
	• Age-friendly public transportation facilities	√	New buses have age-friendly features
	• Specialized services for older people		None
	• Priority seating and passenger courtesy	√	Priority seating for elderly is provided. However, passenger courtesy for the elderly is not well practiced
	• Drivers with the capacity to serve the elderly		None
	• Safety and comfort	√	Safety in transport is okay
	• Transport stops and stations	√	Sufficient transport stops and stations
	• Taxis	√	Enough taxis, but no features for wheelchair users
	• Community transport	√	Some have vans/ estate buses to cater for residents' commuting to different destinations
	• Information	√	Needs improvement and legibility
	• Driving competence		None
	• Special service towards older passengers		None
	• Parking		None
3. Housing	• Affordability	√	Enhanced Bought Place Scheme made housing affordable to all ages as well as its Public Rental Housing under Elderly Persons Priority Scheme
	• Essential services		None
	• Design	√	The Elderly Resource Centre is a free service used in educating and promoting elder family home environments to the public and to interested developers while Hong Kong's Senior Citizens Residences scheme promotes healthy ageing and ageing in place housing concept for the elderly
	• Modifications		None
	• Maintenance	√	Needs improvement especially in maintaining old buildings
	• Ageing in place	√	Hong Kong Housing Society and Senior Citizens Home Safety Association have created a two-pronged approach that allows the elderly to age in place comfortably.
	• Community integration		Needs improvement in this aspect
	• Housing options	√	Senior Citizen's Residence scheme and the residential Care services (hostels for elderly, homes for the aged, nursing homes and care and attention homes for the elderly)
4. Social Participation	• Accessibility of events and activities	√	Elderly communities are provided in every district which offer a good variety and easy online access to information on events' availability
	• Range of events and activities	√	There is a good variety and easy online access information.
	• Affordability		Needs improvement in this aspect
	• Facilities and settings	√	District Elderly Community Centres (DECs) and the Neighbourhood Elderly Centres (NECs) can satisfy the elderly needs in terms of education, development, carer support, outreach and networking, counselling, referrals, drop in services, etc.
	• Promotion and awareness of activities	√	The establishment of DECs and NECs to support elderly needs.
	• Addressing isolation	√	The establishment of DECs and NECs to support elderly needs.
5. Respect and Social Inclusion	• Fostering community integration	√	The establishment of DECs and NECs to support elderly needs.
	• Respectful and inclusive services	√	The Senior Citizen Card Scheme offers concessions, discounts and priority services exclusively for elderly people. Hong Kong also gives priority attention at general out-patient clinics to elderly patients. Services for prevention and handling elder abuse and opportunities for elderly projects are also available.
	• Shaping positive public images of ageing		None

	• <i>Intergenerational and family interactions</i>	√	Hong Kong provides opportunities for elderly projects, however there is a need for a mixed development in terms of residences and facilities in the community to encourage social mix among all ages.
	• <i>Public education</i>	√	Elder Academy already established in 2007
	• <i>Community inclusion</i>	√	The Golden Age 2013-TV programmes produced by Radio Television Hong Kong for elderly viewers and the Neighbourhood Active Ageing project launched by the Elderly Commission ‘to promote the concept of active ageing and enhance neighbourhood support with a view to creating a harmonious society’.
	• <i>Economic inclusion</i>		None
6. Civic Participation & Employment	• <i>Volunteering options</i>	√	Needs improvement
	• <i>Employment options</i>	√	Needs improvement
	• <i>Training</i>	√	Establishment of the Elder Academy
	• <i>Accessibility</i>		Needs improvement
	• <i>Civic participation</i>	√	Civic participation in societal and planning affairs (e.g. Upper Ngau Tau Kok estate redevelopment)
	• <i>Valued contributions</i>		None
	• <i>Entrepreneurship</i>		None
	• <i>Pay</i>		None
7. Communication and Information	• <i>Information Offer</i>	√	eElderly – dedicated portal for the elderly which provides integrated information and services on practical matters, such as healthcare, social and recreational activities. Website services on housing and legal matters and healthy ageing for seniors in Hong Kong
	• <i>Communication through audio interaction media</i>		None
	• <i>Printed information suitable for Elderly to Read</i>		None
	• <i>Plain language</i>		None
	• <i>Automated communication and equipment</i>	√	Safety phone as well as voice automated/ body movement automation features for elderly use
	• <i>Computers and the internet</i>	√	User friendly computers and internet are provided for use in elderly centres
8. Community Support and Health Services	• <i>Service accessibility</i>	√	Elderly Health Service for elderly primary healthcare as well as the Social Security Allowance Scheme
	• <i>Offer of services</i>	√	Home care services for the elderly and the various Social Security schemes such as the Comprehensive Social Security Assistance (CSSA) which assists elderly who are in financial difficulties. Also assists with the Portable Comprehensive Social Security Assistance Scheme for elderly to settle in the Guangdong province. Furthermore, organizations providing senior care take the role of facilitator rather than as direct caregiver, bestowing the ownership of caring for the elderly to the community
	• <i>Voluntary support</i>		None
	• <i>Emergency planning and care</i>	√	Hong Kong’s initiatives (e.g. personal emergency link, services for prevention and handling elder abuse and priority attention at general out-patient clinics) are also given to elderly patients.
Country-level Innovations and Approaches	Development of technology and services to reduce the elderly community’s dependence for staff to provide onsite support. Some innovations are: ✓Diamond Cab ✓Safety phone ✓Personal emergency link		
	Although, Hong Kong does not yet have an ageing policy, it is still able to cater to elderly needs through the establishment of the Elderly Commission, which is an advisory board to the Hong Kong Government, that conducts all round investigations on ageing-related phenomena and the provision of socio-economic and health care support for elderly.		
Sources: Chui et al., 2009; Kanq Soon Hock, 2010; Hong Kong Planning Department, 2002			

Appendix 4 Street Survey Questionnaire



THE HONG KONG
POLYTECHNIC UNIVERSITY

Title: Sustainable Planning Criteria (SPC) for Age-Friendly Precincts (AFP)

This survey is an academic research to gather public opinions about the key issues of developing Age-Friendly Precincts in the New Development Areas of Hong Kong, based on the World Health Organization (WHO 2007) report with considerations in economic, social and environmental sustainability.

1. Age: ☐₁below 30 ☐₂31-40 ☐₃41-50 ☐₄51-60 ☐₅61-70 ☐₆71-80 ☐₇80 above

PART I (Age-Friendly Precincts Planning/Design Criteria)

1. Outdoor Spaces

(1) Please indicate the degree of IMPORTANCE for age-friendly precincts planning in outdoor spaces.

(5-Very Important;4-Important;3-Neutral;2-Less Important; 1-Not Important at all)

	5	4	3	2	1
Universal accessibility (pedestrian crossings/pathways/cycle paths/ parks/open spaces)	☐	☐	☐	☐	☐
Appropriate public facilities (toilets/seats along long corridors to the public transport/venues)	☐	☐	☐	☐	☐
Quality of green environment (fresh air/nature)	☐	☐	☐	☐	☐
Safe& secure public spaces(hotlines for emergency rescue/ well maintained sidewalks)	☐	☐	☐	☐	☐
Special customer services (special queue for elderly/care kiosk for elderly & children)	☐	☐	☐	☐	☐
Management & maintenance	☐	☐	☐	☐	☐
Others (Please specify:_____)	☐	☐	☐	☐	☐

(2) Please suggest 3 age-friendly facilities and services lacking in public outdoor spaces.

