

# E-BOOK OF EXTENDED ABSTRACT

## THE 14<sup>TH</sup> INTERNATIONAL INVENTION, INNOVATION & DESIGN COMPETITION 2025



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# COMPENDIUM OF FRAMEWORK AND QUICK-WIN STRATEGIES FOR AGE-FRIENDLY CITIES IN MALAYSIA

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## ABSTRACT

Malaysia is projected to become an ageing nation by 2035, with older adults comprising 15% of the population. The rapid demographic shift allows Malaysia limited time to prepare its cities for an ageing population, underscoring the need to identify immediate needs based on the local context. Yet a structured approach to creating age-friendly urban environments remains underdeveloped. This study proposes quick-win strategies for adapting Malaysian cities for an ageing demographic. It aims to (1) examine the demographic patterns and distribution of older adults in urban centers, (2) review age-friendly city dimensions, and (3) identify key elements suited to Malaysia's development context. Using a deductive quantitative approach, structured surveys in Larut Matang and Kinta areas with high elderly populations, highlighted 25 essential features, forming the foundation of the Malaysia Cities for Ageing Population Framework and Strategies (MCAPS). Findings offer a strategic pathway for age-friendly planning, fostering social capital and economic benefits through inclusive urban design.

**Keyword:** *Age-Friendly City, Aging Population, Urban Planning*

## 1. INTRODUCTION

Malaysia is undergoing a significant demographic shift, with the proportion of the population aged 65 years and above projected to surpass 14.5% by 2040, officially classifying the country as an aged nation (Mahidin, 2020). This transformation, driven by increased life expectancy and declining fertility rates, is expected to exert profound implications on urban development, healthcare delivery, mobility systems, housing, and community support services. Cities and towns, must, therefore be restructured to meet the needs of an ageing population and ensure that older persons can live with dignity, autonomy, and safety (Rashid et al., 2022). Globally, the concept of age-friendly cities has gained momentum, guided by the World Health Organization's (WHO) framework that promotes inclusive, accessible, and supportive urban environments for older persons. In Malaysia, however, urban planning practices remain insufficiently aligned with the specific needs of this demographic, creating an urgent need for systematic reform.

Despite growing awareness of the ageing issue, existing urban planning policies and practices in Malaysia have not adequately integrated the principles of age-friendliness. Urban infrastructure frequently lacks barrier-free designs, accessible transportation, and inclusive public spaces (Salleh, 2017; Plouffe & Kalache, 2010). Moreover, older persons often face social isolation, limited economic opportunities, and uneven access to healthcare services (Dodson et al., 2006; Federal Government Administrative Centre, 2017; Lehning, 2013; Martin et al., 2019). These limitations highlight the need for a national, structured approach to address the spatial and social implications of population ageing. The Malaysia City for Ageing Population (MCAP) study was therefore commissioned to fill this gap by establishing a strategic and operational framework tailored to Malaysia's socio-spatial and policy context.

## 2. METHODOLOGY

This study adopts a deductive mixed-methods approach, integrating qualitative and quantitative methods.

- (1) A preliminary review of the literature and demographic analysis were conducted to understand aging trends in Malaysia.
- (2) A systematic review of literature (2010–2020) from academic sources and municipal reports on development guidelines and best practices. Content analysis was then performed to determine key dimensions and features,
- (3) Expert validation, experts and community leaders assessed the identified dimensions and features. The descriptive statistical approach was applied.
- (4) Framework validation and fitness, Confirmatory Factor Analysis (CFA) was applied.
- (5) Stage five is dedicated to outlining key strategies for the Malaysia City for Ageing Population (MCAP). Literature in chapter two was revisited, and empirical analyses findings were referred to as evidence for sound strategies.

## 3. FINDINGS

The expert survey involved 40 respondents and confirmed high internal consistency Cronbach’s Alpha  $\alpha$  0.8. A total of 25 significant features were identified, with 17 scoring above 4.0 and eight rated moderately 3.0. Subsequently, in the main study, the average score of 17 features was 4 and above, while the other eight 8 features were moderately rated with a score of 3 and above Standard deviation values ranged from 0.59 to 1.14, indicating a near normal distribution. Confirmatory Factor Analysis confirmed the framework’s validity, with a KMO value of 0.874 (above the 0.5 threshold) and a highly significant Bartlett’s test ( $p = 0.001$ ) Further analysis of Anti-image Correlation and Communalities Value revealed that 24 of 25 features met the minimum cutoff point. To achieve model fitness, one feature (B1, Age-Friendly Business Environment) was removed. The MCAP Framework outlines eight key strategies for age friendly cities; 1 safe, accessible buildings and outdoor spaces 2 improved mobility and transport 3 age-friendly housing 4 social participation opportunities 5 respect and inclusion initiatives 6 civic engagement and employment support 7 accessible information and communication and 8 robust health and support services. These strategies aim to create inclusive, sustainable urban environments for older adults. Adopting the framework aligns with the need to adopt the WHO Age Friendly City checklist with local socio culture and aspirations (Rashid et al 2021). Despite changes made to the checklist, no apparent differences were identified in the application of themes and city features (Plouffe Kalache 2010 suggesting a need for deeper contextual adaptation.



Figure 1: Malaysia City for Aging Population Framework and Strategies

#### 4. CONCLUSION

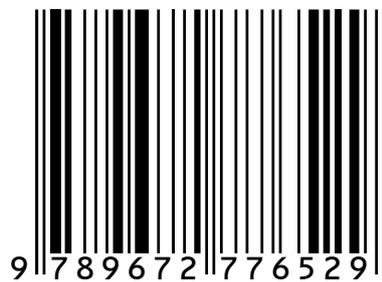
The study identified Ipoh and Taiping as having the highest percentage of elderly residents, exceeding the national average. Through the Expert Study and Confirmatory Factor Analysis, 24 key features were identified as essential, forming the Malaysia Cities for Ageing Population (MCAP) Framework and Strategies. Given the complexity of Malaysian cities marked by multi-ethnicity, diverse social classes, and administrative challenges—this study serves as a foundation for advancing age-friendly city development and leveraging existing urban attributes. Further research is crucial for developing comprehensive strategies that ensure sustainable and inclusive urban development for all age groups and spatial contexts.

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