LEE LI MING
PROGRAMME IN
AGEING URBANISM

Public Transport Systems for Ageing Populations

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Ageing and Mobility[1]

Mobility is a key challenge for active ageing. Constraints on mobility can arise from health-related conditions, transport policy, transport system design, and commuting costs. An accessible public transportation system is key determinant of mobility for older adults, particularly among those with reduced driving abilities. An accessible public transportation system will enable less reliance on private transport systems.

Many countries are implementing policies and initiatives to create age-friendly and barrier-free public transport systems. Some initiatives being implemented in Singapore and Japan are described below.

[1] This is an evolving database. We will be adding more examples and cases over time.

Singapore: Creating a senior – friendly transport system

Singapore is a world leader in transport system design and has one of the most cost-efficient public transport networks in the world. Transportation has been identified as one of the major determinants of active ageing in Singapore. The Government is acting to achieve a seamless transport system that promotes the use of public transportation for commuting, including among older aged cohorts.

The National Action Plan for Successful Ageing 2016 comprises a number of initiatives relating to transportation. In Box 1, some details of the various schemes that have been implemented by the Land Transport Authority (LTA) to enhance accessibility are highlighted.

Box 1: Schemes to enhance accessibility for older adults

Seamless Public Transport Journey

- Priority queue initiative – involves access priority when boarding buses for the elderly, expectant mothers and the disabled. Priority queue zones are located beside boarding berths and seats are provided for commuters. Zones are highlighted in different colours to aid visibility and signs provide instructions to other commuters to give way to those in need. Tactiles installed on floors also assist people with visual impairments to locate waiting areas.
- Better way-finding signs - Involves the simplification and improved legibility of signage on public transport nodes to facilitate way-finding.
- Wheelchair-accessible buses - Since 2006, all new public buses registered in Singapore have been required to be wheelchair-accessible. The entire bus fleet is expected to be wheelchair-accessible by 2020.

Making it safer for seniors to cross the roads

- Green Man+ Scheme – extend green crossing time is enabled by older pedestrians by tapping senior citizen concession cards on a reader attached to traffic light poles. This initiative ensures older pedestrians are able to cross roads safely and at a comfortable pace. By 2018, 1000 crossings across Singapore will have this facility. Green-man timings will also be available at key junctions without the requirement to tap a senior concession card.

Discounted Travel Fares

- Senior citizen concession card - personalised smart cards allow senior

citizens to pay for basic bus services and trains at a subsidised rate.

Source: Land Tranport Authority. (2015, November 13). Factsheet: Creating a Senior-Friendly Transport System. Retrieved January 16, 2017, from Land Transport Authority: https://www.lta.gov.sg/apps/news/page.aspx?c=2&id=d34b11e6-6b67-4333-b6d2-ad76e3487525

Public Engagement and Participation

Singapore is exploring a holistic approach to improving the transportation system for older population that involves citizen engagement and participation.

Since 2014 the Ministerial Committee on Ageing has organised a series of focus group discussion to discuss issues related to an ageing population. Transport was highlighted as a key issue, in particular participants at the focus group discussion were concerned about improving safety, creating better accessibility, greater comfort and better way-finding.

The discussions informed the development of prototypes to support older adults to better navigate the city. The prototypes were tested by older adults who then shared their experiences of their journeys through the city. They highlighted the usefulness of passenger information display on buses such as having two LED screens to display upcoming bus stops, and one LCD screen showing the current stop and the next two stops. Local accented audio enhancement buses were also suggested by older adults as a possible intervention to help the visually impaired on buses.

Japan: Moving towards Universal Design

Japan has the oldest population in the world. With regard to mobility, the Japanese Government has responded to their demographic challenge by introducing a range of innovative programmes.

In 2000, Japan passed the Public Transportation Accessibility Act. The Act mandates transportation businesses to make their equipment and facilities accessible. This has led to a dramatic increase in accessibility across the transportation sector.

In 2005, the Government introduced the General Principles of Universal Design Policy. The Policy requires buildings and public transportation to be designed using concepts of universal design. In 2006, as part of the implementation process, the Building Accessibility Act and Public Transportation Accessibility Act were integrated into the New Barrier-free Act. The legislation has resulted in several changes in the transportation sector in many large cities in Japan. For example, in the downtown area of Tokyo, most subways and rail stations are

now fitted with elevators and accessible restrooms, and most buses are wheelchair–accessible.

In Box 2, some of the features that have been implemented to improve public transportation based on the Universal Design Guideline Policy are highlighted.

Box 2: Features of the Universal Design Guideline Policy for Transportation

- Barrier-free environment - involves eliminating differences in levels, installing tactile tile blocks and wheelchair-accessible restrooms at railway stations, street car stops and ferry terminals.

- Low floor buses - involves the use of non-step buses (no steps from the front door to the middle door), one step buses (one step from the front door to the middle door), lift buses (equipped with a movable step from the doorway) and one step buses fitted with a ramp.

- Standardisation of walkways - involves smooth mobility standards such as a minimum sidewalk width of 2m, specific gradient standards of 8% (or1/12) for differences in level, installation of dot-shaped tiles at pedestrian crossings, and tactile patterns at transverse direction of the sidewalks.

- Improving railway operation - involves escalators and elevators at stations, priority seats for older people on all trains, and provision to accommodate wheelchairs with guided assistance on request. To ensure easy access to stations, surrounding areas (within a radius of 500-1000m) have undergone spatial planning improvements. This involves provision of facilities for older adults such as waiting areas, elevators and restrooms.

Source: Kim, T. A.-K. (2005). Transportation Policies for the Elderly and Disabled in Japan. *International Journal of Urban Sciences*, 87-89

Demand Responsive Transport

As younger people migrate to cities, Japan's rural population is increasing made up of larger proportions of older people. Yet, rural areas of Japan are lacking an efficient and accessible public transport system as evidenced by the decline in bus ridership in rural areas. Thus, there is a demand for an age friendly transport system in rural Japan. To tackle this demand and supply issue, local governments in the smaller cities and rural areas of Japan have introduced on-demand bus services. The service is outsourced to local taxi firms and users must pre-register in the city office to use the service. The buses are

booked an hour before the nominated pickup time. There are three types of on-demand bus operations, as follows:

Detour bus: a detour on-demand approach. Bus operators decide the route based on user demand. When there is no demand, they follow a predefined route with designated stops.

Area bus: follows a 'full-demand method' in which buses (or vans) operate in a specific area and stop at desired pick-up and drop-off points.

Constrained area bus: a 'semi-demand' method in which buses operate in a specific area and at hourly intervals. It responds to the user's pick-up point only when there is demand from a majority of users.

The city of Chigansaki, where 30% of the population is aged over 65 years, has also adopted a demand responsive transport system. The service is offered from 7am to 8pm every day, using an eight passenger vehicle. The cost of a one way trip is S$1.20, making it comparatively more affordable than a taxi ride (which can cost S$8.50). Bookings and routes are coordinated by the bus driver. Users are picked-up and dropped-off at designated stops that coincide with designated bus stops. Over time, the on-demand bus service has added many pickup and drop-off points thereby ensuring older people do not have to walk overly long distances.

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