2. Transportation

(1) Please indicate the degree of IMPORTANCE for age-friendly precincts planning in transportation.

(5-Very Important;4-Important;3-Neutral;2-Less Important; 1-Not Important at all)

	5	4	3	2	1
Affordability (user-friendly programs: \$2 fare using octopus card)	☐	☐	☐	☐	☐
Public transport frequency & reliability	☐	☐	☐	☐	☐
Travel connectivity to destinations	☐	☐	☐	☐	☐
Proximity to the bus stops on foot	☐	☐	☐	☐	☐
Universal access in public transportations: wheelchair users & cyclists friendly	☐	☐	☐	☐	☐
Pedestrian & bus stop signages (sufficient/legible)	☐	☐	☐	☐	☐
Age-friendly features(seatings/bus stop shelters/toilets inside stations etc.)	☐	☐	☐	☐	☐
Safety of transportation facilities & services	☐	☐	☐	☐	☐
Others (Please specify:_____)	☐	☐	☐	☐	☐

(2) Please suggest 3 age-friendly transportation facilities and services lacking in transportation.

(3) How do you usually commute to your daily activities (pick 3 the most)?

☐₁MTR ☐₂ Driven by a family member or friend ☐₃ Taxi ☐₄ Public bus ☐₅Mini bus

☐₆ Bike ☐₇ Community transport ☐₈ Walk ☐₉Others (please specify)

3. Buildings & Neighbourhood

(1)Please indicate the degree of IMPORTANCE for age-friendly precincts planning in buildings &neighbourhood.

(5-Very Important;4-Important;3-Neutral;2-Less Important; 1-Not Important at all) 5 4 3 2 1

Housing options(availability and types)	☐	☐	☐	☐	☐
Affordability of housing	☐	☐	☐	☐	☐
Universal access (Buildings: doors/elevators ;Neighbourhood: ramps for wheelchair users...)	☐	☐	☐	☐	☐
Safe & Comfortable facilities/environment (interior design/handrail/non-slip flooring...)	☐	☐	☐	☐	☐
Fresh clean air in the buildings / rooms / neighbourhood	☐	☐	☐	☐	☐
Signages (sufficient/legible/voice activation: elevator buttons/ placement of housing names)	☐	☐	☐	☐	☐
Enough housing availability for younger people in the neighbourhood	☐	☐	☐	☐	☐
Management & maintenance	☐	☐	☐	☐	☐
Others (Please specify:_____)	☐	☐	☐	☐	☐

(2) Please suggest 3 age-friendly examples lacking in buildings & neighbourhood.

4. Social/Civic Participation & Employment

(1)Please indicate the degree of IMPORTANCE for age-friendly precincts planning in social/civic participation & employment. (5-Very Important;4-Important;3-Neutral;2-Less Important; 1-Not Important at all)

5 4 3 2 1

Affordability, choices and accessibility of events	☐	☐	☐	☐	☐
Lifelong learning programs for elderly	☐	☐	☐	☐	☐
Addressing isolation& intergenerational programs	☐	☐	☐	☐	☐
Recognition of elderly contributions(certificates/banquets etc.)	☐	☐	☐	☐	☐
Podium for socializing near to market places (outdoor coffee shops/garden...)	☐	☐	☐	☐	☐
Working & volunteering opportunities after retirement	☐	☐	☐	☐	☐
Elderly participation for community planning&political leadership(public consultation/parties)	☐	☐	☐	☐	☐
Addressing elderly discrimination in the workplace	☐	☐	☐	☐	☐
Age-friendly & progressive public policy(integrated networks/minority groups support)	☐	☐	☐	☐	☐
Others (Please specify:_____)	☐	☐	☐	☐	☐

(2) How frequently do you take part in social events?

☐ Daily ☐ Weekly ☐ Monthly ☐ Less than 3 months ☐ More than 3 months

(3) Please suggest 3 examples lacking in social/civic participation & employment for elderly.

5. Respect

(1)Please indicate the degree of IMPORTANCE of the following lifelong learning programs for elderly.

(5-Very Important;4-Important;3-Neutral;2-Less Important; 1-Not Important at all) 5 4 3 2 1

Computer classes (video chat/sms/internet)	☐	☐	☐	☐	☐
History/cultural heritage	☐	☐	☐	☐	☐
Socializing skills/ Personal empowerment	☐	☐	☐	☐	☐
Fashion/beauty/styling	☐	☐	☐	☐	☐
Personal health care including elderly friendly exercises/sports	☐	☐	☐	☐	☐
Others (Please specify:_____)	☐	☐	☐	☐	☐

(2)Have you been treated with disrespect by the following?

☐_1Family members ☐_2Service /Retail staff ☐_3General public ☐_4Co-workers ☐_5Civil servants

(3) Please suggest 3 examples to help raise public respect for elderly.

6. Communication & Information

(1)Please indicate the degree of IMPORTANCE for age-friendly precincts planning in communication & information.

(5-Very Important;4-Important;3-Neutral;2-Less Important; 1-Not Important at all) 5 4 3 2 1

Printed material(brochures/menus) in legible size and format	☐	☐	☐	☐	☐
Hearing/understanding service staff over the phone or in person	☐	☐	☐	☐	☐
Technological aids & equipment (voice activation/motion detection/learning computer)	☐	☐	☐	☐	☐
Others (Please specify:_____)	☐	☐	☐	☐	☐

(2) What do you use to get information on services/activities available in Hong Kong (pick 3 the most)?

- ☐_1Yellow book ☐_2Home telephone/Mobile phone(voice/SMS) ☐_3 The internet ☐_4 Government offices
☐_5Community centres ☐_6Local newspapers☐_7Friends/relatives ☐_8 Television ☐_9Libraries
☐_10Radio ☐_11 Others (please specify)

(3) Please suggest 3 examples lacking in communication& information for elderly.

7. Community & Health Services

(1)Please indicate the degree of IMPORTANCE for age-friendly precincts planning in community & health services.

(5-Very Important;4-Important;3-Neutral;2-Less Important; 1-Not Important at all) 5 4 3 2 1

Affordable public health care services	☐	☐	☐	☐	☐
Accessibility and availability of public health care services	☐	☐	☐	☐	☐
Need for in-home assistance for independent living elderly	☐	☐	☐	☐	☐
Promoting personal health care (wellness programs/workshops/arts/recreations/parks...)	☐	☐	☐	☐	☐
Psychological needs for addressing isolation issue(talking/consultation)	☐	☐	☐	☐	☐
Image grooming is good to build up elderly self-esteem	☐	☐	☐	☐	☐
Others (Please specify:_____)	☐	☐	☐	☐	☐

(2) Please suggest 3 examples lacking in community & health services for elderly .

