Annex B

"Well-being in the City: Innovating Healthy Living"
Exhibition Highlights

1) Enabling Active Lifestyles

Engaging in regular physical activity improves physical well-being. Singapore has employed a wide range of strategies to encourage people to adopt more active lifestyles through the provision of parks, walking and cycling paths, sheltered pathways, sports facilities and community spaces in our neighbourhoods. The exhibition explores other ways to encourage more to adopt active lifestyles:

a) Planning for comfort

Enhancing pedestrian comfort is a key aspect of active lifestyles as people are more inclined to walk if the environment is comfortable and pleasant. A study[1] by Future Cities Laboratory Global found that i) green environments evoke more positive emotion than urban spaces; ii) outdoor environments are perceived more positively than indoors; and iii) uncrowded spaces are associated with more calm and self-reported positive emotions.

In another study, National University of Singapore (NUS) employed advanced AI techniques to analyse images of a range of urban areas. They found that i) blue-related colours and higher sky visibility were perceived as less thermally comfortable; and ii) higher proportion of magenta was associated with a more comfortable environment.

These findings suggest factors to be considered when planning and designing our urban landscape to provide a more comfortable environment for pedestrians to encourage more active lifestyles.

b) Designing walkable neighbourhoods

Active lifestyles are essential for health and well-being, particularly as people age. The urban environment affects active living, social connections and quality of life by influencing people's travel patterns. The Elderly Life Activity Space project[2] studied adults aged 50+ and examined

[1] This project is funded by the National Research Foundation under the Land and Liveability National Innovation Challenge (L2 NIC) Research Programme.

[2] This project is supported by the National Research Foundation, Singapore, and Ministry of National Development, Singapore under its Cities of Tomorrow R&D Programme.

factors affecting seniors' mobility and well-being using GPS travel diaries, interviews and workshops. Key findings include: i) walking is the preferred mode of travel to destinations, as it also serves as a social and exercise activity; ii) green spaces are valued as respite from dense urban environments; and iii) safety concerns, poor infrastructure maintenance and lack of amenities are barriers to walking.

Senior-friendly walkable neighbourhood features are embodied within Land Transport Authority's (LTA) Friendly Streets initiative, which seeks to make daily walking journeys to key amenities in neighbourhoods safer, more convenient and comfortable.

c) Gamification

To encourage car-lite and active mobility choices, Nippon Koei partnered with LTA on a proof-of-concept project using data-driven digital technologies for behavioural nudging. A prototype smartphone app was developed to collect movement data, analyse user personas and provide personalised 'nudges' across four themes: cost-conscious, eco-conscious, time-conscious and health-conscious. It sought to demonstrate how Mobility, Lifestyle and Health apps could similarly present customised information to the users to motivate behavioural changes towards more sustainable and healthier travel choices.

2) Creating Vibrant Communities

Vibrant communities play a vital role in addressing social isolation and enhancing social well-being. The provision of accessible public spaces facilitates social bonding and intergenerational connections thereby fostering community cohesion. To truly create vibrant communities, people need to be connected to these spaces. The exhibition looks at strategies to encourage the use of these spaces and their integration into daily life, as follows:

a) Understanding social networks

To foster environments that support ageing in place, an ongoing project[3] by NUS named 'Tentacles' examined the mobility and connectivity patterns of 615 older adults in the Mei Ling Street and Stirling Road area to identify how neighbourhood spaces can be further activated to support independent living and foster social interaction. Researchers found that many older adults followed a 'chain activity' pattern and that incidental social interactions rarely occurred outside organised events or activities. To integrate social spaces into residents' daily routines, they proposed enhancing existing void decks along frequent routes with comfortable seating

[3] This project is supported by the Ministry of Education (MOE) Academic Research Fund (AcRF) Tier 1 FRC Research Grant.

and intergenerational facilities, and designing thematic trails connecting key destinations and activating underutilised public spaces.

In another study named 'Ageing and Social Networks', NUS researchers looked at how older adults connect and interact to form social networks and support systems that can enhance their social well-being. Based on a survey with 1,199 older adults, interviews, GPS tracking and GIS mapping, the study found that family ties, both immediate and extended, dominated the social networks of the older adults. This was followed by friends, co-workers and neighbours. They were also observed to be more willing to travel further to maintain valued relationships and access preferred services and facilities. The study suggests that good walkability and an efficient public transport network can facilitate commuting beyond residential neighbourhoods while the provision of social infrastructure such as active ageing centres and local coffee shops can foster participation in social activities.

b) Co-creating with the community

The Pelatok Art Farm in Changi-Simei demonstrates how green spaces can strengthen community bonds and promote social well-being in urban environments. Launched in 2022, this initiative transformed public spaces into a community hub combining nature, community gardening, and art through a collaboration between residents, grassroots organisations, Changi General Hospital, SUTD and SAA Architects.

