SINGAPORE

The North-South Corridor:

Reimagining Journeys of Tomorrow

For decades, urban road infrastructure was built around a single goal: moving more cars efficiently. Singapore's North-South Corridor challenges that logic. Running 21.5 kilometres along the length of the island, the corridor combines an expressway with dedicated bus lanes, cycling and walking paths, and public spaces—shaped through integrated planning, placemaking and collaboration with the communities who will use them.





Ong Eu-Gene has spent 30 years with the Land Transport Authority of Singapore across transport modelling, strategic planning and policy, development control, active mode planning and infrastructure development. He oversees car-lite policies and the central area transport planning team responsible for developing an urban mobility network that is future-proofed for Singapore.



Preliminary concept along Marymount Road: lush planting with meandering paths to create a unique commuting experience.
Image: Land Transport Authority (LTA) and Henning Larsen



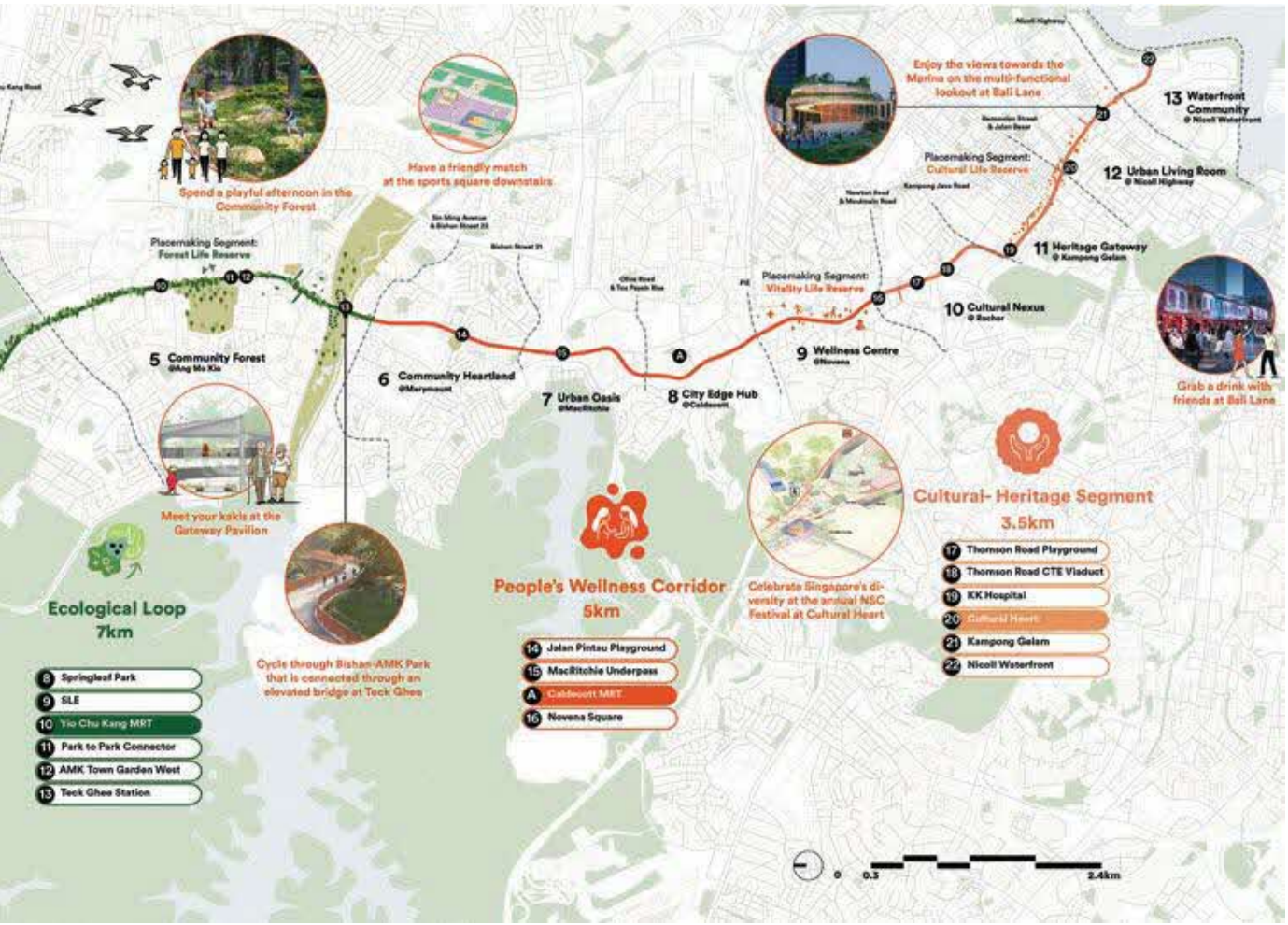


Overview of the proposed preliminary concepts from Henning Larsen Design Team.
Image: Land Transport Authority (LTA) and Henning Larsen

Walking, cycling and using public transport are no longer viewed as complementary modes, but as the foundation underpinning a sustainable urban mobility system.

