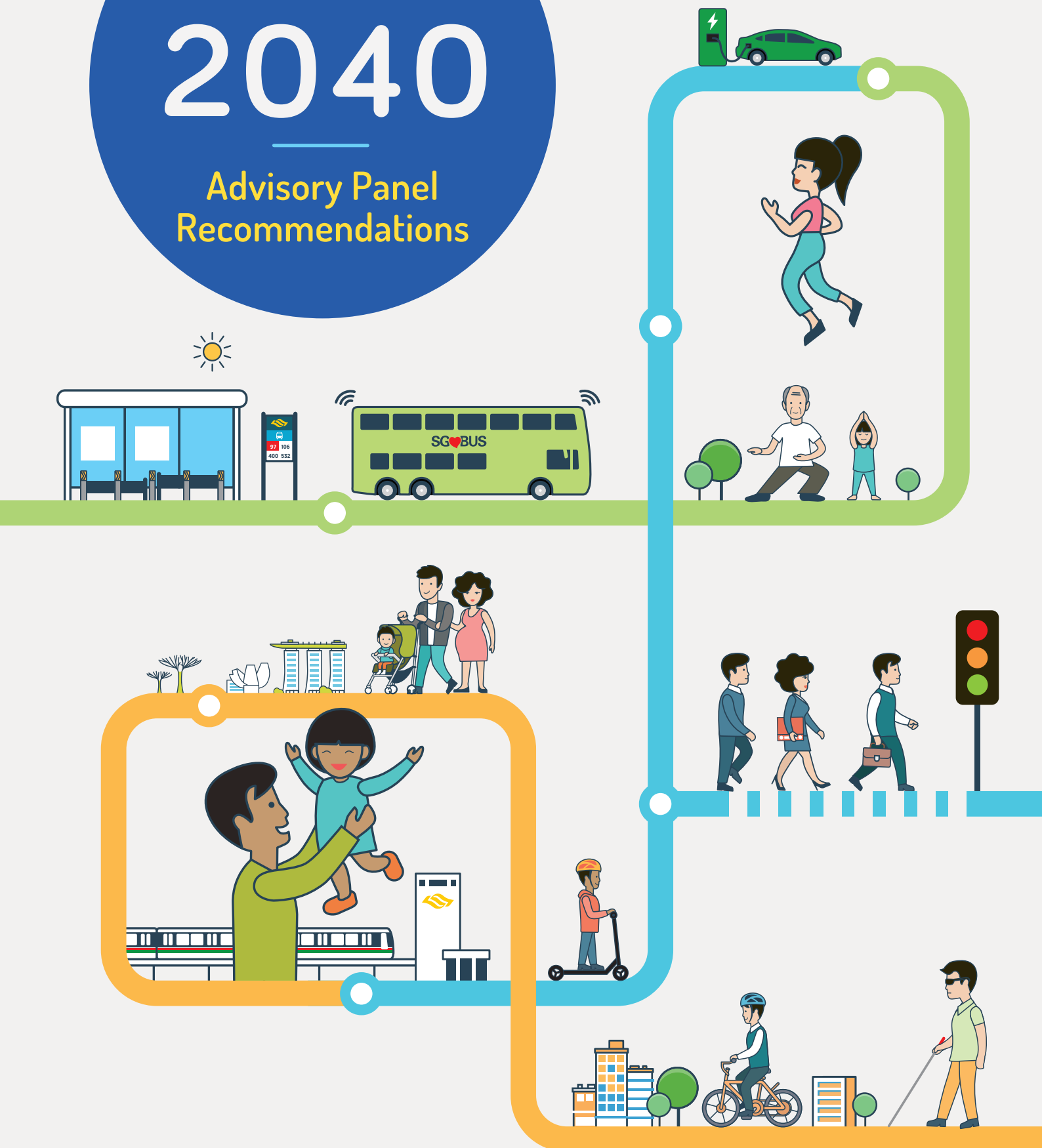


Land Transport Master Plan 2040

Advisory Panel Recommendations



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Foreword by Chairman

Last September, the Ministry of Transport appointed the Land Transport Master Plan (LTMP) Advisory Panel to consider the public's views and recommend a vision, targets and strategies for the next LTMP.

Since then, more than 7,400 people have responded to the Land Transport Authority's (LTA) public engagement process on the future of land transport. We have received feedback from commuters, transport workers, unions and associations, transport industry representatives, academics, businesses and interest groups. A summary of their responses has been published by LTA on 30 January 2019. We are grateful for the strong and diverse interest shown.

