Universiti Teknologi MARA
Cawangan Perak

INSPIREd
Virtual Ipoh International Summit on Professionalism, Research and Education 2022

IeGRESAFE 2022

E-PROCEEDING OF

1st INTERNATIONAL E-CONFERENCE ON GREEN & SAFE CITIES 2022

"Sustaining the Resilient, Beautiful and Safe Cities for a Better Quality of Life"

20 & 21 SEPTEMBER 2022

Organisers:

GRESAFE_CITIES
Green Safe Cities, Research Interest Group

The University Of Queensland
AUSTRALIA

Co-organisers:

OFFICE OF RESEARCH, INDUSTRIAL LINKAGES, COMMUNITY & ALUMNI (PJIM&A), SERI ISKANDAR CAMPUS
DEPARTMENT OF BUILT ENVIRONMENT STUDIES & TECHNOLOGY (JABT), FACULTY OF ARCHITECTURE, PLANNING & SURVEYING (FSPU)

https://myse.my/gresafecities2/IeGRESAFE/

e-PROCEEDING OF

1st INTERNATIONAL E-CONFERENCE ON GREEN & SAFE CITIES

"Sustaining the Resilient, Beautiful and Safe Cities for a Better Quality of Life"

ORGANISED BY

Gresafe_Cities RIG
The University of Queensland, Australia
Kampus Hijau UiTM Perak

CO-ORGANISED BY

Research, Industrial Linkages, Community & Alumni Network (PJIM&A)

Perpustakaan Negara Malaysia Cataloguing in Publication Data

No e ISBN: 978-967-2776-13-0

Cover Design: Muhammad Falihin Jasmi

Typesetting : Ts Dr Azizah Md Ajis

ORGANISING COMMITTEE

Patron	: Prof. Sr. Dr Md Yusof Hamid
Advisor	: Assoc. Prof. Ts Dr Norhafizah Abdul Rahman
Chairman 1	: Assoc. Prof. Ts Dr Siti Rasidah Md Sakip
Chairman 2	: Assoc. Prof. Sr Dr Nur Azfahani Ahmad
Secretary 1	: Ms Nur'Ain Ismail
Secretary 2	: Ms Nurhidayah Samsul Rijal
Treasurer 1:	: Dr Nor Nazida Awang
Treasurer 2	: Dr Nadiyanti Mat Nayan

MAIN SECRETARIAT

Invitation & Sponsorship	:	Ts Dr Ida Nianti Md Zin (L) Dr Nor Eeda Ali Ms Nur'Ain Ismail Ms Nurhidayah Samsul Rijal Ts Ahmad Haqqi Nazali Abdul Razak
Participation, Registration & Certificates	:	Dr Atikah Fukaihah Amir (L) Ms Marina Abdullah
Graphic & Printing	:	Mr Muhammad Falihin Jasmi (L) LAr Ruwaidah Borhan
Promotion & Website	:	Ts Nur Hasni Nasrudin (L) Ts Sr Dr Asmat Ismail
Information technology (IT & AV) & Media	:	Mr Aizazi Lutfi Ahmad (L) Mr Muhammad Anas Othman Mr Tuan Sayed Muhammad Aiman Sayed Abul Khair
Scientific Reviewers & Publication	:	Assoc. Prof. Sr Dr Thuraiya Mohd (L) – Sc. Reviewer Assoc. Prof. Dr Sallehan Ismail (L) - Journal Assoc. Prof. Sr Dr Siti Aekbal Salleh Assoc. Prof. Dr Kharizam Ismail Assoc. Prof. Ts Dr Siti Akhtar Mahayuddin Assoc. Prof. Sr Dr Nur Azfahani Ahmad Assoc. Prof. Sr Dr Natasha Khalil Dr Puteri Rohani Megat Abdul Rahim Ts Dr Azizah Md Ajis Sr Dr Asmalia Che Ahmad Dr Dzulkarnaen Ismail Dr Lilawati Ab Wahab Ms Marina Abdullah
Event Manager & Moderator	:	Ts. Ahmad Haqqi Nazali (L) IDr Dr Othman Mohd Nor TPr Dr Kushairi Rashid Dr Mohd RofdziAbdullah Ar Haji Azman Zainonabidin
Banquets & Charities	:	Ms Noor Faiza Rasol (L) Mr Afzanizam Muhammad Ms Siti Rohamini Yusoff

OBSERVING THE FACTORS AFFECTING THE DEVELOPMENT OF AGE-FRIENDLY CITIES IN MALAYSIA

Sumarni Ismail[1]*, Sarah Abdulkaareem Salih[2], Izzati Zainal Abidin[3,4], Tengku Aizan Hamid[5], Sharifah Norazizan Syed Abdul Rashid[6], Siti Anom Ahmadad[7], Rahimah Ibrahim[8]

***Corresponding Author**

[1,2,3] Department of Architecture, Faculty of Design and Architecture, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia

[4] Faculty of Architecture and Engineering, Limkokwing University of Creative Technology, 63000 Cyberjaya.

[5, 7] Social Gerontology Laboratory, Malaysian Research Institute on Ageing, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia

[6] Department of Social and Development Science, Faculty of Human Ecology, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia

[8]Laboratory of Medical Gerontology, Malaysian Research Institute on Ageing, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia

*sumarni@upm.edu.my

sarah_alsaadi1990@yahoo.com

Abstract

Malaysia is currently experiencing two demographic transitions, both population ageing and urbanisation. By 2050, Malaysia will be an aged nation with a declining number of younger ages and a rising proportion of older adults ages 60 and over, with a vast population living in the urban areas. Therefore, this study aimed to evaluate and understand the current situation of the physical and social environment in Taiping City in line with WHO guidelines on age-friendly cities. The present study employed an onsite observations approach conducted in five sites in Taping City in November 2021 from 07:00 am to 06:59 pm. The five sites selected in the central area of Taiping near Taiping Lake Gardens include the traditional wet market Taiping, Taiping Lake Garden, Taiping Zoo Park, Daerah Taiping Mosque, and Taiping Municipal Council. The results indicated sound social interaction, inclusion, and cooperation in the City that meets the age-friendly social environment. However, the current built environment did not fully meet the physical environment of an age-friendly city, especially in the traditional commercial sites. Most of the spaces in Taiping City provided easy access and facilities to older adults. However, there was a lack of access for wheelchair users and disabled people, especially in commercial buildings. The current study contributed information and recommendations about the social and physical environments affecting enhancing age-friendly cities in Malaysia. Hence, the study's findings are of great importance for policymakers, Perak local authorities, architects, urban planners, and researchers in creating age-friendly cities in Malaysia.