PART II (SUSTAINABLE PLANNING CRITERIA)

1. By considering the New Development Areas of Hong Kong, please prioritize the following sustainable planning criteria (SPC) by its level of importance. (5-Very Important;4- Important;3-Neutral;2-Less Important; 1-Not Important at all)

Economic Sustainability	5	4	3	2	1
Economic growth and employment opportunities	☐	☐	☐	☐	☐
Compact mixed - use development (residential/commercial/retail)	☐	☐	☐	☐	☐
High quality & efficient public transportation system/networks	☐	☐	☐	☐	☐
Building positive city image (landmarks/visual impacts/ landscape/people)	☐	☐	☐	☐	☐
Appropriate use of resource: land & labour etc.	☐	☐	☐	☐	☐
Promoting fair market system, financial & social equity at the workplace	☐	☐	☐	☐	☐
Diversity of economies	☐	☐	☐	☐	☐
Others (Please specify:_____)	☐	☐	☐	☐	☐
Environmental Sustainability	5	4	3	2	1
Smart growth and green infrastructures	☐	☐	☐	☐	☐
Zero-waste management (greater adoption of renewable energy/resource/recycling...)	☐	☐	☐	☐	☐
Urban greeneries and vegetation	☐	☐	☐	☐	☐
Transit Oriented Development (TOD)	☐	☐	☐	☐	☐
Biodiversity (maritime/wetland/natural parks...)	☐	☐	☐	☐	☐
Cultural heritage / preservation	☐	☐	☐	☐	☐
Redevelopment of brownfield sites&reuse of existing buildings/sites for development	☐	☐	☐	☐	☐
Others (Please specify:_____)	☐	☐	☐	☐	☐
Social Sustainability	5	4	3	2	1
Community focus and community delivery (enhancing sense of place...)	☐	☐	☐	☐	☐
Mixed housing types for intergeneration and ageing in place	☐	☐	☐	☐	☐
Social mix in community (cultural/age/gender/income) to foster city liveability	☐	☐	☐	☐	☐
Efficient public transportation system(easy access to work & public facilities...)	☐	☐	☐	☐	☐
Age-friendly features, universal design & barrier-free access	☐	☐	☐	☐	☐
Low carbon communities living program	☐	☐	☐	☐	☐
Public participation for community building & public policy consultation	☐	☐	☐	☐	☐
Others (Please specify:_____)	☐	☐	☐	☐	☐

Elderly Housing Requirement (data collected for reference only)

If you were an elderly (60+), what are the standards you expect from the Hong Kong Government built "elderly rental housing"?

1. Individual housing footage (rent is a constraint: the bigger the size, the higher the rent and vice versa; **unit in sq. ft.**).

☐ **Actual usage**

☐ **Sales usage**

☐ below 50 ☐ 51-100 ☐ 101-150 ☐ 151-200 ☐ 201-250 ☐ 251-300 ☐ 301-350 ☐ 351-400 ☐

☐ 401-450

☐ 451-500 ☐ 501-550 ☐ 551-600 ☐ 601-650 ☐ 651-700 ☐ 701-750 ☐ 750 + (please specify :

_____)

2. Your preferable mode of living: ☐ Living alone ☐ Couple

3. Your ideal housing type/unit (rent is a constraint: the bigger the size, the higher the rent and vice versa):

☐ 1 bedroom + sharing kitchen & bathroom ☐ 1 bedroom + 1 private kitchen & 1 bathroom

☐ 2 bedrooms + 1 private kitchen & 1 bathroom ☐ 1 living room + 1 bedroom + 1 private kitchen & 1

bathroom

☐ 1 living room + 2 bedrooms + 1 private kitchen & 1 bathroom

4. If rent increases, what are the top 3 living conditions you would like to be improved in your accommodation?

☐ Ventilation & lighting ☐ Size of living space ☐ Health care ☐ Medical ☐ Kitchen & bathroom fitting

☐ Add-on facilities & services (entertainment/fitness room) ☐ Public activity area (social club)

5. Your ideal monthly rent: HK\$ _____

6. Your **actual** monthly income (after tax):

☐ below 5000 ☐ 5001-10000 ☐ 10001-15000 ☐ 15001-20000 ☐ 20001-25000 ☐ 25001-30000

☐ 30001-35000 ☐ 35001-40000 ☐ 40001-45000 ☐ 45001-50000 ☐ 50000+ (please specify :

_____)

7. How much can you **actually** spend on food, clothes, transportation & information monthly? HK\$ _____ or _____ %

8. How much can you **actually** spend on entertainment, travelling & social gathering monthly? HK\$ _____ or _____ %

9. How much can you **actually** spend on housing monthly? HK\$ _____ or _____ %

10. How much can you **actually** spend on health care/medical monthly? HK\$ _____ or _____ %

11. What is your **actual** monthly net saving? HK\$ _____ or _____ %

Personal Information (data collected for reference only)

- 1.You are:** ☐₁ Male ☐₂ Female
- 2.You live at:** ☐₁ Kwun Tong ☐₂ Sham Shui Po ☐₃ Shatin ☐₄ Fanling ☐₅ Hung Hom ☐₆ Sheung Shui
☐₇ Central ☐₈ West Kowloon ☐₉ Other _____
- 3 . Education:** ☐₁ None ☐₂ Primary ☐₃ Secondary ☐₄ Tertiary ☐₅ Above Tertiary
- 4 . Sector:** ☐₁ Government ☐₂ Commerce ☐₃ Professionals(lawyers/accountants...) ☐₄ NGO
☐₅ Academe ☐₆ Planning & Development ☐₇ Other _____

