10. Conclusion

As cities continue to rapidly urbanise and densify, street trees have become a focal point in our community's aspirations to maximise ecological benefits and our connection with nature. Having one of the most compact and dense urban environments in the world[64], Hong Kong is particularly challenged to maximise street tree planting in the face of progressive development, unpredictable climate, and ageing street tree assets. Indeed, the effects of climate change in Hong Kong can already be seen by the increased frequency of extreme hot days and rainfall[65], and some of our ageing trees planted decades ago may not be able to adapt to these changes. Increasing temperatures due to urban heat and climate change are proven a threat to some tree species in other economies[66]. Hong Kong needs to be prepared to ensure our urban forest is resilient, adaptable and sustainable to meet these changes.

This Guide proposes that roadside trees should be selected and planted under the principle of, "Right Tree, Right Place" to create an urban forest that can tackle the challenges brought about by future changes. To further future-proof this valuable asset, the 10-20-30 rule of plant diversity should be considered for wide application in new planting and replacement planting as far as practicable.

By increasing tree species diversity supported by CVCM, the on-ground outcomes of the Guide can contribute toward the reduction of risks associated with inadequate upstream life-cycle planning and design of street tree assets. Adoption of species diversity in urban city planting has been practised by international cities, with emerging landscape design re-imagining the traditional streetscape environment. The preparation and development of district-wide urban forest precincts or master plans are also recommended to better articulate landscape design themes, and more importantly to provide territory-wide cohesion of overall landscape strategy. The potential for design innovation is significant, as complexity demands creative solutions. This Guide offers designers in Hong Kong the unique opportunity to be at the forefront of streetscape design for compact and linear landscapes.

Professional advice from Landscape Architects, qualified Arborists, horticulturalists, and other relevant disciplines should be sought for further investigation on the suitability of species relative to the street type and design, in particular replacement planting of ageing tree assets. Proper hard and soft streetscape design with professional input from Landscape Architects is recommended across all work stages. This include, but not limited to, the allocation of sufficient planting space at the initial planning stage, proper designing of CVCM and supporting hard landscape elements such as tree pit details, structural soils or cells, drainage and irrigation requirements, specification of suitable planting media etc. at design stage, and selection of quality nursery stocks, and supervision of planting works to ensure proper workmanship etc. at implementation stage.

To consolidate a robust life-cycle inventory, the development of a holistic urban forest database with tree planting date, health condition, form, size and urban ULE, etc is strongly recommended to ensure continual assessment and review of tree species performance within different street types. Further studies into the

[64] Wendell Cox Consultancy (Apr. 2018). *Demographia World Urban Areas 14th Annual Edition: 201804*. Retrieved from www.demographia.com/db-worldua.pdf.

[65] Hong Kong Observatory. (n.d.). *Climate Change in Hong Kong. What Is UV Radiation*. Retrieved 18 Jan. 2018 from www.hko.gov.hk/climate_change/obs_hk_temp_e.htm.

[66] Kendal, Dave, et al. (Nov. 2017) *Risks to Australia's Urban Forest from Climate Change and Urban Heat.* Clear Air and Urban Landscapes Hub, National Environmental Science Programme, The University of Melbourne. Retrieved from www.nespurban.edu.au/publications-resources/research-reports/CAULRR07_RisksAustralianUrbanForest_Oct2017.pdf.

propagation, procurement, growth characteristics and performance of tree and CVCM species, especially native species are also recommended. With more experience gained in application and trial planting of the tree species in the shortlist, it will inform and enrich the updating of the species list in the Guide to maintain continual improvement of Hong Kong's urban forest stock. Supporting studies to modernise planting conditions include tree pit details, specification options of urban soils, drainage and planting practices will be required to minimise downstream tree management and maintenance risks. Tree planting along carriageways and pavements in the urban areas form an effective landscaped connector. However, other suitable locations for urban forestry planting not included in this Guide, such as man-made slopes, public parks, green spaces within government properties, etc., are equally as important. Apart from roadside planting, to explore planting opportunities at project planning stage to connect to the surrounding areas into a "Green and Blue System" network with eco-corridors as envisioned under the Hong Kong 2030+ is encouraged to multiply the landscape benefits.

We engage with the street every day, and given our streetscape can make up as much as 75% of our outdoor environment, its resilience, comfort, and safety greatly impact our perception of a quality city where the community can stay and enjoy. The importance and benefits of a healthy and resilient urban forest is an investment that should be more widely recognised. With the broader application of this Guide, it is hope that this investment in our urban forest will safeguard these valuable tree assets for passing on to our future generations.