***Keywords**: Age-Friendly Cities, Age-Friendly Malaysia, Social and Physical Environments, Site Observation, Taiping City.*

INTRODUCTION

Our world is enduring two demographic transformations in rapid urbanisation and ageing. By 2050, one in six people in the world will be over the age of 65, up from one in eleven in 2019 (UN, 2019). In five decades, over 80% of the global aged population will be living in developing countries compared to 60% in 2005 (UNDESA, 2013). The rapid change in the world's ageing population is due to increased longevity and lower fertility (Elsawahli et al., 2017). Rapid transition in the ageing population is accompanied by quick urban changes, which led to urban ageing. These changes burden cities and future urban planning (Salih et al., 2020). Therefore, there is a growing interest in providing proper urban environments for the aged population; it is essential to consider the impact of modern communities and environments on older adults (Steels, 2015). In this sense, the concept of age-friendly cities and communities had emerged, aiming to enhance the urban cities to be more fit for people of different ages, including older adults (WHO, 2007). Many governments worldwide realised that as they age, older people need more services, resources, and strategies to enhance their healthy ageing (Steels, 2015). Therefore, since 2002 most developed countries have utilised several initiatives and strategies for active ageing, age-friendly cities, and ageing-in-place. They aimed to provide flexible and evolving environments to support independent living in old age by enhancing eight domains of age-friendly cities (Elsawahli et al., 2017; WHO, 2007).

Meanwhile, Malaysia is also passing through a rapid demographic and urban shift toward urbanisation and an ageing population. It is expected that Malaysia will be an aged nation in 2030 when 15 per cent of the total population is aged 60 and over (Department of Statistics Malaysia, 2012). As people grow older, Malaysia's responsible authorities realised the need to develop strategies and public services specifically targeted at older adults. However, initiatives and community and civic services available in Malaysia are still limited (Lai et al., 2016). In Malaysia, a few older adults' care centres and activity centres accommodated a small number of older adults. The cities' and towns' infrastructure did not enhance the independent living of older adults and people with special needs (Lai et al., 2016).

Furthermore, the urban population in Malaysia shifted from 62% in 2000 to 71% in 2010. This rapid urbanisation means that most older adults live in cities and towns (Department of Statistics Malaysia, 2012). There are ongoing efforts from the Malaysian Government in cooperation with the WHO to develop an empirical model for age-friendly cities in Taiping City. Given the current situation, there was a need to evaluate and understand the condition of Malaysian towns based on the domains of the WHO age-friendly city to develop a framework of local age-friendly city indicators. Therefore, the current study utilised an observation method to evaluate and understand the current situation of the physical and social environment in Taiping City in line with WHO guidelines on age-friendly cities in order to set recommendations for the development of a local age-friendly city framework. The focus of the current study was on the physical and social environment of Taiping City.

Age-Friendly City

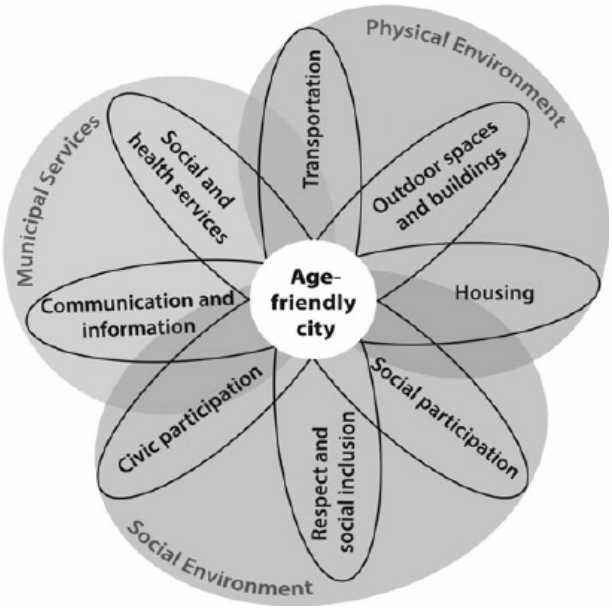
In 2002, the World Health Organization (WHO) putted the concept of age-friendly cities by releasing a policy framework to support Governments in strengthening aged population health globally (WHO, 2007; WHO, 2002). The age-friendly concept referred to being more responsive to the specific needs of older adults and other ages. An age-friendly city could enable people of different ages to actively participate in the city activities and respect everyone regardless of their age (Torku et al., 2020; WHO, 2007). This concept fostered the role of environmental and social factors in promoting active, healthy ageing in urban settings (WHO, 2007). In more detail, age-friendly cities encourage active ageing by enhancing health, participation, security, and quality of life. These cities also contribute to making transportation, public spaces, and housing more accessible, making ageing in place possible (Torku et al.,

2020; WHO, 2007). It should also be committed to social participation in which older adults are involved in various social activities (McGarry, 2015).

The WHO determined eight domains for age-friendly cities and communities overlap and interact with each other to enhance active ageing (Figure 1). These domains included social participation, respect and social inclusion, civic participation and employment, outdoor spaces and buildings, transport, housing, communication and information, and community support and health services (Van Hoof et al., 2018; Atkins, 2016; WHO, 2007). These domains contributed to addressing barriers to the well-being and quality of older adults' life. Later, a variety of terms were used to refer to the age-friendly concept, including age-friendly communities, ageing-in-place (WHO, 2007), livable communities (Greenfield et al., 2015), and the age-friendly world (WHO, 2018; WHO, 2015). Yet, the most commonly used term is "age-friendly cities and communities".

Figure 1

Eight Domains of Age-friendly Cities Framework developed by WHO (2007).