Appendix 5 Expert Input

1. Architect	1. The Questionnaires are too generic; they need to be more attentive to NDAs. 2. HK City Planning policy needs to be more long-term with good consideration in variables like Planning Culture, which is not too flexible at the moment. 3. HK City Planning strategy is not comprehensive and dynamic enough to stand over time, which implies an outdated framework in urban and community development. This is due to HK Government's colonial historical background, and so her planning is only for a short-term, like 5-year plan. 4. Planning Department, Social Welfare Department and NGOs need to come together to discuss on designing a well-coordinated public policy for urban planning, steering away from the 'cut and paste' urban planning framework which has been habitually used by the town planners, government officials and concerned practitioners... 5. Urban planning should be put into different stages by the government; it is like a growing organic system...a metabolic procedure. 6. Urban design: people + design; City planning: space + economic + social (fairness/equity). 7. Decision makers need to consider political, economic, historical, cultural and other concerned aspects for designing the more up to date urban planning framework.
2. Professor in Public Policy	<u>Outdoor space</u> 1. Ample provision of seat and with cover/ shade---public facilities 2. Public phone/ hotline for life rescue---Safety 3. Barrier free and passage for wheel chair ---Accessibility <u>Transport</u> 4. Bus route with announcement system – eboard <u>General comments:</u> 5. Not health related services should be under community 6. Extra efforts: emotional needs is to have someone to talk with 7. Suicide rate for the elderly due to: 1) chronic pain, 2) nothing to care about 3) nobody care about them, 4) ignorance 8. Transport is important, as old people don't move or reluctant to move, because of their physical condition or insecure feelings to the way around. It needs to have well-built network connectivity to the public transport system. 9. Government buildings do not have to include to the exercise that sbp to ApD. Inclusive design criteria needs to be part of the regulation that apply to all universal design guideline, and inform to all the architects to make sure the buildings are age-friendly designed. 10. Case: NYC 11. Longer time traffic light for the elderly people---Safety 12. More seats at bus stop for elderly people---public facilities 13. Lost number button: opposite (lights on, press off)---transportation facilities 14. Provide options- high-tech / digital 15. Public housing estate: no big sign of name at the new block, very difficult to find (transaction costs) ---Signage 16. Distinguish the estate in shape/ color in design: 17. Could put some photos/ health- higher sense of belongings to recognize their home ---Signage 18. Training at BRE, initiating elderly people to share their decision / preference into their design 19. Public toilet- alarm system --Safety 20. Security – safety – self- esteem 21. Long corridor – building and MTR with shade, good outdoor space ---public facilities 22. Elderly don't care of green environment, can't recognize "green" and traffic lights "green" – traffic accidents --Safety 23. Management and maintenance: they don't want to pay for it.
3. Architect	1. Barrier-free should rank in no. 1 under Outdoor Spaces and Buildings, followed by Accessibility to parks, open spaces & public estate buildings...stairs with handrail for easy to walk on, non-slip flooring to avoid falling, elevators, signage, affordability for transportation, travel connectivity to destinations. Clean Air and Public Transportation for Wheelchairs users should be addressed. 2. Currently, Diamond Taxi (NGO) has been attending to Wheelchair users. 3. Regarding affordability, programmes introduced by the government should be user-friendly and easy to implement. 4. Re Questionnaires Section 2: transportation, B, add "Walk" to the choices. 5. Re Questionnaires Section 3: housing: Affordability, Degree of Movability & safety within your home and Enough Housing for younger people in your district are important questions. 6. Section 4: social participation/respect/social inclusion/civic participation/employment: lifelong learning programmes are helpful for seniors. Provision of computer courses for seniors and market experience are good questions. Regarding with market experience, please refer to Jane Jacob's book. 7. Basically, Part II (Sustainable Planning Criteria) questions are good.
4. Elderly Commission	1. Active ageing can be looked at from three angles: health, education and financially independent. 2. Elderly should not stay at home all the time; they should come out and be involved in the society...participation. 3. As the elderly deteriorate physically when they are ageing, the built environment needs to provide universal access, especially in the public buildings and public estate housing which has not been done well, so far. 4. When it comes to health care, a policy of 'no discrimination' should be ensured. 5. In public, e.g. at MTR, there is people discrimination to elderly. Also elderly home @ private buildings are not too welcome by the local residents. 6. Elderly public image always portrayed as sick...walk with a stick, with grey hair. 7. There is a lack of specialty stores for serving the needs of the elderly. 8. Walkways need to be well improved to secure safety of elderly if they walk on them. 9. Zebra crossing should have timer shown to alert passers-by of the time left for crossing. 10. Flyovers are not age-friendly enough, most of the time; there is no escalator or universal walk-up provided. 11. Parks always have no cover /shade from sun and not enough seats. 12. Government policy should include an Elderly Impact Factor, which means every public policy should consider the elderly element as the mainstream. 13. Hong Kong needs to join the WHO Global Network of Age-friendly Cities and Communities. 14. Hong Kong's elderly policy is welfare-based which is not cost-effective and time-efficient at all. Actually, the elderly want to contribute their effort, therefore, a flexible retirement rate should be considered. 15. Setting up an elderly academy to educate them and let them rejoin the society, e.g. CityU and PolyU offer classes for elderly. 16. Active ageing means, if you are 65, you should feel like and act like as if 35 Age-friendly issues – global issues

	17. Healthier / more educated (+65) 18. The trend of the background change the needs 19. What is the trend? Financially independent More social involvement They support the young instead of being supported Therefore, they support the environment to what they want 20. Physically / environment facilities E.g., age-friendly in Hong Kong ● Health care (elderly get different queue) ● Public housing / public building (corridor, lighting, universal access) 21. Discrimination in elderly? ● MTR (lift, wheel chare) are lacking! ● Give seating ● Reluctant to rent to the elderly homes (slow and sick) ● Promote the image in a service society (Ads!!) ● Elderly products in shops ● Roads (HK) uneven and hard for the pedestrians and wheel chairs ● Zebra crossing needs more time and be considerate to the elderly ● Highway (footbridge) ● Public parks (no proper seats, shades, insecure, etc.) 22. Elderly precinct ● 2 dollars fare to access to the MTR/ buses, ● however, wheelchair and walking access to the high staircase 23. “One step further”- “age at home”/ “age in place” ● Wheelchair (tiny area) ● Care facilities at home?!! ● Day centre (9am -430 pm, open hour) ● Meal delivery at 1100 am (no breakfast/ lunch and/or dinner) 24. MPF (retire 60 yr/ draw MPF 65yr!!) 25. Will- directions (well coordinations) ● HK government- WHO Declare HK in 3-5 years age-friendly city ● Populated / old area Proceed in different pace ● Mainstream elderly – to any policies that government put forward Elderly impact factor Environment impact factor 26. Elderly commissions ● Advisory body 27. Elderly – asset instead of burden ● Contribute back to society ● Utilize them well 28. Flexible retirement age - different contract and fix salary 29. Tax low in Hong kong/ space limited in Hong Kong 30. Direct human contact for elderly ● They are afraid of new technology ● In the bank – new line for elderly ● Soft service for the elderly – should not be the same to the young people 31. Active ageing 32. Intergeneration (Mix) ● Year 2007, Elderly academy development fund are active to 108 schools in Hong Kong, including primary, middle high school, which allows young students to teach the elderly the use of computer and English/ Mandarin ● City University in Hong Kong mix elderly and young to take university courses together in the same class! ● Dependency ratio go up
5. Asia-Pacific Institute of Ageing Studies	1. There is no full package of public policy from the government specified to serve the ageing community. However the government has established programmes to take care of the elderly under the social welfare and health care policies through/ administered by the Social Welfare Department. Regarding with universal design, HK’s Building Dept. has building codes for builders to follow. The HK Government initiative is not active regarding ageing issues, compared with the Western Cities and Singapore. The Elderly Commission (EC) aims to advocate to the Government the establishment of a full package of public policies for the ageing community, as soon as possible. The EC’s priority initiative is the accreditation for the WHO Global network: they are aiming to gather signatures from constituents in one of the 18 District Councils, which can be a pilot project for inclusion into the WHO Global Network. 2. Obstacles for a full package of public policy facing by HK: Government civil servants ignore ageing issues due to HK’s colonial background (it’s rather the ignorance of the government in terms of awareness regarding age friendly / ageing society as they thought they have already provided the necessary infrastructure). All policies are in a 5-year cycle, pretty short term. Therefore, policy makers only plan for what’s needed right in front of them or for the most ‘heated’ topics in the society and not for 10 or 20 years after. 3. The Housing Society is starting to implement ageing friendly criteria to one of its public estates in Tsuen. 4. Regarding the street survey: there are two major types of built environment according to the years building developed: Old community VS New community (after 2000). Therefore picking location of street survey needs to consider these 2 elements carefully because the outcome will be affected significantly (people from the two distinctive communities will have totally different answers for the questionnaires). 5. Regarding our sample questionnaires, based on his understanding of WHO key areas, by WHO that cities should not strictly compare their current situation/standard by unit/quantitative figures, because every city has their own determinants (density...standard of living...GDP). Thus, SUIABILITY is the key when it comes to localizing our questions for the local situation. E.g. a tiny space with well-equipped amenities might be considered satisfactory by local Hong Kongers, but not by people living in Portland. Some comparative scale could be meaningful: Shanghai or other countries, as compared to HK, where land is a premium. Or even check how far HK has done in terms of these key areas. 6. Part I, 1 Outdoor Space: Sufficient public facilities...properly needs to be rethought because most of the people will say