Singaporeans told us that they want a convenient, connected, and fast land transport system, with options to meet their diverse needs. Journeys should be safe and contribute to better health and well-being. Singaporeans want the Government to continue making investments to improve land transport. Singaporeans also recognise the important role they play in contributing to a more inclusive, safe, and enjoyable transport experience for all. Their views, together with our own thoughts and experiences interacting with the community, have formed the basis of this report.

It has been a great honour to share this journey with my fellow Panel members. Each member has contributed their passion and wealth of experience to the process. Over the past few months, we have considered public feedback, engaged in lively debates, studied overseas best practices, and given voice to the communities we represent. The vision, targets, and strategies we recommend are the product of our collective wisdom and efforts.

On behalf of the Panel, I would like to thank fellow Singaporeans for participating actively in the public engagement process and providing constructive feedback on how we can, together, create a better land transport system for all. Our appreciation also goes out to the LTA team who supported the public engagement process and our activities.

In submitting our report to the Government, the Panel recognises that some recommendations may take longer to implement than others. Therefore, the conversation with Singaporeans will continue, even as we work towards our vision for healthy and safe 20-minute towns and a 45-minute city for all by 2040.



Dr Janil Puthucheary

Senior Minister of State for Transport
and Communications & Information



Executive Summary

Our vision is for healthy and safe **20-minute towns and a 45-minute city for all by 2040**. This will support Singaporeans' aspirations for a land transport system that is convenient, well-connected and fast, with a gracious and inclusive commuting culture at its core. It will also contribute to better health and safer journeys for all.

To achieve our vision, we have made recommendations in **three key areas**:

First, enabling Singaporeans to enjoy 20-minute towns and a 45-minute city on public, active and shared modes of transport.¹ Land transport improvements should enable all journeys to the nearest neighbourhood centre to be completed in less than 20 minutes; and 9 in 10 of all peak-period journeys to be completed in less than 45 minutes. This will help the average peak-period commuter to save about 15 minutes every weekday. We can realise these ambitious targets by prioritising a seamlessly integrated public, active and shared transport network. In addition, the development of new regional centres will provide Singaporeans with faster and more direct access to *live, work and play* destinations closer to their homes. These improvements will make public, active and shared transport so convenient that there will be little need for commuters to own private cars. Instead, public, active and shared transport will become commuters' preferred way to travel, accounting for 9 in 10 of all peak-period journeys.

Second, providing transport for all. The land transport system should be made more inclusive to accommodate the needs of all Singaporeans, especially our seniors, Persons with Disabilities (PWDs), and families with young children. This must be a collective effort among commuters, transport operators, and the Government – and many responses to the public engagement process acknowledged this. While infrastructural improvements can help make more journeys barrier-free, we must each play our part in fostering a gracious and caring commuting culture that makes journeys more pleasant and enjoyable for everyone.

Third, promoting healthy lives and safer journeys, our land transport system can do its part to create a more liveable Singapore, where Singaporeans enjoy a better quality of life. This can be done by promoting healthy streets, vibrant communities, safer journeys, and a clean environment for all to enjoy. This will require us to dedicate more space for walking, cycling and public transport options that encourage communities to interact and stay active. To reduce land transport-related fatalities, we must also work towards a "Vision Zero" environment. The Government and shared transport industry should also commit to using cleaner and quieter vehicle fleets, starting with public buses, which will contribute to improvements in environmental sustainability and public health.

We know that Singaporeans have high expectations for our recommendations and look forward to seeing changes soon. In developing these recommendations, we wanted to set an ambitious vision which is in line with Singaporeans' aspirations while taking into account Singapore's resource constraints. However, this vision will not be achieved overnight. The launch of LTMP 2040 is only the start of a much longer journey towards our vision for **healthy and safe 20-minute towns and a 45-minute city for all by 2040**. Everyone will have a part to play in this journey. It is both a shared responsibility and a shared experience. Transporting Singapore into the future begins with us, sharing this journey together.

¹ This includes public transport such as trains and buses; active mobility such as walking, cycling and the use of Personal Mobility Devices; as well as shared transport such as taxis, Private Hire Cars and car-sharing.