The project has successfully fostered community connections, encouraged nature engagement and revitalised urban spaces through activities like group harvests. It serves as a model for community-led urban placemaking initiatives that improve neighbourhood well-being and community cohesion.

c) Connecting residents to community assets

The Living Asset Map[4] (LAM), a collaboration by SingHealth Community Hospitals and Singapore Land Authority, harnessed geospatial mapping technology to strengthen social prescribing[5] initiatives. This healthcare approach connects residents to community-based non-medical support to enhance their health and well-being.

[4] Geographic Information System (GIS) technology for this project was provided by Singapore Land Authority, and funding was provided by the Ministry of Culture, Community and Youth.

[5] Social prescribing is a process where a healthcare professional connects people to resources such as interest groups or support providers within their communities, to improve their social health.

Through controlled crowdsourcing, the project tapped into the knowledge of social prescribing practitioners and residents to create and maintain a dynamic map of community assets. This collaborative mapping approach has contributed to the continual improvements to social prescribing efforts, supporting Singapore's goals of preventive care and community-based health interventions.

3) Fostering thoughtful environments

The design of our environment plays a crucial role in supporting psychological wellness. Well-conceived spaces can reduce stress levels, improve mental clarity, and provide opportunities for mental restoration. This is achieved through several key approaches: incorporating natural elements through biophilic design, carefully managing light and sound, and creating rich sensory experiences that encourage both tranquillity and engagement with the environment. The exhibition showcases innovative approaches to designing environments that can actively contribute to mental well-being.

a) Multisensory environments

Research from the NUS has found that environments engaging multiple senses and encouraging playful interaction significantly benefit older adults living in HDB neighbourhoods. Through neighbourhood surveys and eye-tracking experiments, researchers found that spaces stimulating sight, sound, smell, touch and taste had remarkable effects. These sensory-rich environments were linked to reduced depression symptoms and memory issues, while fostering stronger social connections and neighbourhood bonds.

b) Contemplative landscapes

Contemplative landscapes are purposefully-designed environments that promote mental tranquillity and inner focus by minimising distractions. A collaborative study between NParks and NUS investigated how landscape design could enhance mental well-being. The research revealed that exposure to serene, aesthetically pleasing landscapes significantly improved participants' emotional state, reduced mental disturbance, and enhanced cognitive clarity through measurable increases in relaxation and mindfulness. These findings have been incorporated into a practical design guide for landscape professionals.

c) Designing for mindfulness

Our innate connection to nature makes natural environments particularly effective at relieving psychological stress and improving emotional well-being.

Forest bathing exemplifies this relationship, offering a structured approach to experiencing nature's therapeutic benefits. This practice involves conscious engagement with the natural environment through all senses - inhaling forest scents, listening to natural sounds, and touching natural textures. Combined with mindful breathing, this immersive experience helps anchor people in the present moment, promoting mental wellness.

Research has demonstrated that forest bathing yields multiple benefits such as:

- Reducing levels of stress hormones
- Lowering blood pressure and pulse rate
- Improving mood and overall mental well-being
- Strengthening immune system
- Sharpening mental focus leading to feeling of relaxation

Demonstration project: Bidadari Park

Bidadari Park exemplifies environmental design for wellness. The 13-hectare green sanctuary has been meticulously designed to harmonise heritage with nature. This thoughtful urban oasis supports biodiversity, fosters relaxation and promotes well-being by providing a space for the community to connect with nature.

Key features of Bidadari Park:

Upper and Lower Marshlands

Designed with different depths, the upper and lower marshlands help to nurture a wide array of biodiversity all year round. A marshland boardwalk also offers visitors intimate encounters with nature – spotting dragonflies and taking in the beauty of aquatic flora and fauna.

Heritage Walk

The Heritage Walk, transformed via the pedestrianisation of the former Upper Aljunied Road into Sang Nila Utama Boulevard, preserves the area’s heritage while enhancing functionality to promote residents’ well-being. Flanked by majestic rain trees that not only provide shade but also help create a calming, immersive natural environment, it encourages people to spend more time outdoors.

Alkaff Lake

The expansive 1.8-hectare Alkaff Lake not only serves as a stormwater management system to enhance flood protection for the Bidadari estate and the surrounding areas, but also a focal

point for relaxation and leisure for residents staying in the vicinity. The large viewing deck offers multiple vantage points where visitors can pause for reflection, or simply enjoy the scenery.

4) Integrating healthcare into daily living

NUS collaborated with designers from the Philips APAC Centre on the project “Healthcare 2030” to explore different innovative design projects of envisioned distributed healthcare system in Singapore. The focus was on integrating healthcare into our everyday lives.

In particular, two design projects are featured in this exhibition:

a) FYSIO – Transforming parks into physiotherapy hubs

The concept centres on decentralising health services by bringing physiotherapy to neighbourhood parks. Not only does this help improve accessibility to healthcare and reduce the burden on the healthcare system, but it also encourages physical activity and strengthens community connections through shared wellness spaces.

b) FORGET US NOT

As Singapore’s population ages, dementia rates are expected to rise. This project focuses on creating a supportive built environment for people with dementia. Within the home, colour, contrast, and lighting can be used to enable people with dementia to identify key features (e.g. bathrooms, fixtures and fittings, etc.). By helping people navigate their way around the home, it encourages independent living.