Note. Source (Jackisch et al., 2015)

To support the framework of age-friendly cities, various initiatives from different governments worldwide in cooperation with WHO have emerged, such as the Healthy Cities Project and Global Age-Friendly Cities (WHO, 2018; Atkins, 2016). These projects aimed to engage cities to make their communities more age-friendly (WHO, 2018). These initiatives led to more than 500 cities in 37 countries worldwide becoming friendlier to older adults. These initiatives focused on the health and social services, physical environment, or social environment of the cities. Recently, Malaysia realised the need to integrate with these initiatives, as it faces a rapid demographic and urban transformation of urban ageing. However, there is a lack of evidence on the current situation of Malaysian cities in response to the WHO framework on age-friendly cities. Therefore, there is a need to establish a local framework of age-friendly cities based on eight domains of WHO's program.

Urban Ageing and Aging-in-Place

Over 55 per cent of the world's population lives in urban areas, and it is expected to increase to around 65 per cent by 2050. Urban areas refer to human settlements that consist of a high population and built environment, such as cities and towns. WHO framework of 2002 and 2006 focused basically on age-friendly cities and ageing-in-place in an urban context (WHO, 2007). Since then, many cities, towns, and communities worldwide are already taking active steps toward becoming more age-friendly. One of the reasons for focusing on cities is that major urban centres have the economic and social resources to make changes and become more age-friendly, and lead the way for other communities within their countries (WHO, 2010). In an urban context, age-friendly cities referred to inclusive and accessible urban environments that promote active ageing and make communities more age-friendly (WHO, 2007).

Ageing-in-place was an essential factor for age-friendly city concepts. It is understood as the ability of older adults to live independently, safely, and comfortably in their communities and homes with easy access to needed services (WHO, 2007; Van Hoof et al., 2018). Cities and towns must provide a flexible and evolving environment to enhance independent living and ageing-in-place. Ageing-in-place can be promoted by giving comprehensive urban planning and design and a wide range of community services and activities for all ages (McGarry, 2015; Van Hoof et al., 2018). Well-designed built environment and easily accessible services that respond to different needs of people of all ages contributed to promoting ageing-in-place. In addition, a responsive social environment was also critical for ageing in place (Sun et al., 2017). Since then, age-friendly cities' social and physical environment domains have been critical for ageing-in-place. Therefore, to develop the framework of age-friendly towns and cities in Malaysia, there is a need to look into approaches to ageing-in-place and observe the current condition, especially in terms of social and physical environment domains.

METHODOLOGY

Qualitative site observation and narrative analysis are utilised in the current study based on the approaches of Chow et al. (2016) and Kawulich (2012). It is a subjective method of gathering data depending on the researcher's sensory organs (Kawulich, 2012). The qualitative items of the observation are also developed based on the recommendations of WHO (2007) and existing evidence on age-friendly cities (Hoof et al., 2021; Van Hoof et al., 2018; Levasseur et al., 2017; Sun et al., 2017; Chow et al., 2016; van Leeuwen, 2014).

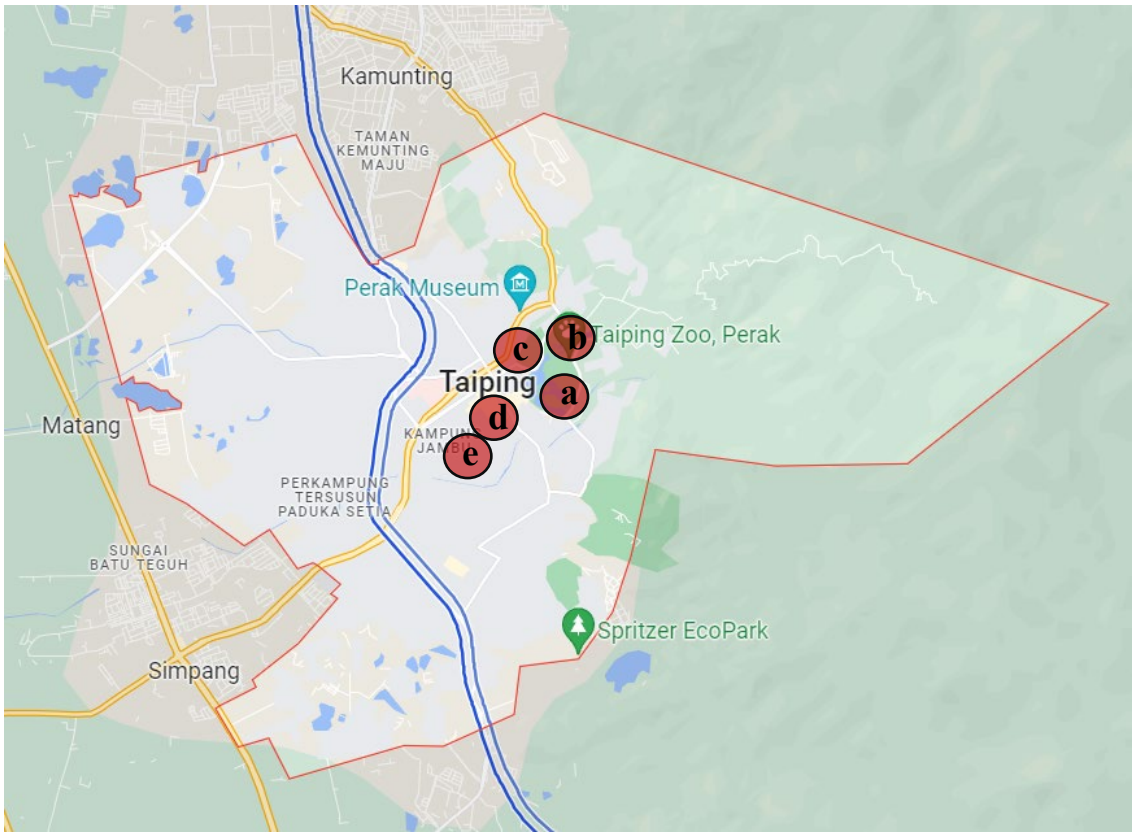
Site Selection and Target Areas

The Malaysian government is aimed to develop a pilot model of age-friendly cities in Taiping, Perak State, to address the rapidly ageing population and urbanization. The government tend to employ the WHO age-friendly cities framework in cooperation with the Taiping Municipal Council and Malaysian Research Institute on Ageing, University Putra Malaysia, for the pilot model in Taiping. The current study aimed to evaluate and understand the current local situation in Taiping City in line with WHO guidelines on age-friendly cities to provide recommendations on the development of a local age-friendly city framework. Therefore, the central area of Taiping City in Perak State was selected as a study area. The State of Perak is divided into 12 administrative districts; its capital city is Ipoh. Taiping is an urban heritage town in Perak, northwest Malaysia and the second-largest town after Ipoh. It's known for its colonial architecture, sustainable green nature, and the central Lake Garden (Loh, 2019). The percentage of older adults aged 60 years or over in the district of Larut and Matang (where Taiping is located) grow from 6 per cent in 1980 to 15.3 per cent in 2020.