Recommendations of the Land Transport Master Plan Advisory Panel

Our 2040 vision is for a land transport system that is convenient, well-connected and fast, characterised by a commuter experience that is both gracious and inclusive, and which contributes to better health and safer journeys for all. In other words, we want **healthy and safe 20-minute towns and a 45-minute city for all by 2040**.

Through our public engagement, we observed strong support for making public, active and shared modes of transport so convenient that they naturally become everyone's preferred way to travel. This is the right approach for land-scarce Singapore, and forms the foundation for the subsequent recommendations to achieve our vision.

We have also witnessed the disruptive impact that technology can have on land transport. Technologies such as ride-hailing apps, Mobility-as-a-Service (MaaS), Autonomous Vehicles (AVs), Personal Mobility Devices (PMDs) as well as dockless bicycle sharing have the potential to transform our land transport system. These are opportunities, but also present potential challenges that need to be managed carefully.

Furthermore, we recognise that Singapore faces broader challenges beyond land transport – such as an ageing population, fiscal constraints and other competing national priorities. We must continue to bear these in mind, even as we work towards what is best for commuters.

In the last two LTMPs, the Government made major steps to improve public transport and active mobility. These include restructuring the bus and rail industries to make them more responsive to commuters' needs, aggressive expansion of the MRT network and public bus fleet, as well as legislative amendments to better support active mobility. The next LTMP is a unique opportunity to build on these and make our land transport system even better.

Bearing in mind the above, the Panel presents its recommendations in three key areas as follows:

**20-Minute
Towns and a
45-Minute City**

**Transport
for All**

**Healthy Lives,
Safer Journeys**



Recommendations for Key Area 1:

20-Minute Towns and a 45-Minute City

Public, active and shared modes of transport must remain the cornerstone of our land transport system. It is the only means to ensure that everyone, from all walks of life, has convenient access to good jobs, education and amenities in Singapore. With limited space for more roads, a land transport system centred around private cars is not sustainable and will not meet the aspirations of Singaporeans. Widespread adoption of public, active and shared modes of transport can help to expand the common space, connect communities, and create more shared experiences. Through our public engagement, we know that many Singaporeans understand and want this.

To move towards this goal, we recommend that the Government deliver on the following targets by 2040:

Target 1

20-Minute Towns

All journeys to the nearest neighbourhood centre using public, active and shared modes of transport are completed in less than 20 minutes.

Target 2

45-Minute City

9 in 10 peak-period journeys using public, active and shared modes of transport are completed in less than 45 minutes. This will help the average peak-period commuter to save about 15 minutes every weekday.

Target 3

Public, active and shared modes of transport

are the preferred ways to travel, accounting for 9 in 10 of all peak-period journeys.



In coming up with our targets for “20-Minute Towns” and a “45-Minute City”, we acknowledge that some Singaporeans desire even shorter journey times, especially if their journeys are already less than 20 minutes or 45 minutes today. Our targets aim to strike a balance between commuters’ hope for shorter journey times, and what is practical to achieve at a national-level given Singapore’s land, infrastructure and fiscal constraints. The 20-minute and 45-minute targets represent an aspirational **upper limit on maximum journey times**.

By 2040, we hope that the vast majority of commuters can enjoy shorter journey times compared to today. **In fact, we expect that the improvements can help save the average peak-period commuter about 15 minutes in commuting time each weekday.**



We propose three key strategies to achieve these targets:

Strategy 1:

Prioritise Public, Active and Shared Modes of Transport

We recognise that public, active and shared modes of transport need to be sufficiently convenient and fast to encourage Singaporeans to shift away from using private transport, especially during peak periods. We should therefore prioritise these modes of transport, with an emphasis on public transport as the most efficient mode.

We must continue to invest in public transport to make it a choice part of every journey. As the backbone of our public transport system, the rail network should continue to grow to provide commuters with fast and direct connectivity. We should also improve bus speeds, including exploring how in-vehicle, transfer and dwell times can be reduced. For example, more bus prioritisation measures can be implemented for faster and smoother rides, such as Transit Priority Corridors and Bus Priority Junctions, where buses are given the right of way.

Prioritising public transport also requires us to continually improve the training and development of public transport workers who keep the system running each day. Many public transport workers are understandably worried about how their jobs will fit into an increasingly skills- and technology-intensive land transport industry. Close tripartite cooperation between the Government, transport operators and unions will help transport workers look to the future with confidence. Through deliberate plans for skills upgrading, reskilling, talent management and employee engagement, we can help public transport workers keep pace with developments and serve commuters even better.

