Lingnan University 2024/2025 SDG Report
SDG 11 – SUSTAINABLE CITIES AND COMMUNITIES



66th in the world
(THE Sustainability Impact Ratings 2026)

2nd in Hong Kong
(THE Sustainability Impact Ratings 2026)

711
Research Outputs

164
Undergraduate Courses

Lingnan University advances **SDG 11: Sustainable Cities and Communities** through interdisciplinary education, applied research and community partnerships. Working with government, industry and NGOs, the University addresses urban challenges in housing, ageing, energy efficiency and cultural preservation. Its initiatives connect smart city innovation with age-friendly environments, sustainable arts and heritage conservation to support inclusive, safe, resilient and sustainable communities. Through community-centred solutions and opportunities for students to engage with urban issues, Lingnan contributes to more liveable and equitable cities.

Enhancing Post-Pandemic Community Resilience and Addressing Institutional Resistance in Ageing Public Housing Estates

Led by Prof. HUANG Yaoxuan Virginia, Assistant Professor of Teaching, School of Graduate Studies, this research supports SDG 11: Sustainable Cities and Communities, with a focus on inclusive urban communities, age-friendly neighbourhoods and community resilience.

High-density public housing estates represent the backbone of Hong Kong's social safety net, housing a significant proportion of the city's vulnerable older adults. However, external shocks and top-down public health measures often expose complex socio-ecological frictions in these communities. Grounded in Panarchy theory, research titled "Urban Resilience during COVID-19: Examining Public Housing with Older Adult Street Blocks through Panarchy Theory in Hong Kong" investigates how localised urban systems navigate systemic disruptions and public interventions.

Analysing demographic spatial data and community-level behaviours across ageing public housing blocks, the study reveals that resilience is not merely a passive absorption of external shocks, but an active, dynamic negotiation. Top-down mandates—such as mandatory group testing and enforced physical distancing—frequently generated friction and community resistance among elderly residents, ultimately slowing down systemic resilience. This resistance highlighted a critical mismatch between rigid, standardised public health protocols and the established daily routines, social reliance and informal coping mechanisms of older adult neighbourhoods, underscoring the importance of inclusive and age-sensitive urban responses.

Rather than viewing resistance as a mere bottleneck, the research demonstrates that it signals a vital need to shift away from one-size-fits-all enforcement towards customised, place-based care systems. Fostering true urban resilience requires building hyper-local support networks directly within public housing street blocks that respect the socio-spatial habits of older residents while delivering targeted welfare interventions. This approach aligns with SDG 11's emphasis on inclusive, safe, resilient and sustainable communities, particularly by responding to the needs of vulnerable older adults.

Spatial Optimization and Evaluation of Community Living Rooms

Optimizing Shared Care Infrastructure to Alleviate Inadequate Housing and Subdivided Unit Precarity

Led by Prof. HUANG Yaoxuan Virginia, Assistant Professor of Teaching, School of Graduate Studies, this research supports SDG 11: Sustainable Cities and Communities and SDG 10: Reduced Inequalities through equitable access to communal facilities, inclusive urban planning and shared care infrastructure.

Subdivided units (SDUs) represent one of Hong Kong's most severe manifestations of housing precarity, leaving low-income families trapped in cramped, poorly ventilated and socially isolated spaces. To alleviate these spatial limitations, decentralized communal facilities, such as government-backed "Community Living Rooms," have emerged as a crucial social intervention. Research titled "Beyond Four Walls: Community Living Rooms and Neighbourhood Filtering in Hong Kong's Subdivided Housing Communities" provides a data-driven evaluation of how these shared spaces mitigate severe indoor deprivation and support social inclusion.

The study first establishes the empirical effectiveness of community living rooms, demonstrating that grassroots residents genuinely value these facilities, a strong endorsement reflected in measurable housing market price premiums for units with convenient access. Building upon this validated demand, the research then deploys spatial analytics and socio-spatial optimization models to determine the most cost-effective and equitable spatial allocation for future facilities. This provides a blueprint

for delivering the minimum necessary intervention required to achieve maximum accessibility, social support and service coverage across high-density SDU clusters.

By demonstrating how communal facilities serve as vital "care infrastructure," this research offers policymakers and non-governmental organizations an evidence-based toolkit to maximize the impact of public welfare investments. Lingnan University supports SDG 11 and SDG 10 by delivering data-backed spatial solutions that transform informal housing challenges into actionable, community-oriented urban welfare strategies, advancing inclusive neighbourhoods, equitable resource allocation and support for underserved communities.