	“Not Sufficient” even it is sufficient. Can consider change sufficient to suitability?! Or say suitability of space, size, etc. 7. 7. Accessibility is the most important criterion in both built environment and social considerations. 8. Point 4 (social/civic participation & employment: HK does good at lifelong learning programmes for seniors, paid employment can be done better, volunteering opportunities after retirement can be promoted better. There is a need for programmes to help the disabled elderly, for instance the call points- whether they are easy to use, etc. 9. Point 5 (respect): The situation of HK in terms of respect for elderly is declining (e.g. Train courtesy). A need for more public education regarding ageing and respect for elderly. Posters/media/advertisement for promoting elderly images have not been tailored to active-ageing. E.g. elderly with grey hair and walking with a cane are portrayed in campaign ads...) 10. Point 6 (communication & information): HK does pretty well, as shown by the internet hook up rate for the elderly being 25%, and most of them can use WhatsApp/line/video chat to communicate with others. 11. Point 7 (community health services): HK is comparable to world standards in terms of emergency responses and facilities. Elderly centres are provided for every 20,000 of the population in the district. 12. Part II (economic sustainability): HK will have an economic deficit after 15-year if HK does not progress in her diversity of the economy. Now the city highly concentrates in the Financial and Real Estate sectors. HK has a lack of land. If there is not enough land supply, then there will not be an income from the land-driven industry in a sustainable manner. Therefore, appropriate use of resources: land & labour would be the priority in this aspect. 13. Part II (environmental sustainability): HK is in trouble in this aspect. Current social issues needed to be solved by the HK government: waste management, no “landscape department” to improve greenery, (because HK has only a tree department). Therefore all the above-mentioned criteria are important. 14. Part II (social sustainability): HK is in trouble here also. E.g. HK needs a huge effort to improve bad air and community focus (sense of belonging). Therefore all the mentioned criteria are important.
6. Professor at Polyu	1. Elderly tend to talk about the past; they need to be more in the present. 2. After retirement, elderly find that they live for no purpose, so providing activities, jobs, learning opportunities and volunteering opportunities are important in order to help them re-identify their purposes in life. 3. Besides, they find friends die one after another; their mindset for living is weakening day by day. 4. Western Elderly vs Asian Elderly: they have so much difference in many senses and it is worth to study them: 5. In Asian culture: children have obligation to take care of their parents, but not really in the Western culture. 6. There are not enough benches in open public spaces. 7. Hong Kong elderly like to have tea time, playing chess, playing mah-jong, hanging out at the park....but please bear in mind that here we are talking about elderly in their 60+, not the soon to be elderly group. 8. Also, elderly tend to have a hard time to learn new things with low self-confidence and that means it is hard to change their long-term habits and values. 9. Education / Workshop / Seminar can be organized to help empower and enhance self-confidence of the elderly. <u>General comments:</u> 10. Age people: low confidence in knowing new things / challenges 11. Courses / workshops : identify individually their strength / earning potential 12. Educations/ seminars/ workshops to help them with values 13. Money / financial is heavy weight. It is difficult to generate incomes 14. Children expectation is the culture responsibility, to take care of the elderly. Elderly expectation make it obligation 15. Intergenerational home with separate kitchen and toilet 16. Tax higher, support from the government / health care / hospital (Canada) 17. HK/ health care burden for elderly 18. Social factor/ they don't get out eat alone but with friends 19. Change the habit (sustainability related) ● Policies (plastic bags) to change people's perspective ● They concerned about their looks ● Elderly be leaders (doubt) ● Immediate effects motivation ● Not a lot of playfulness 20. Role of psychology ● Education/ workshop (on self-awareness/ self-ascertain/ confidence in physical changes) ● Community center ● Courage to express ● Lose “what defines you” from the workplace ● Physical signs come in / no one wants to talk about it ● 养生班, 太极, 气功 21. Some activities 22. Mindfulness / meditation 23. Sense of increasing dependency ● Physical uncertainty ● “Get out of my way” sentiment ● Don't hear / see take time ● Too fast
7. Designer	1. When it comes to Town Planning, there should be a detailed layout plan illustrating: 1. Walking Routes including public and private space/property; 2. All stakeholders need to be studied. 2. Shatin project can be studied as a blueprint for setting up the effective management structure of new urban development. 3. Comments on the questionnaires: Universal accessibility is key. Also, external seats or seats in the malls should be added. 4. Entrances and signages for easy access and recognition are needed. 5. For primary to secondary level of pedestrian walkways. Seamless accessibility is needed. 6. In the old district, retrofit is very difficult because of technical and land ownership issues. 7. NDA is not dense normally, therefore, primary level should be always to be the street level. 2nd one should be elevated level because you can see the outdoor and it has better resilience towards unpredicted disasters. 8. For underground level, there is engineering and fire safety issues need to be solved. 9. Accessibility analysis (architect) play an important role in urban planning. 10. Hong Kong should have more Civic Piazzas / Public Squares similar to those European countries. E.g. can develop Civic Piazza above MTR station or next to it. The Civic Piazza can act as an accidental space for people to meet and mingle apart from the indoor community halls. 11. Private housing in HK has no communal space where people can socialize due to limited land, so people die or disappear without being noticed by neighbours. 12. Buildings/public space should be more pet-friendly because independent elderly own pets for companionship. 13. Comment on the questionnaires: Biodiversity is not that important for HK situation. 14. Secondary network- density ● Three levels (NDA) - evaluated networks

	● Primary level/ ground level (refine, easy; five safety/ easy to see the view; owned by private/ close and may not allow to sit/ much restricted) ● Elevated level ● Underground level 15. Urban planner from the government ● developer ● Footbridge/ deck – secondary networks 16. HK planning ● HKPSG- barrier free access ● TPDM – safe base (year1990) 17. Building's guidelines ● Development lots- big lands : internal oriented and quality of activities is low ● No shops at the ground level ● Only car park ● Priority for the street level ● Active street fronts at the ground level / not that ground doors 18. NDA- liveability ● Density is good ● Smaller lots ● Ground level oriented 19. Highway's development ● No check list – no seats / not elderly friendly 20. Inside the shopping mall (NDA) ● Connection between the buildings ● Seats to relax (proper shading / cover / seating for resting) ● Tunnel ● Toilet (neighbourhood for the elderly, to encourage them to move around) 21. Pavement – open space ● Highway department ● Transport department (They don't think the pavement as open space, only consider how the pavement connect to the transport. NO.) 22. Cycle track – connection from the real estate to the cycle path – NO parking for the bicycles! 23. Planning department ● Detailed layout plan ● Need through the public / private area ● Need project office for the area/ e.g. Sha Tin 24. Project team ● Project manager take care of connect ability with high level responsibility. They report over the level of planning department ● Engineering background transport department (e.g. Kai Tak redevelopment office) ● Project office in Sha Tin ● Priority list – detail layout 25. IFC One – bus stop – no escalator (e.g.) 26. Collective approval for the connections of the buildings 27. Design of city/ new town – lacking of a city centre ● MTR square!!!- major traffic transport place ● Public square – meeting points for socializing ● E.g. in Europe, the old church, the old town surrounded by the pubs, restrpimds and parks, etc. ● E.g Wah Kwai / Discovery Bay – social interaction/ community ● Tung Chung (MTR station) 28. Housing network ● Common area- social square / non elective space to meet up Real estate – community – function / operation to motivate the integration
8. landscape architect	1. Our research is more geared to downstream and would like to see more of the upstream elements in it and need more proactive thinking; 2. Defining quality of life for Hong Kong elderly first before locking down what types of physical environment should be provided for the elderly and confirmed that age-friendly precinct is good for elderly. 3. One-child policy in Mainland China is going to urge more research on Age-friendly Precincts, which is expected from the Chinese Government. 4. Comment on the questionnaires: Universal access in public transportation should mean “transportation is good for all ages”. 5. In Columbia, there is a mixed community where young, old and children all hang around and live together. 6. Quality of life is supposed to be humans 1st, built environment 2nd. Then, the question of how to stir up the interaction between humans and the surrounding environment will be the catalyst for sustainable urban development. 7. Mega city is no more the agenda for urban development in Mainland China; it is Urbanization for Township and not for City. A smaller scale urban development is preferred for urban development strategy. 8. The world always think of age-friendly community development is supposed to be like the western model. But regional cultures, backgrounds ...weather would have a twist in the western model. Therefore, Hong Kong should have her own unique applicable model. 9. Sustainability planning criteria should be the big picture and priority, and then we would consider how to fit age-friendly planning criteria into this big picture / prerequisite. 10. Environment: green building/roof have been discussed and promoted, but in reality, it is very hard to push in the old communities because elderly are unable to look after the green roof. Maybe turning the green roof into organic farm because many elderly are interested in planting and even have good experience or knowledge in farming.
9. Architect	1. The following need to be paid attention to when we design questionnaires: ● Role of respondents (1st party, 2nd party or 3rd party....end user or other stakeholders) ● Time ● Location 2. Developing applications for elderly to learn or group sharing (online chat group). 3. Two dimensions / angles need to look over: a. Practical / present urbanization is well-developed in Hong Kong. b. Future urbanization, certain criteria will become important which might not be important now. 4. Make sure there is not bias in conducting the survey. Multi-generation partnership programme/workshop.