Based on the objective of the study, the authors, in cooperation with Taiping Municipal Council, have selected five sites in the central area of Taping city near the Lake Gardens to be observed in November 2021. The five selected sites were Taiping Lake Garden, Taiping Zoo and Night Safari, Taiping Municipal Council, Taiping traditional wet market, and Daerah Taiping Mosque (Figure 2). The Lake Gardens of Taiping is one of the oldest public parks in Malaysia and was established in 1880, established on 160 acres (647,497 square meters) of green land. The unusual rainfall has led to a fertile collection of flora and century-old rain trees in the Taiping Lake Gardens, making Taiping City one of the most sustainable cities in the world. Taiping Zoo is a zoological park established in 1961 in the northern part of the Lake Garden. It is the oldest zoo in Malaysia and covers 36 acres (145,687 square meters).

Figure 2

Observed sites within Taiping City. (a) Taiping Lake Gardens. (b) Taiping Zoo and Night Safari. (c) Taiping Municipal Council. (d) Taiping Wet Market. (e) Daerah Taiping Mosque.



The Taiping Municipal Council (MPT) was established in 1930 as the municipal council which administers the township (Loh, 2019). Its area covers 186,460 square meters and is located southwest of the Lake Garden. The Taiping wet market is one of the oldest markets built in Taiping in 1884 and 1885. It is located in the commercial town centre at Market Square. Its area is about 1,222 square meters. The building's construction consists of timber pillars, a concrete slab and an iron roof. Daerah Taiping Mosque is one of the prominent mosques in Taiping City, located southwest of Lake Garden. Table 1 shows the characteristics of the five selected sites.

Observation Tool and Data Collectors

A structured observation tool was used for data collection to assess the five sites. The observation protocol was developed by the authors based on the eight domains of WHO and evaluated by experts from the Malaysian Research Institute on Ageing, University Putra Malaysia, before the on-site observation. Trained data collectors (n= 7) observed all the activities and users of the sites from 07.00 am to 06:59 pm for two days (weekday and weekend) at each site in November 2021. Only the Taiping Municipal Council was observed on weekdays from (08:00 am) to (04:00 pm) based on its operating hours. Mean temperatures and relative humidity were 30°C and 77.2%. The daily observation was divided into two times at each site, including morning (07:00 am to 11:59 am) and afternoon/evening (01:30 pm to 06:59 pm). During on-site observation, each site was observed independently by two observers.

Following the developed manual protocol, in each visit to the selected site, the observers first registered data on the observation context, including date, location, and site type. Then, scanning the site's detailed characteristics in terms of accessibility, car parking, travel paths, main entrance, signage system, horizontal and vertical circulation, accessible toilets, prayer room, ablution area, emergency escape, supporting facilities, and level of social participation. The observers also observed the sites' users focusing on older adults' activities. The data were then transferred to prepared observation forms. The on-site observation was conducted by seven researchers who have been recruited by University Putra Malaysia and trained on the observation protocol. Visual simulation and role-playing were utilized to prepare the observers during classroom sessions.

RESULTS

In November 2021, seven trained data collectors observed five sites (of four categories) in Taiping City, Perak, to recognize the age-friendly activities and communities. The four categories were: (1) two (open) recreational sites were Taiping Lake Gardens and Taiping Zoo. (2) Governmental site was Taiping Municipal Council. (3) Commercial site was Taiping Wet Market. (4) Religious site was Daerah Taiping Mosque. All the observed sites are located in the central town f Taiping and are nominated and approved by Taiping Municipal Council.

Recreational Site

The recreational activities included Taiping Lake Garden and Taiping Zoo. Taiping Lake Garden is the first public garden established during British rule in Malaysia in the 80s. The lake garden is near Bukit Larut and is central to the town centre and the south of the Taiping Zoo. The rush hour was during the morning time; most park visitors were older adults who came to join morning physical activities such as Zumba, aerobic, Tai Chi, jogging and walking. Some older adults were observed doing individual activities, such as relaxation, sitting, and fish feeding. The Park provided an attractive site for morning shared activity, especially for older adults, who usually visit the Park for social, physical shared activities.