Exploring the Spatiotemporal Patterns and Economic Impacts of Road Traffic Accidents in Hong Kong

Led by Prof Paulina Wong, Head of Division of Science, this research supports SDG 11: Sustainable Cities and Communities, with a focus on road safety, smart mobility and evidence-based urban planning.

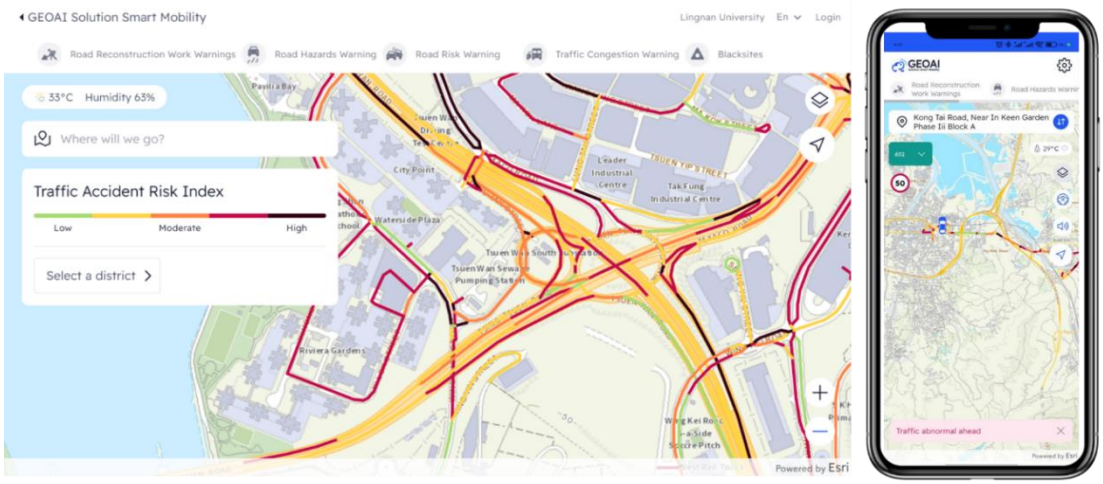
This research extends the Smart Traffic Fund project, which develops an AIoT- and GeoAI-based transport system to improve traffic efficiency and road safety in Hong Kong. Hong Kong is one of the world's most densely populated cities. Limited road space and a growing number of vehicles have worsened congestion and made road safety an urgent concern, highlighting the need for safe, efficient and sustainable urban transport.

The study analyzes historical accident data spanning up to 15 years to examine where and when different types of traffic accidents occur and to estimate their economic impacts. These impacts include medical costs, productivity loss, property damage and traffic delay. The analysis identifies high-risk areas, down to individual road segments, and high-risk time periods. It also shows which accident types impose the greatest economic burden, providing evidence for targeted road safety interventions and effective resource allocation.

Contribution to SDG 11:

- Target 11.2 — Safe and sustainable transport: The findings show where and when accidents cluster. Authorities can use them to prioritize interventions such as road design improvements, enforcement and traffic management, helping to reduce injuries, protect lives and strengthen urban transport safety.
- Target 11.3 — Inclusive and sustainable urbanization: Segment-level evidence on accident patterns and costs supports integrated, evidence-based transport and urban planning, contributing to safer and more sustainable urban environments.
- Targets 11.a and 11.b — Planning and policy: Quantifying the economic costs of accidents gives policymakers a clearer basis for investment in road safety

and integrated transport policies. It also supports Hong Kong's Smart City development and the "Smart Mobility Roadmap for Hong Kong".



From Research to Reality: Enhancing the Impact of the Mosquito Risk Index and GeoAI Platform

Led by Prof Paulina Wong, Head of Division of Science, this project supports SDG 11: Sustainable Cities and Communities, with a focus on predictive early warning, environmental health and community resilience.

This project builds on earlier ITF-funded research and translates the forecasted Mosquito Risk Index from an academic study into practice. The index is developed using Geospatial Artificial Intelligence (GeoAI) and provides forecasts of up to three days in advance. This lead time allows stakeholders to plan and implement preventive measures before risk escalates, supporting proactive, risk-informed vector management. The forecasts are disseminated to the public through a map-based dashboard. In a high-density, subtropical city such as Hong Kong, mosquito-borne diseases, including dengue fever and Japanese encephalitis, pose a continuing public health risk. Communities with older or more vulnerable living environments are particularly exposed.