Even as we invest in public transport, more must also be done to better bridge the first-and-last mile through active mobility. We should continue to invest in pedestrian and cycling infrastructure that connects commuters with public transport options. We can make use of space freed up from roads to accommodate more Transit Priority Corridors, as well as wider and more paths for active mobility.



CASE STUDY

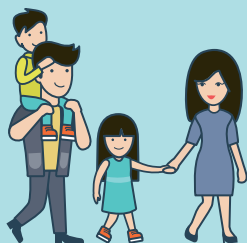
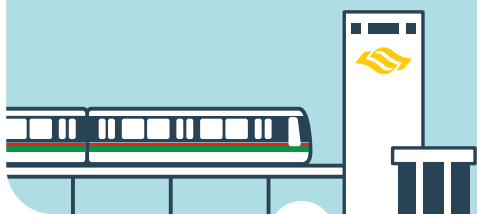
Bencoolen Street – Transit Priority Corridor

The completion of Bencoolen Downtown Line station has helped to make transport even more convenient for commuters, such as students from the nearby Singapore Management University.

The station has also created an opportunity to redesign Bencoolen Street. Instead of reinstating the former road after construction of the Downtown Line had completed, Bencoolen Street was repurposed by reclaiming lanes to prioritise public transport and active mobility such as walking and cycling:



- 1. More spaces which prioritise public transport** – A fully dedicated bus lane was implemented for faster and smoother journeys.
- 2. More spaces for pedestrians and the community** – Pedestrian-friendly elements such as communal benches and crossings were installed for a safer and more pleasant walking environment.
- 3. More spaces for cyclists** – Dedicated cycling path and 125 bicycle parking lots were built.



Strategy 2: Facilitate More Seamless Multi-Modal Travel

To make the most of public, active and shared modes of transport, we should also provide commuters with a seamless travel experience when their journeys involve different forms of transport. This can be done by reducing the number of transfers, or by better integrating multi-modal journeys to make them easier and faster. This will provide commuters with a wider range of efficient transport options.

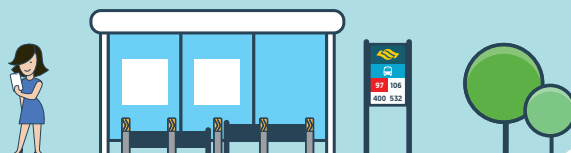
Adoption of technology is key. We must continue to explore how technology can facilitate a more connected and seamless transport system. Examples of how we can leverage technology include trials of autonomous, on-demand and dynamically-routed buses to reduce transfers and waiting times, as well as data sharing to support innovations like MaaS, which can help commuters to choose more efficient multi-modal journeys.



Strategy 3: Bring Jobs and Amenities Closer to Homes

Beyond direct improvements to land transport, the location of jobs and housing has a significant impact on daily commutes and our ability to realistically achieve the “45-Minute City” and “20-Minute Towns” targets. Currently, many jobs are located in the city area, with homes located outside. The Government has announced several new regional centres such as the Jurong Lake District and Punggol Digital District to bring jobs to areas outside the city; more should be done to realise these plans. This will require planning and economic agencies to work together to make these hubs attractive for jobs and amenities; and to explore other opportunities to introduce more jobs and amenities closer to homes that are well-served by public transport and active mobility.

This is a potential game changer, as having more regional centres will reduce the geographic disparities faced by commuters, and create exciting new centres for work and urban life closer to homes. It will better optimise the use of our land transport system, and lead to shorter travel times, so that Singaporeans have more time for family, community and leisure. The reduced distances should also make active mobility, such as walking and cycling, a more attractive means of healthier travel. Beyond rebalancing land use distribution, the Government should also encourage more employers to adopt flexible work policies, such as telecommuting, flexi-hour and remote work options. Respondents have provided feedback that such flexible work practices better support a pro-family culture, and are preferred by many employees.