10. Landscape architect	1. Studying New Town Development Stages in HK since the 70s – present: Shatin, Taikoo Shing...Tin Shui Wai etc. 2. Community planning instead of city layout planning (activities before features...interaction). 3. Beyond building heritage preservation...cultural landscape needs to be addressed. 4. Public open space is more than just parks with ball courts...streets should be included. In HK, these two types of open spaces are managed under two different departments which have hindered the performance and functionalities of public open space in HK. 5. Open space is NOT only numbers. We should be able to create interaction for people, not only from the local aspect. Therefore, a typology of open space can be constructed according to: regional, district to neighbourhood. At the same time, people from different layers (income, destinations, jobs, economic activities...) can be accommodated...liveability...a vibrant community (like Shatin). 6. Mismatching: current open space is NOT catering to elderly or the local people. 7. Current Town Planning is CEDD-oriented, but HK's city development cycle might have passed the stage of physical/built environment, therefore, TPB planning guidelines should be updated. 8. Conclusion: studying the people (demographics: income distribution, educational/cultural background/skills...before planning). 9. Family-oriented: intergenerational programmes (housing and open space setting). 10. Better to use a newly developed area in Hong Kong as a study case ● Sha Tin – 70s : most successful story. Before the planning standard guideline; meet the public expectation and demography specific ● 荃湾, 将军澳- 80s ● 天水围- new town- ● public housing provision; insufficient in job opportunities ● public housing- the transport and subsidy far from work 11. New town planning ● Public participation and consultation ● Sha Tin Integration between residence and community Public space Lack of different lays of activities 12. Community planning ● Local residence and daily activities 13. Demographical study – community planning ● Different incomes groups ● Economic/ social / environment / human factor ● Physical / transportation/ engineering study 14. Keep existing life style ● HKGBC New scheme for assessing precinct design at community level Cultural land shape/ local culture- heritage of existing places, not only buildings 15. Open space should not only be about “parks”, including streets (e.g., walking path), and maintenance issues are important 16. Lack of diversity ● Typology of open space- human factor Active/passive Accessibility – current provision of the open space are often not suitable for elderly ● Inclusiveness ● Open space provision ● Similar for children – playground / district open space 17. Rational choice ● Town planning – “priority” ● Open space (ration, x person / M2 open space) ● Private open space is acceptable ● Need a prescribed ratio of public/ private ratios of open space ● Problem: they put open space low priority in planning criteria ● Public sports facilities for elderly should not be too far away. 18. Public consultation – loop ● District consults – community needs ● Decision-making process- update the relevant designing guidelines ● Separate unit for new town development with different professional invited CEDD – civil engineering development department – feasibility study (PTI, transport, etc) Planning department 19. Vancouver- all homes have certain facilities inside and outdoor facilities for recreations- own peer facilities / elderly home 20. Slightly less defined area for elderly ● Meeting points ● Gathering area ● More elderly friendly - specific 21. Family structure ● School / parents ● Mix the children's playground and elderly's meeting points 22. Within the neighbourhood, what you want to have? ● Open space Inclusiveness / utilize the open space together (adult playing with the kids together)
11. Landscape Architect	1. Family-oriented setting for the new town development is important for Asian culture. Both software and hardware of the environment need to tailor for intergeneration purposes:- ● Housing: housing policy supported by the government to push this agenda, e.g. housing incentive provided for the children if they live with their parents...; ● Open Space: more green areas for social gathering destinations, a day dedicated to the elderly....festival to show respect for the elderly; ● Social Participation: volunteering jobs at the library... ● Transportation: Bus Terminal need to provide waiting rooms/ seats and shelters at the bus stop ...the atmosphere inside