Table 2

The Characteristics of the Observed Sites

Observed site/ Characteristics		Taiping Lake Gardens	Taiping Zoo and Night Safari	Taiping Municipal Council	Taiping Wet Market	Daerah Taiping Mosque
Location		Taiping town centre	Taiping town centre	Taiping town centre	Taiping town centre	Taiping town centre
Users social factor	Older adults' visitor	Most of the visitors were older adults, especially in the morning time	Most of the visitors were children. The visitors were families who came with their children. Many of the families also included older adults.	Most of the visitors were older adults, some of them with a special need	Most of the visitors were older adults, especially in the morning time	Various users of different ages, including older adults
	Rush hour	Morning time weekdays and weekends	Evening time (04:00 pm to 07:59 pm), especially during the weekend	No specific rush hour	Morning time weekdays and weekends	Praying time
	Average users during rush hours	About 250 visitors	About 300 visitors	About 100 visitors during the morning time	About 150 visitors	About 200 visitors
	Type of activity by older adults	a) Social-physical activity, e.g. Zumba, aerobic, and Tai Chi b) Physical activity, e.g. jogging and walking c) Relaxation d) Sitting and chatting e) Fish feeding	a) Social-recreation b) Physical-recreation c) Social-educational activity d) Sitting and chatting	Administrative transactions	a) Grocery activity b) Shopping c) Fish/meat selling d) Walking e) Watching	Religious activity: a) Praying b) Ablution c) Walking d) Chatting
	Social participation and social support level	High level of social participation among users from different backgrounds and strong multi-generation social activity	High level of social participation among various users and strong multi-generation social activity	Strong cooperation and social support to older adults, especially for those with special needs	-	High level of social participation
Site physical factor	Accessibility and transportation	a) Easily accessible by car and motorcycle b) Difficult for pedestrians to cross the surrounding roads to the Park, as car parking is located across a street c) No clear public transportation access	a) Easily accessible by car and motorcycle b) Safe access c) Easily accessible for pedestrians and disabled people d) No clear public transportation access	a) Easily accessible by car and motorcycle b) Easily accessible for pedestrians and disabled people c) Accessible ramps from car parking to building gates	a) Easily accessible by car and motorcycle b) Clear drop-off point c) Easily accessible for pedestrians. However, it was not promoted accessibility for people with special needs d) Accessible ramps from the surrounding area e) No clear public transportation access	a) Easily accessible by different users (car, motorcycle, pedestrian, etc) b) Clear drop-off point c) Easily accessible for people with special needs d) Accessible ramps from the surrounding area e) No clear public transportation access
	Car parking	Clear disabled parking (OKU). However, it was across the Park's main street	Clear disabled parking (OKU)	a) Clear disabled parking (OKU) b) Direct access from disabled parking to the	a) There was no clear disabled parking (OKU) b) Yet, the site provided proper car parking and	a) Clear disabled parking (OKU) b) Direct access from disabled parking to the

			main MPT building	motorcycle parking for all users	Mosque c) Car parking signage was clear and well designed
Travel paths (outside)	a) Designed with proper material b) No manholes placed within the pedestrian path c) Good lighting	a) Safe paths b) Designed with proper material and ramps c) No manholes placed within the pedestrian path d) Good lighting	a) Safe paths b) Designed with proper material and ramps c) No manholes placed within the pedestrian path	a) It provided wide (>1.2m) clear paths b) The kerb ramps were incorporated with the pedestrian level c) The paths were not slip-resistant due to the dirty water flow d) The paths do not provide TWSI e) The utility holes placed within the pedestrian path could be obstructions for wheelchair users f) It was not provided easy access for wheelchair users	a) Wide enough (>2m) and clear paths b) Safe paths c) Designed with proper floor material and ramps d) No manholes placed within the pedestrian path e) The paths did not provide TWSI f) It provided easy access for wheelchair users
Main entrance	Easily identified and accessible	Easily identified and accessible	Easily identified and accessible	a) The Market building provided three entrances (two with a ramp and a one-stepped entrance) b) The entrances were clear and about 2m in width c) However, the ramp was not proper for wheelchair users	a) The entrance was clear and easy to access, with a 2m width b) The entrance was fully open during praying time c) It was accessible for wheelchair users and dependent older adults due to the availability of a proper entrance ramp
Horizontal circulation (inside)	a) Designed with proper material b) Provide TWSI c) No manholes placed within the pedestrian path d) Good lighting	a) Safe paths b) Designed with proper material and ramps c) No manholes placed within the pedestrian path d) Good lighting	a) Designed with proper material b) Easy movement (paths width >3m) c) No obstacles within the pedestrian path d) Good lighting e) The paths did not provide TWSI f) The paths did not provide handrails for independent movement	a) Some difficulty in movement inside the market due to the ground condition and dirty water flow b) The inner path was wide enough (1.90 m to 2.50 m) c) Counters were between 0.90 to 1 m in height d) It was not provided easy access for wheelchair users	a) The inner paths were clear, about 1.5m in width b) It designed with proper non-slip ground material c) It did not provide TWSI d) It provided easy access for wheelchair users
Signage system	Well-designed signage system and easily recognized	Well-designed signage system and easily recognized	Well-designed signage system and easily recognized	No signage system	Well-designed signage system and easily recognized
Accessible toilets	It provided male and female toilets, yet, they were located across the park street. It also	It provided male and female toilets. It also provided accessible toilets for disabled	The accessible toilet was easily identified with legible standard accessible toilet	-	It provided proper toilets. However, it did not provide accessible toilets for disabled

	did not provide accessible toilets for disabled people.	people	signage. It also adequately followed all the required standards		people
Emergency escape	-	-	a) Easily identified b) Well-designed with proper dominations c) Good lighting and legible signage was clearly indicated d) The alarm system was equipped with visual strobe alarms and was clearly visible	-	-
Vertical circulation	-	-	**Lift:** a) Easily identified from the main entrance b) The clearance of the door opening is > 1 meter c) It provided a standard height for the call button and control button from the floor level d) It's also provided vertical and horizontal control buttons e) It provided level information and handrail for special needs use f) It's was not provided with a video and audio system indicating arrival at a floor g) It was not provided braille/ raised/ embossed numbers at the call button and control button	-	-
Supporting facilities	a) Proper seats and sitting areas b) Proper gym equipment c) No shaded zone or shading device	a) Lack of proper waiting zone and sitting area at the main entrance b) The ticket counter is relatively high for wheelchair users (> 1.5m)	Waiting area at the lobby and main hall facilitated proper seating and well-designed customer counter services (counter desk).	-	**Ablution area** The mosque provided a proper ablution area for the disabled (OKU), that was easy to access for wheelchair users

These activities attracted people from different backgrounds (gender, age, and ethnicities) to share the same activity. It also provided a suitable place for multi-generation activity, where older adults and youngsters get involved in the weekend for shared exercises and activities.

The Lake Garden location was easily accessible by car and motorcycle from surrounding areas. The site was facilitated with good car parking, precise disabled parking (OKU), and a signage system. However, there was difficulty entering the Park as the parking lot is situated on the other side of the road with no zebra crossing and traffic light to control the moving traffic. The pedestrian paths provided tactile walking surface indicators (TWSI), and there were no utility holes within the pedestrian path. Thus, the pedestrian paths were proper for older adults' movements and activities. Furthermore, the Park provided proper seats, sitting areas, and gym equipment. However, there was no adequate shelter or shading device to protect from the rain. Besides, it was not provided accessible toilets for disabled people.