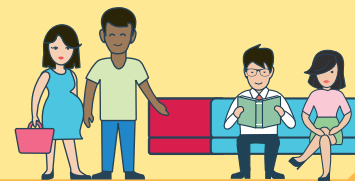
We propose three key strategies to achieve these targets:

Strategy 4: Nurture a Gracious and Caring Commuting Culture

A recurring theme in the feedback we received is that a gracious and caring commuting culture is crucial to making the travel experience more pleasant and enjoyable. Many Singaporeans feel that commuters have a shared responsibility to develop such a culture, with most indicating that they are prepared to accept short delays to their commute to help those who need more assistance getting around. Every kind act on board our trains and buses, no matter how small, goes a long way towards making journeys more pleasant and enjoyable for everyone. We should promote more of such acts – those who are able-bodied must feel empowered to help, and those who need help should not feel embarrassed accepting it.

While national campaigns on graciousness and courtesy can promote social awareness, commuters must recognise that everyone has a part to play and can make a difference during their daily commute. We therefore recommend that more opportunities and platforms, such as Heart Zones, be set up to encourage Singaporeans to help fellow commuters in need, as well as to recognise commuters who have demonstrated gracious or caring behaviour. In particular, we call on parents, schools and the public transport operators to work together in fostering gracious and caring social norms for our land transport system.

We acknowledge that graciousness and care are not easily measured. However, having a way to keep track of progress is important. We therefore recommend instituting an annual survey to measure the progress of efforts to nurture a more gracious and caring commuting culture.



CASE STUDY

Fostering Caring Communities - Heart Zones

Launched in 2017, Heart Zones are part of a wider initiative by the Public Transport Council (PTC), LTA and public transport operators to encourage more commuters to look out for and help fellow commuters on their public transport journey.

Commuters who need help getting to Singapore General Hospital, Ng Teng Fong General Hospital and Tan Tock Seng Hospital can head to designated Heart Zones at Outram Park, Jurong East, and Novena MRT Stations respectively. Benches are placed at these Heart Zones for commuters while they wait for hospital staff or members of the public to volunteer their assistance.

In addition, Tan Tock Seng Hospital is leading a 'Walk-with-Me' social movement aimed at encouraging those working or living in the Novena area to proactively look out for and assist commuters who may need help finding their way around HealthCity Novena.





Strategy 5: Develop the Capabilities of Public Transport Workers to Meet Diverse Needs

Our public transport workers keep Singapore moving, and contribute directly to commuters' travel experience. Many respondents have shown appreciation for what our frontline workers do, from the bus captains who patiently assist wheelchair users when boarding, to the MRT service ambassadors who tirelessly guide passengers at our station platforms.

To complement the push towards a more inclusive land transport system, we call on LTA and the public transport operators to equip our public transport workers with the right capabilities to meet the diverse needs of all commuters, including those with special and invisible needs.³ We should also redesign public transport infrastructure to make it more welcoming to those with special needs, such as by providing more seek-help points to connect staff with commuters who require assistance. We hope that Singaporeans will respond with grace and support our public transport workers as they carry out their duties.

CASE STUDY

Helping Those in Need - Training Public Transport Workers

As part of the Enhanced Vocational License Training Programme, all newly-hired public bus captains must go through training to assist commuters with special needs. The training is conducted by the Singapore Bus Academy, and consists of both theory lessons and practical sessions involving special needs users. Through the training, bus captains familiarise themselves with how to assist passengers in wheelchairs, people with disabilities (PWDs), and parents with prams when boarding and alighting the bus.



Public transport operators have also demonstrated a commitment to continually train and upgrade the competencies of their staff. For example, SBS Transit has partnered SG Enable to send its bus captains for training in the Workforce Skills Qualifications (WSQ) - Provide Cares Programme. Similarly, SMRT organises the Inclusive Service Delivery Programme in partnership with NTUC Learning Hub, Lien Foundation and Jurong Health to train its frontline staff to better understand how to serve special needs passengers, and deliver a more inclusive and welcoming transport experience.



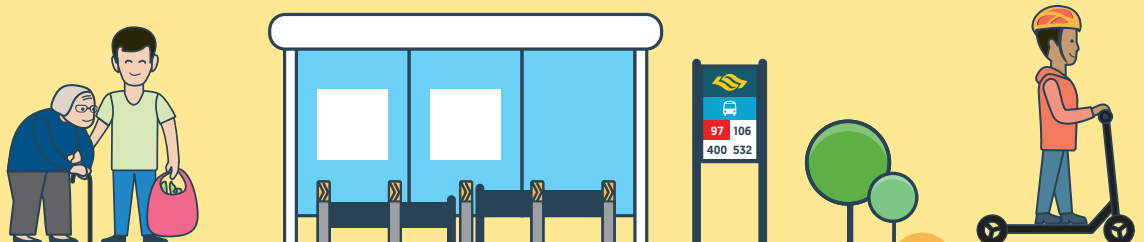
³ These include individuals with hearing impairment, speech impairment, and development disabilities that may not be immediately visible.