Contribution to SDG 11:

- Target 11.1 — Adequate and safe housing: Risk-informed vector management improves environmental health conditions in public and transitional housing, supporting safe and healthy housing environments.
- Target 11.3 — Inclusive and participatory urbanization: Collaboration with NGOs, residents and industry practitioners promotes participatory community action and shared responsibility for local environmental health.
- Target 11.5 — Resilience to hazards: The three-day predictive early warning strengthens community capacity to prevent and respond to vector-borne disease risks, particularly in vulnerable communities.

- Target 11.6 — Environmental impact of cities: Targeted, forecast-driven intervention reduces reliance on blanket pesticide application, supporting environmentally responsible vector control.
- Target 11.b — Integrated policies and resilience: The platform supports risk-informed decision-making and integrated urban resilience planning, aligning with Hong Kong's Smart City development.

International Conference – Arts for Wellbeing: Creativity, Adaptability, Sustainability

The Wong Bing Lai Music and Performing Arts Unit successfully hosted its inaugural international conference, *Arts for Wellbeing: Creativity, Adaptability, Sustainability*, on 6 February 2026 at Lingnan@WestKowloon, M+, Hong Kong. Supported by the Tin Ka Ping Foundation, the conference brought together leading scholars, experts, and practitioners for in-depth interdisciplinary discussions on the theoretical, pedagogical, and practical dimensions of holistic wellbeing. The conference explored how creative practices, alongside medical and psychological support, can address urban stress and foster mental health and well-being, community engagement and social cohesion through community music and performing arts.

The conference attracted approximately 120 scholars, artists, educators, and cultural practitioners from Hong Kong, the Greater Bay Area, and overseas, fostering arts education, interdisciplinary learning, international collaboration and knowledge exchange. Participating institutions included Free University of Berlin, Rhode Island School of Design, West Chester University of Pennsylvania, The Chinese University of Hong Kong, Hong Kong Metropolitan University, and Beijing Normal University-Hong Kong Baptist University (BNBU).

The conference contributed to SDG 3 through its focus on holistic well-being and mental health; SDG 4 through arts education and professional knowledge exchange; SDG 11 through discussions on the role of creative practices in fostering socially connected, inclusive urban communities; and SDG 17 through cross-institutional and international partnerships connecting academia, the arts and community practice.





Alumni Cultural Tour to Tai Hang: Connecting Alumni and Promoting Cultural Heritage Awareness

The "Alumni Cultural Tour – Tai Hang Fire Dragon Dance" brought around 30 alumni, together with their family and friends, to Tai Hang to discover the century-old Tai Hang Fire Dragon Dance—a traditional custom listed as a National Intangible Cultural Heritage. The event aimed to connect Lingnan University alumni through cultural-

themed activities and raise awareness of the importance of protecting and safeguarding local historic buildings, community heritage and cultural traditions, in alignment with SDG 11: Sustainable Cities and Communities, particularly Target 11.4 on safeguarding cultural and natural heritage.

Participants first visited the Tai Hang Fire Dragon Heritage Centre to learn about the century-long history of this Grade III historic building, from its construction and wartime destruction to reconstruction and revitalisation. They also explored the origins and cultural significance of the Tai Hang Fire Dragon Dance. Under an instructor's guidance, participants gained hands-on experience of related traditional craftsmanship, deepening their appreciation of intangible cultural heritage and the transmission of traditional skills.

A guided neighbourhood walking tour introduced participants to Tai Hang's historical development and key landmarks. These included the Tai Hang Residents' Welfare Association, organiser of the Fire Dragon Dance; Wun Sha Street, the site of Tai Hang's original nullah; Fire Dragon Path; the declared monument Lin Fa Kung Temple; and Ormsby Street, the starting point of the Fire Dragon Dance. The tour highlighted the connections between historic buildings, living traditions and local community identity.

Through heritage education, hands-on cultural experiences and neighbourhood exploration, the event deepened alumni's understanding of local heritage and the importance of its preservation. It also strengthened community–university connections and social bonds within the Lingnan alumni community, supporting SDG 11 through greater awareness and appreciation of Hong Kong's tangible and intangible cultural heritage.




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