The following recreational site was Taiping Zoo and Night Safari, a zoological park located at Bukit Larut, Taiping. It was established in the 60s as the oldest Zoo in Malaysia. The rush hour was during the evening (04:00 pm to 07:59 pm), especially during the weekend. The visitors were families who came with their children. Many of the families also included older adults. The observed activities were social-recreational, physical-recreational, and social learning activities. The Zoo Park was easily accessible for pedestrians and disabled people and provided well-designed car parking. However, visitors have to take a long walk from the parking lot to the Zoo's main entrance. The travel from the parking lot is safe as it uses an underground clear and proper tunnel that was facilitated with a ramp for wheelchair users for easy access. The main entrance is clear and easily accessible. However, there was no appropriate waiting area (there were no waiting seats). The ticket counter is relatively high for wheelchair users (> 1.5m). The Zoo provides online customer service; visitors can buy their tickets from the counters provided or online via the website. The Zoo also provided special (cheapest) rates for older adults.

Governmental Site

The Taiping Municipal Council (MPT) office was the observed governmental building located in the town centre in Wisma Perbandaran Taiping. It is a combination of eight Local Government Administration Boards. Most visitors are older adults who visit the MPT for various administrative services. During the observation time, over 30 older adults were visiting the MPT; four were disabled people. The staff showed strong cooperation and social support to older adults, especially those with special needs, at the information desk and payment counter; they provided a wheelchair for one older adult. The site provided easy and safe access for cars, motorcycles, and pedestrians. However, bus users need to cross the main road. Therefore, the older adults did an easy formal activity in the building. The site provided direct access from disabled parking to the main MPT building. There is clear signage for disabled parking (OKU).

However, pedestrians are tricky to cross the main road to the building due to car speed (no speed bump) or a signage system to promote pedestrian crossing. The site also provided wide (>1.5m), clear, and easy access pedestrian paths (travel paths). The main entrance was transparent and about >5m in width, and fully open. There were steps (level <15cm) and ramps at the main entrance. It provided a ramp for wheelchair users. The building lifts were well-designed and proper for older adults' usage; however, they did not have braille, raised, or embossed numbers at the call and control buttons. Furthermore, the accessible toilet was easily identified with legible standard accessible toilet signage and adequately followed all the required standards. The waiting area at the lobby and main hall facilitated proper seating and well-designed customer counter services (counter desk).

Commercial Site

The traditional wet market of Taiping was the observed commercial site in the current study. It was the primary market and first market built in the central town of Taiping at Halaman Pasar in 1885. It is surrounded by several retail sites and car parking lots. The rush hour was during the morning; most of the observed visitors (customers) were older adults. Market location provided easy access and drop-off points for car and motorcycle users. It was also easily accessed by pedestrians. Overall, the customers did a flaunt easy shopping; it was clear that they were very familiar with the market. The market provided wide and clear pedestrian paths. However, the pedestrian paths were not slip-resistant due to the dirty water flow. The market also did not provide easy access for wheelchair users. The market building provided three clear, accessible entrances (two with a ramp and one stepped door). The inner path was also wide enough (between 1.90 and 2.50 meters), and the selling counters were between 0.90 and 1 meter in height. However, the floor of the inner paths was also not slip-resistant due to the dirty water flow and had a bad (martial) condition. Therefore, the market did not provide easily accessible and safe for (dependent) older adults and people with special needs.

Religious Site

Daerah Taiping Mosque was the religious site observed, one of the oldest religious buildings in Taiping City, located in the central town of Taiping. Its location provided easy access for cars, motorcycles, pedestrians, and wheelchair users, with an easy access drop-off point. During the observation time, there were many older adult visitors. The observed movement of older adults was easy and fluent, as the building provided easy access. The site offered precise disabled parking (OKU) close to the main entrance. The car parking signage was clear and well-designed. It was easily accessible on the ground floor with no levels to the lobby entrance. The mosque also provided a transparent, easily accessible access, with a 2 meters width, accessible for wheelchair users and dependent older adults due to the proper entrance ramp. The travel paths were also apparent, about 1.5 meters in width, and had suitable non-slip ground material, appropriate for the older adult and wheelchair users. However, it did not provide TWSI. A disabled (OKU) ablution area was easily accessible for wheelchair users. Yet, there was no specific toilet for disabled people.

DISCUSSION

The current study aimed to evaluate and understand the current situation of the physical and social environment in Taiping City, Perak State, in line with WHO guidelines on age-friendly cities. The focus of the present study is on the physical and social environment of Taiping City. Data for the current study of five physical and social sites in Taiping is obtained using a developed observation instrument in November 2021. A total of 14 characteristics (social and physical) in each site are assessed. The selected sites represented vital locations in the city for regular visits and included two social-recreational sites, a commercial site, a religious site, and a governmental site. The sites are widely used on weekdays and weekend days, with an average of 200 people seen during rush time. In an observation session from Los Angeles conducted by Cohen et al. (2012), they observed an average of 367 visitors per site at rush time. However, the site size and the population density of the city can attract more visitors.

The main finding of the current study proved that Taiping City has a sound social environment for ageing-in-place and an age-friendly environment. The community of Taiping City showed high levels of social interaction, cooperation, and social support, especially for people with special needs and older adults. There is a certain level of social collaboration between older adults and the younger generation and people from different socio-demographic backgrounds. The older adults in Taiping City are also participated in various social-recreational activities, especially in the public spaces. The social environment, including social

participation, respect, and social inclusion, is a critical determinant of age-friendly cities (McGarry, 2015). However, for the physical built environment of Taiping, there is a need for more enhancement to be more age-friendly, especially in the traditional commercial sites. Overall, there is a need to provide Tactile Walking Surface Indicators (TWSI) in the City. It is essential to provide a proper sitting area in most of the observed sites. The main streets could be improved by providing a proper signage system, street furniture, and Zebra crossing.