	the terminal need to be brightened up and welcoming....; • Health Care: adopting Preventive Approach...e.g. 3-month health check-up...consultation. 2. Elderly do not like to be labelled as “elderly”, so elderly housing should include younger residents living nearby... 3. Good retirement home might be needed in HK. 4. Maintenance and management is key to support sustainability: e.g. Taikoo Shing has good management and maintenance to upgrade the whole housing complex according to the trend of sustainable planning criteria: barrier-free and universal access...repairing of the building façade...economies of scale...management fee is still very reasonable which is under the current management cost in the market. 5. Density is crucial to affect the Quality of Living environment...so the new development areas need to pay good attention to the living footage / person. 6. Greenery is another important factor for enhancing Quality of Living and Personal Well-Being.
12. Architect and Designer	1. Heritage conservation for the NDAs is important because it is the memory of the past for the elderly. 2. Elements of a communal village / market should be included as part of the Matrix for the policy framework attending to the NDAs. 3. For tangible heritage: crafting shops and corner food stores are the effective mode of visual communication...creating a sense of belonging. 4. For younger generations (soon to be elderly), they also need to connect to the past, grow up to know where they come from...their ROOTS, by mixing contemporary and historical buildings: a sense of traditional village integrates with city planning in the new town, it is a LIFESTYLE too. 5. HK planning guidelines need to be revised to match with the new horizon (elements needed in this stage of HK city development not only about physical planning : e.g. farming activities has been promoted in Taipei, a contemporary paddy field in the middle of the city...how a city can encourage activities and interaction in order to facilitate intergenerational programmes?) Or some art installations in the city open spaces...we don't just look, we need to <u>participate</u> in building a liveable city life. 6. Sustainable planning criteria can be beyond the normal practice...how about paying more respect to our LAND? Don't disturb or abuse it, build a city along the natural aesthetics of the land as much as possible.
13. Housing Society	1. Elderly Commission is an advisor to the government for public ageing policy, not a decision-maker. 2. HK Housing Society puts Ageing In Place as her core agenda. 3. 2010-12, the majority of nursing homes were built due to government support with subsidized capital (2/3 of funding for ageing programmes were used by this sector) which was recommended by a research report published by HKU. 4. For NYC & Australia, their governments pay for elderly home care through taxation. 5. Tsuen Wan District Council is working on registering for WHO Global Network of Age-Friendly Cities and Communities. 6. HK Housing Society have developed elderly age-friendly housing for the middle-class and average elderly. 7. Elderly housing in Hong Kong including independent living to assisted living. 8. NYC has a very extensive age-friendly policy, but when it comes to implementation, it lacks real practical results.
14. Legco	1. HK urban planning policy does not stress the issue of how to help maintain the Way of Living of the residents who are affected by the new developments. The government seems not to realize that the brownfields has been resided on by people for a long period and the new development area is not a clear land. 2. Sustainability is not only stressing the physical environment, social sustainability plays a very crucial role also. 3. Civic engagement is No. 1: Talk to the residents first and ask what and how they want the place to be developed. Actually, local residents do want new development, with good respect to their opinion; they would be more supportive to the new development instead of becoming the adversary. 4. Heung Yee Kuk failed to look after the needs and concerns of both indigenous and non-indigenous residents, more leaned towards only the indigenous residents. That's why there is opposition in moving forward new town development in the New Territories all the time. There, this two-track system needs to be addressed. 5. The real issue in developing new towns is mostly coming from cultural and social aspects. 6. The Top-down approach for developing new towns is no more applicable for the developed city of Hong Kong. 7. The government uprooted people from their residences and this kind of behaviour is a proof of a NOT people-friendly approach, so how can the government be able to build an age-friendly community after behaving badly towards to her citizens.
15. Social Welfare Department	1. Social Environment: Community & Health Services – Affordable Public Health Care Services ranks No. 1 which is totally correct because elderly in Hong Kong do not have strong financial security support from pension funds, compared to other cities. Also, the older you are the weaker your health and chronic disease become normal among this group of dependent elderly. 2. Based on her work experience as the ex-director of Social Welfare Dept. (Social Security), elderly expressed their main need is financial support from the government, no others. 3. Built Environment and Social Environment: For Buildings and Neighbourhood, Enough Housing for Younger People ranks No. 7, but for Social/Civic Participation & Employment, Addressing Isolation and Intergenerational Programme ranks No. 1. It might be interpreted that the elderly prefer to participate in intergenerational programmes with the younger people, but not living with or near to them. 4. Elderly mostly prefer to communicate with their own groups in Hong Kong. 5. One thing that needs to be paid attention to is the property market. One time, an overseas speaker from Africa expressed that in Social Economic aspects we also talk about Sustainability: for achieving this, it would be in the best interests in keeping people poor and dependent. 6. For developing an elderly complex: housing, recreational or open space, should not identify/advertise/associate it as OLD or just for elderly, it should be for all age groups, especially don't name it with old-elderly implication. 7. We can think of how to turn the elderly into an economic market. 8. A multi-generational programme includes building squares and kindergartens next to elderly housing. 9. In public housing, there is more support for the elderly than in the private housing. 10. Nutrition: most of the time, the elderly cannot cook well for themselves...leading to vitamin deficiency. 11. Out-patient clinics for chronic diseases are not sufficient because elderly need to queue for a long time, especially for specialists like ophthalmology and dental ,which might need to wait for one year before it got treated. 12. The History of Public Housing Estate Development can be studied for understanding the profile of current HK elderly in order to help explain most of the findings. 13. In the 1980s, HK was most productive economically and socially. 14. Issue for elderly: how easy and how far for an elderly person to move around. 15. Elderly have a hard time to express themselves, not only physically, also psychological needs. 16. Social Welfare policy makes sense when it is a draft, but when it comes to implementation, it might not work as ideal, so it needs adjustment and fine-tuning, it is a Work In Progress project. 17. Policy makers do not think of In Case or Emergencies and its resilience, they should think one-step further. 18. Comprehensive Social Security Assistance (CSSA) in HK is not really for Elderly in reality because elderly always feel ashamed of applying for it which might be an indicator for an old failure in life. Therefore those elderly end up using the Old Age Living Allowance (\$2,285) to support for their living which obviously is not sufficient for this purpose. 19. Universal accessibility in HK is lacking for wheelchair users.

	20. Psychological change is not easy for elderly to manage, therefore, they prefer Ageing in Place even though the environment is not suitable for active ageing and even bad for active ageing.
16. Environmental expert	1. There is a strong link between Transportation (Affordability and Connectivity) and Economic Sustainability (Economic Growth) because mobility can stimulate the economy. So better transportation can encourage elderly to go enjoy outdoor recreations locating in suburbs. 2. The district council is more like an advisory body to the government and the government gives a small amount of funds for supporting local age-friendly programmes. In order to give good support to elderly, the social service department and other NGOs like the Salvation Army...can act an effective role. 3. Regarding how to educate youngsters to respect elderly, programmes have been implemented in primary school: elderly plant together with students. 4. Elderly do enjoy variety shows, cultural events etc. 5. Hong Kong elderly care mostly about money and health. 6. Building a sustainable environment is one thing. How people use and protect the environment is another thing and this is one of the drivers for achieving better sustainable environment for enhancing quality of life. E.g. people living in Boundary Street beautify their balconies with plants; people living in old districts do not take care of their surrounding environment and let it deteriorate. This is all about human behaviour r issue. 7. Re finding in Environmental Sustainability: Urban greeneries and vegetation ranks No. 1 which makes sense because greens are good for physical health and psychological needs. Therefore planting / farming practice should be encouraged and promoted as one of the intergenerational programmes. 8. Cultural Sustainability is an important area to be studied properly and it can act as an effective catalyst for sustainable urban development. E.g. Tai Po is a mixture with old and new elements to prove cultural sustainability is right for sustainable urban development in terms of meeting social sustainable criteria. 9. Providing volunteer opportunities for elderly is important, but only to count on the government is not enough, since local NGOs can play an active and productive role in this agenda. 10. During war time (1939-1949), many Mainland Chinese escaped from China to Hong Kong and those people not only brought along their capital, but also the Authentic Chinese Culture (Basically, Chinese culture in Hong Kong is very original and well-preserved in the New Territories of Hong Kong by comparing to Mainland because the Mainland has undergone the Cultural Revolution 1966) when most of the original Chinese had been destroyed. Therefore, when the government planned to develop the New Territory areas, preserving Local Culture, Heritage, Tradition, Language and way of living should be well-considered and evaluated for their human and historical value/sustainability. 11. It is also very important to identify the main aspect for planning because what you look at as a nation, a city, a region, a district or a person will result in different needs, gain or loss. 12. Age population ● Health problem ● Mobility to move around ● Active to voluntary service ● NGO- capacity built service Young olds Social impact for the environments plantations theropy butterfly watching (elderly services as a tour guide, for example) transportation- move around how to make their life more fulfilling 13. district council – social service department to give funding ● major social service service army / scott uniform group 保良局 ● Primary school- organic farming education ● Clean-up for the single elderly ● Open space / greenery with shade 14. Entertainment ● Variety show – 平民化 ● Culture event 15. Grow vegetables – past 7 years ● E.g. star ferry – planting the vegitables 16. LCSD - Leisure Culture Service Department ● They keep the lands ● Community farming – pilot test, near 西貢, 彩富 ● Compositing – food waste / organic Zero waste Bureaucratic issues Official approval Management work ● Green strategy- green the balcony (beautify the old building) ● Plant therapy – be healthy 17. Active elderly- do dramas (have a hobby) 18. Medical aspect – burden ● Public medical care 19. Public transportation efficiency 20. Mixed old and new – Tai Po, example 21. Inhabitation of culture and traditions & the young and trendy / fashion 22. Culture reservation – sustainability of HK (which comes from New Territory) 23. Loss of culture (e.g. mid-autumn meaning harvest and hard work) 24. Lack of understanding between city and New Territory. 25. No department or government take care of inheriting of culture 26. diversify society
17 & 18. Institute of Active Ageing at PolyU	1. According to the findings Affordability always come out to the top. Quality of life for HK elderly means that Money comes first (financial security). 2. Demand on PUBLIC facilities are high because those costs involved by the public facilities are paid by the Government, not individual users directly, so people tend to ask for more as long as the cost is not out of their own pockets. It is human nature to