As cities grapple with climate change, rapid urbanisation and growing expectations for healthier, more liveable environments, the development of transport infrastructure is undergoing a profound transformation. For decades, road infrastructure development has largely centred on expanding capacity to accommodate greater numbers of cars. While this approach improved level of service for drivers, it competes with other needs—such as commuters' experience on public buses and trains, pedestrians' experience in crossing larger road intersections, and cyclists' experience of using roads.

Leading cities are shifting towards a different paradigm—one that prioritises moving people rather than vehicles, integrates transport with



land use, and places sustainability and quality of life at the heart of infrastructure investment. Walking, cycling and using public transport are no longer viewed as complementary modes, but as the foundation underpinning a sustainable urban mobility system.

Singapore's North-South Corridor (NSC) exemplifies this transformation and represents a new approach, as successful sustainable mobility is not achieved through infrastructure alone. The NSC demonstrates the impact of integrated transport–land use planning, long-term investment, and active participation from the communities who will ultimately use and shape the streets.

From Road Infrastructure to Mobility Infrastructure

Stretching 21.5 km from Woodlands in northern Singapore to the city centre, the NSC was initially conceived as an expressway to meet travel demand from growing towns in the north into the city. As Singapore continued to shift towards more sustainable modes of transport, the project evolved into something considerably more ambitious.

Instead of building another expressway, Singapore adopted a multimodal approach to developing the NSC—one that integrated an expressway (viaduct and tunnel), dedicated bus priority lanes on selected stretches, continuous cycling paths and enhanced pedestrian connectivity.

By integrating high-capacity public transport with active mobility infrastructure, the NSC supports Singapore's long-term vision of making travel more attractive, convenient, comfortable and accessible using "Walk-Cycle-Ride" (WCR) modes. Cyclists benefit from wider, more seamless cycling paths providing uninterrupted connections along the corridor. New pedestrian crossings make it safer and easier for residents to reach amenities and access public transport nodes. Bus commuters, meanwhile, enjoy more pleasant journeys as dedicated bus lanes enable more reliable and efficient bus travel.

This philosophy aligns with an emerging international consensus that future transport infrastructure should maximise accessibility rather than vehicle throughput. Streets are increasingly recognised as not merely transport corridors but also public spaces that support economic activity, community interaction and urban well-being.