Strategy 6: Provide Infrastructure for Better Accessibility and Barrier-Free Travel

We recognise that LTA has taken significant steps to improve the accessibility of our land transport system for those who are less mobile, such as committing to make all public buses wheelchair-accessible by 2020. To strengthen last-mile access, LTA has also constructed or committed to construct lifts at around 100 pedestrian overhead bridges. We recommend that LTA build on such initiatives to make our land transport infrastructure more inclusive.

This includes installing more barrier-free access points for wheelchair users and families with baby prams, as well as providing convenient access to information on barrier-free facilities so that more commuters can enjoy travelling independently. LTA should partner the public transport operators to enhance the quality of signs and announcements, so that the elderly, and those with visual or hearing impairments, can navigate our land transport network with ease. LTA and the transport operators can help commuters with mobility challenges better plan for an accessible route and provide alerts where there may be obstacles, for example when a lift at an MRT station along the journey is under maintenance. Finally, LTA should work with the different transport operators to enhance provisions for wheelchair-accessibility on board our buses, taxis and Private Hire Cars (PHCs).





Recommendations for Key Area 3:

Healthy Lives, Safer Journeys

We believe that land transport has an important role to play in commuters' personal health and well-being, as well as in creating a more liveable Singapore. For instance, we can promote healthy streets and a more vibrant community by providing walking and cycling options that are appealing and safe, with more shared spaces in neighbourhoods to enjoy and interact. We can also ensure safer journeys through a sustained and comprehensive effort to reduce land transport-related fatalities. By reducing air and noise pollution from our land transport fleet, we can also look forward to a cleaner and healthier living environment.

To achieve these aspirations, we recommend that the Government focus on the following targets by 2040:

Target 1

More space

dedicated to public transport, active mobility and community uses.

Target 2

Reduce land transport-related fatalities

towards a safer 'Vision Zero' environment.

Target 3

Cleaner energy fleets

for a healthier environment.





We propose three key strategies to achieve these targets:

Strategy 7:

Enable Healthy Lives: More Spaces for Public Transport, Active Mobility and Community Uses

Many respondents shared that walking and cycling are easy ways to incorporate more physical activity in their daily routine. They requested for more public spaces that encourage such healthier modes of transport, especially for the first-and-last mile journeys. To support these aspirations, our streets needs to be transformed to become more pedestrian- and active mobility-friendly. This can be done by making the walking experience more comfortable, improving how active mobility connects to public transport, and by converting more spaces for pedestrian and active mobility uses. LTA can work together with local communities to explore the redesign of their townships to promote healthier and more active lifestyles. We also recommend that LTA work with other relevant agencies to encourage the community to take greater ownership for the transformation of their streets into new and vibrant shared spaces.



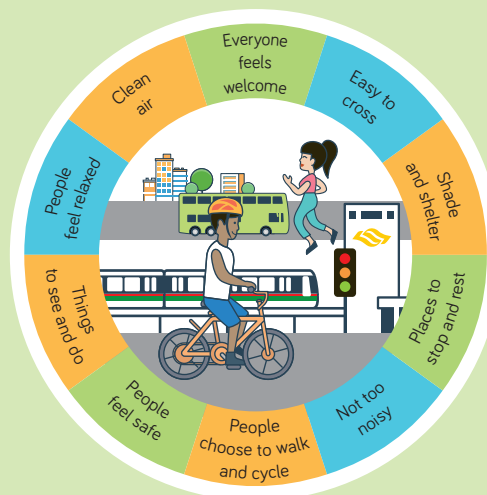
CASE STUDY

Healthy Streets – Lessons from London

The Healthy Street Approach is the overarching framework of the London Mayor's Transport Plan 2018. It puts people and health at the centre of decisions about how transport is planned and how public spaces are designed, managed and used. It comprises 10 indicators which focus on the experience of people using streets. Among other things, these indicators measure how conducive streets are for residents to walk, cycle and use public transport, how safe they are for people, and how inclusive the streets are to making everyone feel welcomed.