Similarly, according to Carmichael (2014), planning and design as determinants of the built environment can be potentially critical drivers of change to shape environments that deliver healthy outcomes for all ages. Therefore, an age-friendly city should provide both enabling social and physical environments that are accessible and safe for people of all ages (Atkins, 2016; WHO, 2007). Overall, the observed sites showed easy access for car, motorcycle, and pedestrian users. However, there is a lack of access to public transportation (buses), and the observed didn't recognise any bus users during the observation time for all sites. Access to affordable and facilitated public transportation is critical to providing an age-friendly living environment for the ageing population (Van Hoof et al., 2018; Johnson et al., 2017).

For individual sites, the observed recreational areas showed a high level of older adult engagement. They also offered a high level of social-recreational cooperation, where older adults from different gender and ethnicities shared various social and recreational activities with the younger generation. For the physical environment, the recreational sites showed well-designed facilities and factors. However, there is a need to enhance the safe accessibility of the older adults to the Lake Garden site, especially the wheelchair users. Besides, there is a need to provide a suitable waiting area and ticket counter for older adults and people with special needs in the Zoo Park. Characteristics and access to the built environment and outdoor spaces affect the independence, mobility, safety, and quality of life of older adults (Johnson et al., 2017; Atkins, 2016).

The governmental site (MPT) showed the importance of collaborative social work to support older adults. There is a high level of awareness in the social, communal work and activity to help each other. At the built environment level, specific enhancements could be done on the vertical circulation (lifts) to be more age-friendly. The commercial site (Taiping wet market) is the most site that needs more enhancement on the built environment to enhance older adults and disabled people's access and safe movement. There is a need to floor maintenance and dirty water flow leakage treatment. Based to Van Leeuwe et al. (2014), the design aspect of the local built environment and the accessibility of the local area is particularly important for older adults, as the less competent the persons are, the more dependent they are on environmental circumstances. The religious site is easily accessible by older people, providing proper facilities for older adult users. However, there is a need to provide an adequately accessible toilet that meets Malaysian specifications.

Overall, there is a need to maintain and emphasise the social environment in Taiping City. The current social environment in the City provides a suitable platform for an age-friendly city and community. However, there is a need for more enhancement of the existing physical environment in the City, especially the built traditional environment, to adopt the WHO age-friendly city concept in the best way. A few enhancements of the city buildings and facilities could improve Age-Friendly Malaysia. The current finding is one of the first onsite observation studies to assess the social and physical age-friendly environments of Taiping City. In terms of social environment, the City is ready to adapt to the project of age-friendly cities. Nonetheless, because of some barriers in the built environment of the City could prevent the implementation of this project entirely.

Several limitations to the current study need to be mentioned. Due to the time and sources limitation, the study focused only on three domains of an age-friendly cities framework, including outdoor spaces and buildings, social participation, and social inclusion. Overall, the selected domains represented approximately 40% of the age-friendly total domains identified by WHO. Yet, many empirical studies study only one discipline of age-friendly cities (van Hoof et al., 2021; Levasseur et al., 2017; van Leeuwen, 2014). To study these domains, the authors observed only five sites in four categories (outdoor recreational, administrative, commercial, and religious). The sites were selected in line with the goals of the study and cooperation with the Taiping Municipal Council, based on their function, importance, and intensity of use in the City. Therefore, the selected sites represent the best-case studies in their categories. However, we didn't observe the other facilities in the City. Facilities such as sports, indoor recreation, and housing should be considered in the design of future studies. The researchers are also recommended to consider including onsite interviews to investigate more details on the experimental condition.

CONCLUSION

The current observation study is on f the first onsite investigation study of age-friendly city domains in Taiping since the City volunteered to be a pilot model. The main finding of this study contributes to the evaluation of the current local condition of the social and physical environment of the age-friendly cities framework in Taiping City. It also sets a few recommendations for the future implementation of the age-friendly Taiping framework. Identifying the current onsite condition of the social and physical environment of the City can provide information on the potential framework of age-friendly cities in Malaysia. Hence, the study's findings are of great importance for policymakers, Perak local authorities, architects, urban planners, and researchers in creating age-friendly cities in Malaysia. The present study found that Taiping City has good social interaction, inclusion, and cooperation that meet the age-friendly social environment. However, the existing traditional built environment did not meet the physical environment of an age-friendly city. Therefore, the responsible authorities on age-friendly Taiping are recommended to investigate more on the physical environment of the City and enhance it to become more friendly. They are also advised to maintain the existing social environment in the City for future age-friendly Taiping.

REFERENCES

Atkins, M. (2016). Boomers in Boomtown: Age-friendly Planning in Australia. In V. P. Sharon Biermann, D. Olaru (Eds.), *Planning Boomtown and Beyond*. UWA Publishing.

Carmichael, L., & Llm, L. (2014). *The Ingredients of Healthy City Policy : Drawing The Lessons of Good Planning Practice from around The World*. Centre for Sustainable Planning and Environments, University of the West of England.

Chow, B., McKenzie, T., & Sit, C. (2016). Public Parks in Hong Kong: Characteristics of Physical Activity Areas and Their Users. *International Journal of Environmental Research and Public Health*, 13(7), 639-655. doi:10.3390/ijerph13070639

Cohen, D.A., Han, B., Derose, K.P., Williamson, S., Marsh, T., Rudick, J., & McKenzie, T.L. (2012). Neighborhood Poverty, Park Use, and Park-Based Physical Activity in a Southern California City. *Social Science & Medicine*, 75, 2317–2325. doi.10.1016/j.socscimed.2012.08.036

Department Statistic of Malaysia. (2012). *Population of Aging in Selangor State of Malaysia*. http://www.placesonline.com/asia/malaysia/selangor/introduction.asp?rate=a1andutm_source=cpcandutmmedium=guideandutm_campaign=guide

Elsawahli, H., Shah Ali, A., Ahmad, F., & Al-Obaidi, K. M. (2017). Evaluating Potential Environmental Variables and Active Aging in Older Adults for Age-Friendly

Neighborhoods in Malaysia. *Journal of Housing for the Elderly*, 31(1), 74–92. https://doi.org/10.1080/02763893.2016.1268560.