Inter-Agency Efforts as the Enabler of Transformation

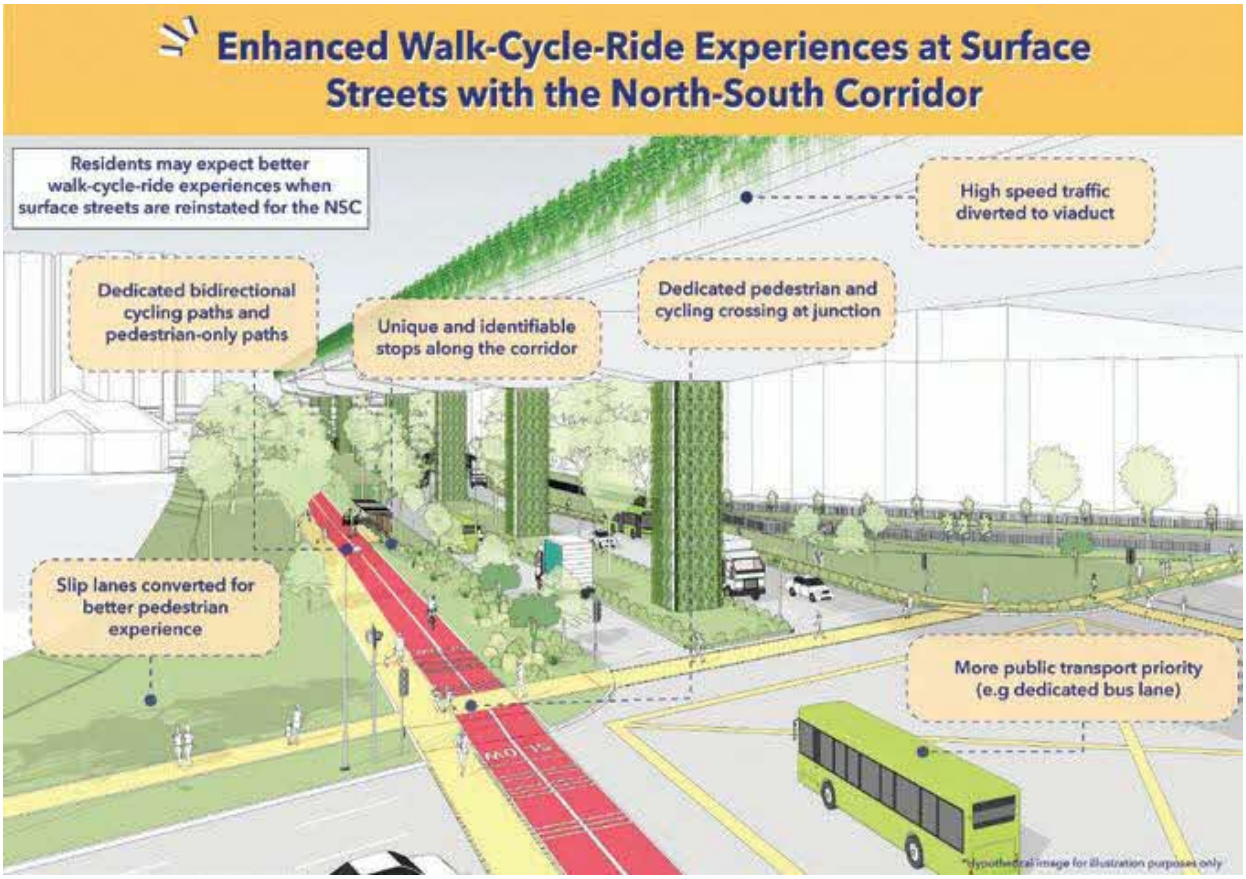
Transforming mobility at scale requires more than engineering excellence. It demands agency stakeholders capable of aligning transport, land use, environmental sustainability and community aspirations over extended planning horizons.

Singapore's integrated institutional framework has been instrumental in enabling this transition. Close coordination between the Land Transport Authority (LTA), the Urban Redevelopment Authority (URA), the National Parks Board (NParks) and other public agencies ensures that the NSC supports wider national objectives for sustainable development, urban liveability and climate resilience.

Rather than treating transport planning as an isolated technical exercise, the corridor has been developed alongside broader land use strategies—such as housing developments and park connector networks—and future growth plans. This integrated approach enables infrastructure investments to generate multiple benefits across transport, environmental and social outcomes.



NSC ambassadors participating in the induction training.
Image: Land Transport Authority (LTA)



Preliminary concept illustrating WCR experiences along the NSC's surface streets.
Image: Land Transport Authority (LTA) and Henning Larsen

Streets as Places for People, Not Simply Corridors

Perhaps the most significant transformation represented by the NSC is the recognition that streets are more than transport infrastructure. They are also public spaces that influence how people interact, travel, exercise, gather and experience the city.

As traffic is diverted into the expressway, the surface streets present a unique opportunity to be reimagined as greener, more people-friendly environments. This transformation reflects the principles of placemaking—where streets are designed not only for movement but also as places for social interaction, recreation, biodiversity and community identity.

Wide, shaded footpaths, dedicated cycling routes, generous landscaping, improved accessibility and enhanced connections to parks, neighbourhood destinations and community spaces all contribute to creating streets that people actively choose to use, rather than simply pass through.

The NSC demonstrates how transport investment can simultaneously deliver mobility, environmental and placemaking outcomes.



NSC focus group discussions.
Image: Land Transport Authority (LTA)



NSC cycling tour.
Image: Land Transport Authority (LTA)

> **Streets designed with communities are more likely to encourage walking, cycling and social interaction because they respond to how people live, rather than solely to technical performance indicators.**

Co-Creating the Surface Streets Master Plan

A defining feature of the NSC has been the emphasis on engaging communities in shaping the future of the surface streets. Recognising that successful public spaces must reflect the needs and aspirations of those who use them, LTA adopted a collaborative approach to developing the Surface Streets Master Plan.

LTA invited residents, businesses, schools, cyclists, accessibility groups and community organisations to participate in envisioning and co-designing the future character of the corridor. Through public exhibitions, design workshops, focus group discussions, stakeholder dialogues and digital engagement platforms, participants contributed ideas on how the transformed streets could better support daily life.

For wider engagement, LTA recruited 44 NSC Ambassadors. Comprising mostly residents living along the corridor, they worked closely alongside LTA to seek ideas and feedback from the public. Their on-the-ground efforts brought in a broad range of perspectives to shape the Surface Streets Master Plan, ensuring it reflects the lived experiences and aspirations of the communities it serves.