	be selfish?! 3. Management and Maintenance is No. 5 because people tend not to pay for it. People do not see the instant result of their payment...this is a kind of human behaviour in norm. 4. Elderly tend to make many trips per day because they have so much free time in hand, so affordability of transportation and travel connectivity to destinations are very crucial for promoting active ageing or any related programmes/events...encouraging them to use open space facilities. 5. The HK\$2 concessionary fares as locals in respect of the "Public Transport Fare Concession Scheme for the Elderly and Eligible Persons with Disabilities should be designed in detail with the care of the other age groups or citizens...during peak hours, the concessionary fares should not be valid in order to leave room for people who need to go to work and school. 6. HK's transportation fee is expensive by comparing to the most of the Asian cities. 7. Regarding with priority seats, HK youngsters are not actively yielding their seats to the elderly in need. Sometimes, it is not a must for people to yield seats to elderly because people might be sick at that time or feel so tired from activities. Those people need a rest also. 8. Re Building and Neighbourhood section: Fresh Clean Air is No. 3 because it relates to health properly. 9. For the built environment, Outdoor Spaces, Transportation and Buildings and Neighbourhood have higher ranking by comparing to the four categories in the social environment. This implies that respondents are more concern with issues from the 1st person (the user) view of point...their immediate needs. 9. Priority is accommodation, health and then transportation for going out / entertainment / activities. 10. For Community and Health Services, the ranking is high and affordability ranks No. 1. 11. Economic sustainability: Economic Growth ranks No.1; High Quality and Efficient Public Transportation ranks No. 2; Appropriate Use of Resources ranks No. 3 (for the elderly respondents, they might think of this as Resources for Welfare). 12. Elderly for this generation mostly do not have a high educational background and they work their whole life, so they are chasing for comfortable quality of life. To them, the definition of quality of life is affordable housing, transportation and public health care. At this point, those elderly are different from elderly of the western cities who have good pension and are better educated. Therefore, more education in civic responsibility and current affairs is needed to change HK elderly's view towards quality of life and values in life.
19 & 20. Applied Ageing Studies	1. In transportation, do not expect Public Transport Frequency & Reliability ranks No. 8 this low. 2. In communication & information, Hearing/Understanding Service Staff and Printed Material are ranked No. 1 & 2 because without communication, nothing can be done or delivered for the sake of the elderly. 3. Regarding with priority seats, HK youngsters are not actively yielding their seats to needed elderly. Properly more education is needed to teach the younger generations to respect and care for the elderly more. 4. Re Building and Neighbourhood section: Enough housing for younger people is No. 7...it implies that elderly might view younger people as their competitors for limited resources: housing... 5. When it comes to respect, should it be 2-way street, not only youngsters need to respect elderly, elderly also need to respect other people. They should not have the mindset that their needs should be thought as the priority all the time. 6. They might tend to expect to be served by younger people because they have worked for the society for so many years.
21. Expert of Transport and Sustainability	1. Transportation, agree with Affordability is No. 1; Safety of Transportation Facilities and Services is No. 2; Universal Access in Public Transportation is No. 3 instead of Proximity of Bus Stops On Foot because many elderly actually enjoy walking due to plenty of time in hand...of course this does not include the one who are physically weak. 2. Walkability for elderly can be the core design criteria for age-friendly community development. 3. In conducting the survey, respondents might overlook / misunderstand certain questions if the questionnaires are too gearing to professional issue...e.g. sustainability might not have the same meaning in macro and micro aspects. 4. The government needs to be more imaginative when it comes to urban planning, not only the hardware, she needs to consider about the "interaction" of people towards the surrounding environment. Not just providing seating with shades...accessibility, but how to encourage people to use those facilities and what's the purpose serving them and how those facilities can be occupied more often for its use. 5. Not enough of priority seats, especially in the tram because HK elderly do enjoy a tram ride because it is cheap. 6. Need more result-oriented educational media to raise the awareness of respecting elderly. 7. Ferry: should have seat belts equipped. 8. User-friendly features/facilities/services: detail oriented is the key. 9. Gentrification: need to make sure local residents will not be affected seriously, especially elderly. 10. Redevelopment: most of the time HK private developers turn open space into private areas, not allowing public to go in. 11. Kai Tat project has a good people-oriented approach towards open space planning. 12. It is not hard to set up the age-friendly fixtures with good consideration in sustainable planning criteria, but "communication" is always missing during the development process. Knowing what the users want and need is crucial if sustainability is in the picture. 13. Elderly like walking because it has no cost and they have time in hand. Therefore improving the walking environment and making it safe for elderly is a good way to promote Active Ageing. 14. Top-down and grass-root s planning approach is applicable for HK, the government should respect public opinion and have them participating in planning discussion forum, but the final decision-maker is still the government. 15. The Process of Involving People is very important, besides having a good plan from the beginning. 16. A framework for how to design a process to involve all the stakeholders and supporting groups should be essential for developing a sustainable new town. 17. UK has a very strong Elderly Community built age-friendly. 18. Education, Empowerment and Communication can engage people to involve in the process effectively. 19. Economic, Social and Environmental sustainability are essential for all the new urban development s on earth nowadays.

Appendix 6 Street Survey Result

Coding details of the survey data are submitted with the completion report.

Appendix 7 Public Lectures and Seminars

Recognized Conference(s)/Seminar(s)/Public Forum(s) in which Paper(s) Related to this Research Project was/were Delivered

Date (MM/YYYY) and Place	Title	Name of Event
July 2014; Hong Kong SAR	Elderly participation in age-friendly community building (see attached Appendix)	Department of Building and Real Estate and Institute of Active Aging Talk
28 Sept 2014 Central Library , Hong Kong	How will the new precinct of a dense city be planned for sustainability and well prepared for such trend of ageing trend?	RGC Public Lecture on Social Considerations for Urban Renewal
4 Mar 2015, PolyU Hong Kong	Sustainable Planning Criteria (SPC) for new Age-friendly Precincts (AFP) development- a case of Hong Kong	BRE Lunch Time Research Seminar
12 March 2015, Hong Kong	Sustainable Planning Criteria (SPC) for new Age-friendly Precincts (AFP) development- a case of Hong Kong	Seminar at Department of Construction and Real Estate, The University of Hong Kong
5 th and 9 th March 2015, Hong Kong	Sustainable planning criteria (SPC) for age-friendly precincts (AFP) – a case of Hong Kong	Round table Expert Meeting on age-friendly precincts (presented the preliminary findings to seek feedback)

Appendix 8 Publications

Publication(s) Arising Directly from this Research Project

Date of Publication (DD/MM/YYYY)	Title	Name of Publication	Type of Publication
Submitted 2015	Critical factors for Age-friendly sustainable planning strategy in Hong Kong	Habitat International	Journal
NA	NA Note: 1 paper prepared for international refereed journals Implementing an age-friendly precinct design and sustainable planning criteria to a high density city: A case of Hong Kong	NA Not yet submitted. Target journal: Habitat International	NA