Greenfield, E. A., Oberlink, M., Scharlach, A. E., Neal, M. B., & Stafford, P. B. (2015). Age-Friendly Community Initiatives: Conceptual Issues and Key Questions. *The Gerontologist*, 55(2), 191–198. doi:10.1093/geront/gnv005

Jackisch, J., Zamaro, G., Green, G., & Huber, M. (2015). Is a healthy city also an age-friendly city?. *Health Promotion International*, 30(suppl 1), i108–i117. doi:10.1093/heapro/dav039

Johnson, R., Shaw, J., Berding, J., Gather, M., & Rebstock, M. (2017). European national government approaches to older people's transport system needs. *Transport Policy*, 59, 17–27. https://doi.org/10.1016/j.tranpol.2017.06.005.

Lai, M. M., Lein, S. Y., Lau, S. H. & Lai, M. L. (2016). The determinants of age-friendly environment in Malaysia. *Information*, 19(7)B, pp. 2919-2923.

Levasseur, M., Dubois, M. F., Généreux, M., Menec, V., Raina, P., Roy, M., Gabaude, C., Couturier, Y., & St-Pierre, C. (2017). Capturing how age-friendly communities foster positive health, social participation and health equity: a study protocol of key components and processes that promote population health in aging Canadians. *BMC public health*, 17(1), 502. https://doi.org/10.1186/s12889-017-4392-7

Loh, I. (2019). *Taiping is the No 3 most sustainable city in the world*. The Star. https://www.thestar.com.my/news/nation/2019/03/07/taiping-is-no-3-most-sustainable-city-in-the-world

McGarry, P. (2015). Local government, ageing and social inclusion: Past, present and future. *Journal of Poverty and Social Justice*, 23(1), 71–75. doi.org/10.1332/175982715X14236418723040.

Kawulich, B. (2012). Collecting data through observation. In B. Kawulich, C. Wagner, & M. Garner (Eds)., *Doing Social Research: A global context* (pp. 150-160). McGraw-Hill Education.

Salih, S.A., Ismail, S., & Mseer, A. (2020). Pocket parks for promoting social interaction among residents of Baghdad City. *Archnet-IJAR*, 14(3), 393-408. doi:10.1108/arch-11-2019-0261

Steels, S. (2015). Key characteristics of age-friendly cities and communities: A review. *Cities*, 47, 45–52. https://doi.org/10.1016/j.cities.2015.02.004.

Torku, A., Chan, A. P. C., & Yung, E. H. K. (2020). Age-friendly cities and communities: a review and future directions. *Ageing and Society*, 1–38. doi:10.1017/s0144686x20000239

UN. (2019). *World Population Ageing 2019: Highlights*. United Nations, Department of Economic and Social Affairs, Population Division. http://link.springer.com/chapter/10.1007/978-94-007-5204-7_6

UNDESA. (2013). *World population ageing*. United Nation. https://www.un.org/en/development/desa/population/publications/pdf

Van Hoof, J., Marston, H. R., Kazak, J. K., & Buffel, T. (2021). Ten questions concerning age-friendly cities and communities and the built environment. *Building and Environment*, 199. doi:10.1016/j.buildenv.2021.107922

Van Hoof, J., Kazak, J., Perek-Białas, J., & Peek, S. (2018). The Challenges of Urban Ageing: Making Cities Age-Friendly in Europe. *International Journal of Environmental Research and Public Health*, 15(11), 2473. doi:10.3390/ijerph15112473

Van Leeuwen, K. M., Malley, J., Bosmans, J. E., Jansen, A. P. D., Ostelo, R. W., van der Horst, H. E., & Netten, A. (2014). What can local authorities do to improve the social care-related quality of life of older adults living at home? Evidence from the Adult Social Care Survey. *Health & Place*, 29, 104–113. doi:10.1016/j.healthplace.2014.06.004

WHO. (2018). *The global network for age-friendly cities and communities*. World Health Organisation. https://apps.who.int/iris/bitstream/handle/10665/278979/WHO-FWC-ALC-18.4-eng.pdf?sequence=1.

WHO. (2015). *World report on ageing and health 2015*. World Health Organisation. https://www.who.int/ageing/events/world-report-2015-launch/en/

WHO. (2007). *Global Age-friendly Cities: A Guide*. World Health Organization. http://apps.who.int/iris/bitstream/handle/10665/43755/9789241547307_eng.pdf;jsessionid=E0C665D9075C7E7CD78D4B677B40543C?sequence=1

WHO. (2002). *Active ageing: a policy framework*. World Health Organization. https://www.who.int/ageing/publications/active_ageing/en/, accessed 25 May 2021.

Pejabat Perpustakaan
Librarian Office

Universiti Teknologi MARA
Cawangan Perak
Kampus Seri Iskandar
32610 Bandar Baru Seri Iskandar,
Perak Darul Ridzuan, MALAYSIA
Tel: (+605) 374 2093/2453 Faks: (+605) 374 2299

UNIVERSITI TEKNOLOGI MARA

Surat kami : 700-KPK (PRP.UP.1/20/1)
Tarikh : 20 Januari 2023

UNIVERSITI TEKNOLOGI MARA PERAK
TERIMA
25 JAN 2023
Tindakan
Universiti Teknologi MARA Perak
PEJABAT REKTOR

Prof. Madya Dr. Nur Hisham Ibrahim
Rektor
Universiti Teknologi MARA
Cawangan Perak

Tuan,

PERMOHONAN KELULUSAN MEMUAT NAIK PENERBITAN UiTM CAWANGAN PERAK MELALUI REPOSITORI INSTITUSI UiTM (IR)

Perkara di atas adalah dirujuk.

2. Adalah dimaklumkan bahawa pihak kami ingin memohon kelulusan tuan untuk mengimbas (*digitize*) dan memuat naik semua jenis penerbitan di bawah UiTM Cawangan Perak melalui Repositori Institusi UiTM, PTAR.

3. Tujuan permohonan ini adalah bagi membolehkan akses yang lebih meluas oleh pengguna perpustakaan terhadap semua maklumat yang terkandung di dalam penerbitan melalui laman Web PTAR UiTM Cawangan Perak.

Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

nar

Setuju.

27.1.2023

PROF. MADYA DR. NUR HISHAM IBRAHIM
REKTOR
UNIVERSITI TEKNOLOGI MARA
CAWANGAN PERAK
KAMPUS SERI ISKANDAR