The conversations consistently extended beyond conventional functions of a road. Participants expressed aspirations for safer pedestrian crossings, continuous cycling connections, more greenery, improved universal accessibility, spaces for community interaction, better integration with neighbourhood amenities and opportunities to strengthen local identity.

These insights enriched the planning process by complementing technical analyses with lived experience. Community members offered perspectives on daily travel patterns, local destinations, safety concerns and neighbourhood character that are often difficult to capture through conventional traffic modelling assessments alone.

Importantly, this engagement was not simply about consultation; it reflects the importance of co-creation. Streets designed with communities are more likely to encourage walking, cycling and social interaction because they respond to how people live, rather than solely to technical performance indicators. Communities became active partners in shaping the public spaces along the NSC that they would eventually use, manage and care for.

The NSC therefore illustrates that sustainable mobility is as much a social endeavour as an engineering challenge.

The success of integrated transport corridors should instead be assessed through broader outcomes, including increases in public transport ridership, walking and cycling mode share, reduced carbon emissions, improved accessibility, enhanced road safety, public health benefits, and stronger community well-being.

Encouraging Behavioural Change

Infrastructure alone cannot transform mobility. Ultimately, sustainable transport depends upon people choosing different ways of travelling.

The NSC has been designed to make those choices easier. More priority for public buses, together with safer, more comfortable cycling and pedestrian infrastructure, collectively reduces many of the barriers that discourage active mobility.

These investments complement Singapore's broader transport demand management policies, including vehicle ownership controls, electronic road pricing and continued expansion of the rail network. Together, they create an ecosystem where public transport and active mobility become the mode of choice.

Behavioural science increasingly suggests that travel habits change when attractive alternatives become available. People rarely choose to walk or cycle solely because of environmental awareness—they do so when routes are safe, convenient, comfortable and enjoyable. Likewise, public transport becomes more attractive when it is reliable, integrated and time-competitive.

By combining infrastructure, policy and urban design, the NSC addresses both the practical and psychological dimensions of behavioural change.

Measuring Success of Roads Beyond Traffic Performance

Traditional road projects have often been evaluated using indicators such as vehicle speeds, road capacity and congestion levels. While these measures remain relevant, they are no longer sufficient under the refreshed Land Transport Master Plan 2040.

The success of integrated transport corridors should instead be assessed through broader outcomes, including increases in public transport ridership, walking and cycling mode share, reduced carbon emissions, improved accessibility, enhanced road safety, public health benefits, and stronger community well-being.

Equally important are less tangible outcomes, such as public trust, civic ownership and the quality of public spaces created through collaborative planning.

For the NSC, success will ultimately be measured not only by how efficiently vehicles move, but also by how effectively transformed surface streets support healthier lifestyles, stronger communities and more sustainable travel choices.



NSC walking tour.
Image: Land Transport Authority (LTA)

A Model for Future Cities

The NSC demonstrates that sustainable mobility is no longer solely about transport infrastructure. It is about creating integrated urban systems where engineering, planning, placemaking, landscaping, governance and communities work together to improve everyday life.

Its greatest contribution may therefore lie beyond the infrastructure itself. The project illustrates how inter-agency collaborations, long-term planning and community co-creation can produce transport solutions that are not only more sustainable, but also more inclusive, resilient and responsive to local aspirations.

For cities seeking to accelerate the transition towards low-carbon mobility, several lessons emerge. Mobility infrastructure should prioritise people rather than vehicles. Investment decisions should recognise the wider economic, environmental and social returns generated by active and public transport. Streets should be designed as places that support community life as well as movement. Most importantly, governments should view citizens not simply as users of infrastructure, but as partners shaping it.

The future of sustainable mobility will not be determined solely by the infrastructure we build, but also the relationships we cultivate between public institutions, professionals and communities. When governments provide vision and leadership, practitioners contribute technical expertise, and citizens bring local knowledge and lived experience, streets become more than transport corridors. They become shared civic spaces that strengthen social cohesion, support healthier lifestyles and contribute to more resilient, inclusive and climate-responsive cities.

The NSC offers a compelling example of this new model of city-making. It shows that the transition from car-oriented infrastructure to people-centred mobility is not simply a technical endeavour, but a collective one. Placemaking, collaborative governance and co-creation are as essential to its success as engineering excellence.

In an era when cities around the world are searching for practical pathways towards net-zero and liveable urban futures, this integrated approach provides a valuable blueprint for accelerating sustainable mobility at scale.