To achieve this, transport planners will need to design inclusive, people-centric streets, improve public transport and connect facilities for public, active and shared modes of transport, as well as build new homes and jobs near transport hubs.

The Healthy Streets Approach aims to improve air quality, reduce congestion and make London's diverse communities greener, healthier and more attractive places to live, work, play and do business.



Source: Lucy Saunders, Consultant in Public Health, Transport for London

Strategy 8:

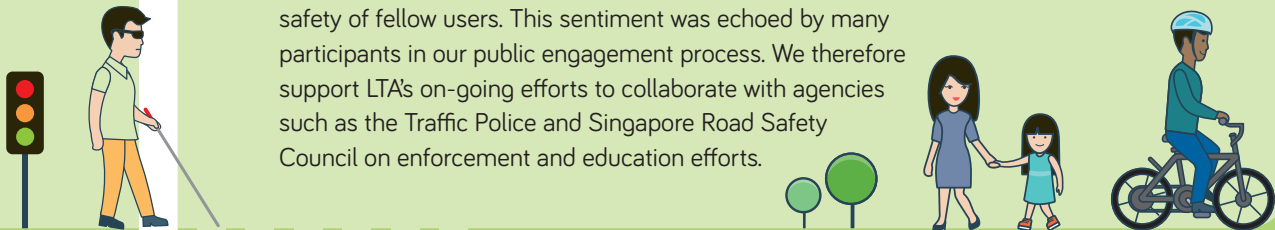
Facilitate Safer Journeys: Towards a Future with Fewer Land Transport-Related Fatalities

Safety on roads and walkways featured strongly in the feedback received. Many acknowledged our low accident rates, but at the same time felt that we should not lose focus on this aspect. We agree that this is important even as we improve other aspects of our land transport system, such as its convenience and speed. There must be a continued emphasis on safety through targets to reduce land transport-related accidents and fatalities.

LTA should pay particular attention to the design of roads and paths to enhance safety or encourage safer behaviour. For instance, roads can be redesigned to be more pedestrian-friendly, especially in residential estates, by implementing visual cues to slow down the flow of traffic. Safety can also be improved, for example, by providing an intermediate point for elderly pedestrians to rest while crossing at a wide junction or road.

More cycling paths should be considered to improve the safety of public paths and reduce the potential for conflict between cyclists and pedestrians. This will also help our bus captains ply the roads more smoothly, without having to worry for the safety of cyclists who would otherwise have to travel on the roads.

However, we recognise that because of Singapore's land constraints, we cannot always have dedicated lanes for different users. Hence, some sharing of spaces is inevitable. Users must be willing to exercise personal responsibility for their own safety, and the safety of fellow users. This sentiment was echoed by many participants in our public engagement process. We therefore support LTA's on-going efforts to collaborate with agencies such as the Traffic Police and Singapore Road Safety Council on enforcement and education efforts.



Strategy 9:

Provide a Clean Environment: Environmentally-Friendly Vehicles and Infrastructure

There is strong support for more environmentally-friendly transport that contributes to better quality of life through cleaner air and a quieter environment. The public and shared transport sectors can play a significant role in this. LTA has already started to try out electric and diesel-hybrid buses. We recommend adopting cleaner and more energy-efficient fuel sources for our public bus fleet by 2040. This will help reduce air and noise pollution, and contribute to long-term improvements in environmental sustainability and public health. The private sector should also do its part. Shared transport operators should consider setting their own targets for the use of cleaner vehicles for taxi and Private Hire Car fleets.





Conclusion

Land transport has a major impact on Singaporeans' daily lives. We are deeply grateful to the thousands of Singaporeans who have contributed their views and suggestions for LTMP 2040. We know that Singaporeans have high expectations for our recommendations and look forward to seeing the changes soon. In developing these recommendations, we wanted to set an ambitious vision which is in line with Singaporeans' aspirations while taking into account Singapore's resource constraints. However, this vision will not be achieved overnight.

The recommendations we have made are just the start of a longer journey towards our vision for **healthy and safe 20-minute towns and a 45-minute city for all by 2040**. We have also proposed some targets for a land transport system that is convenient, well-connected and fast – one characterised by a gracious and inclusive commuter experience, and which contributes to better health and safer journeys for all.

Achieving these targets will require many stakeholders to play their part, including the Government, transport industry and fellow commuters. It is both a shared responsibility and a shared experience. Transporting Singapore into the future begins with us, sharing this journey together.

