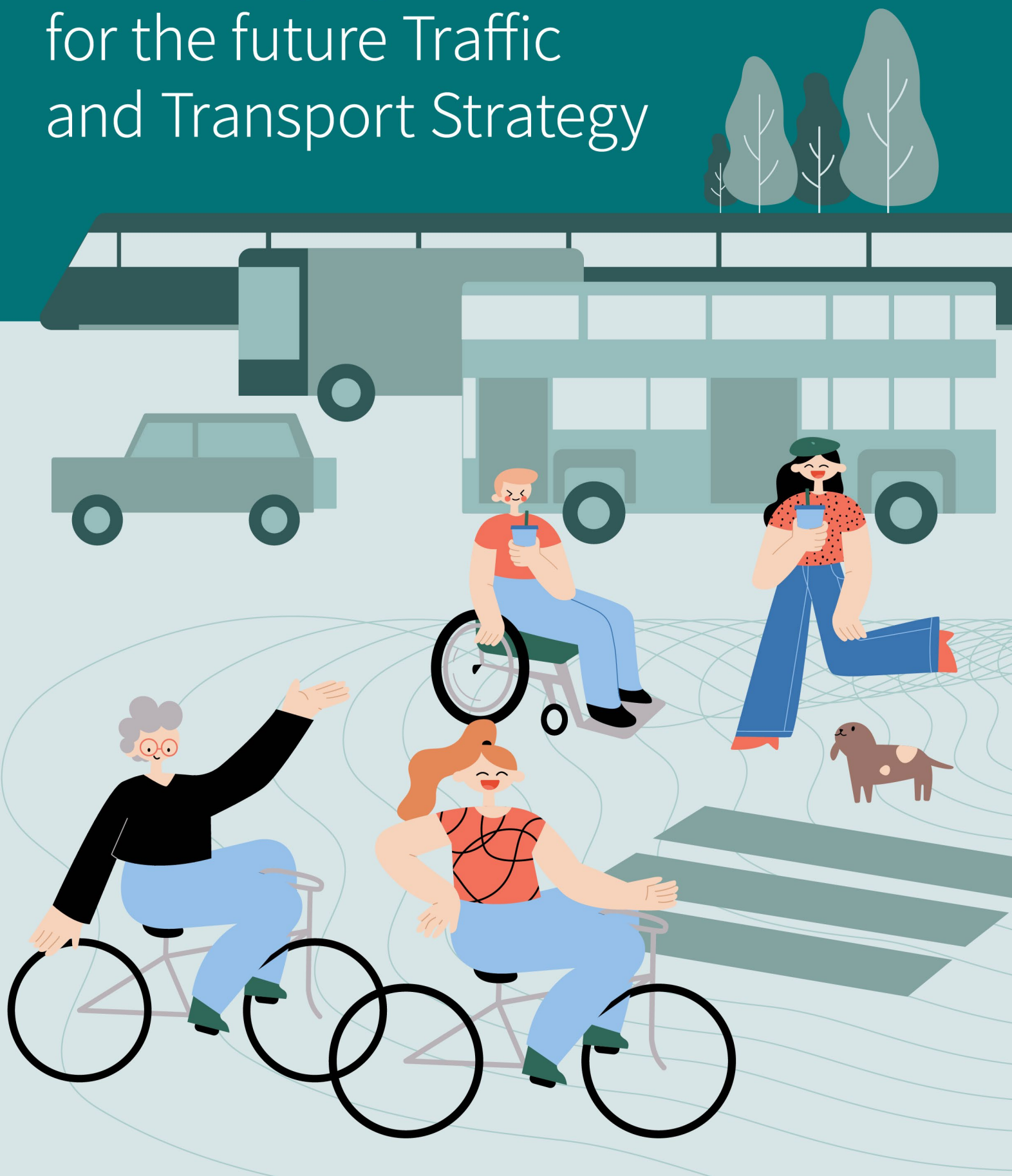


Position paper for the future Traffic and Transport Strategy



Street Reset

Position paper for the future Traffic and Transport Strategy
November 2023

Street Reset is a collective in support of human-oriented transport planning and street design, founded in 2020 by a group of practitioners in the field of transport and urban planning, architectural design, and social innovation.

We strive to shape better streets for Hong Kong through our imagination, knowledge, and experience from around the world. We advocate for Hong Kong's streets to be designed in such a way that people walking and cycling are treated more reasonably, and that road space is utilised in such a way that can enable a wider variety of convenient and reliable mode choices to the public, aside from private cars and rail transport.

We believe:

- Streets are not only roads for moving from A to B, but also part of the public realm in its own right
- A safe street environment is fundamentally important
- With road space being a scarce resource, its priority should be given to sustainable transport modes
- How streets are designed has a vital impact on public health

With the current “Hong Kong Moving Ahead: A transport strategy for the future” (hereafter referred as the current transport strategy) adopted as early as 1999, The then Chief Executive announced in her 2020 Policy Address that a new comprehensive Traffic and Transport Strategy Study would be carried out to the traffic and transport visions for Hong Kong up to 2050 and formulate an associated strategy blueprint.

Despite 20+ years passing, our transport system today still faces severe challenges including:

- Spatial mismatch brings enormous travel demand
- Disruptions to public transport show a systemic lack of resilience in our transport planning
- Relentless increase in private car ownership furthering congestion and traffic issues
- The pandemic exposed our ever-changing travel demand and patterns, and lack of public space on streets
- Urgent need for carbon neutrality in our transport system in the face of climate emergency

As the first organisation to promote human-centred transport planning and street design in Hong Kong, we shape better and more sustainable streets for Hong Kong through continuous collaboration with the Government and relevant stakeholders, as well as public and stakeholder education with our professional knowledge and research effort. We now present our White paper in response to the ongoing “Traffic and Transport Strategy Study”,



Executive summary

Executive summary

As the first organisation to promote human-centred transport planning and street design in Hong Kong, we now present our position paper for the future Traffic and Transport Strategy, illustrating our thinking and input for the future traffic and transport visions and its associated strategies proposals.

1. Context and challenges for transport in HK

As one of the densest cities in the world, our highly efficient transport system deals with the enormous travel demand. Around 90% of motorised trips are public transport - which is the highest uptake amongst cities worldwide. Our compact urban form has also allowed walking as a big part of our daily travel.

Despite our currently efficient transport system, challenges presented to us like spatial mismatch thus enormous travel demand, land provision and planning coordination all warrant bigger changes in transport planning to better prepare our transport planning and system for the future.

There is an unsustainable growth of private car ownership and uptake from the recent decade. They use a considerable amount of road space but have very low occupancy on average, which makes it one of the least efficient modes for the transport system. With limited land in Hong Kong, there needs to be a conscious inclination in favouring more efficient use of road space to save us from congestions.

With respect to the climate emergency, there is an urgent need for promoting the use of more sustainable modes with less emissions, for which public transport being one of them - it is important to make public transport services more attractive, making it the default choice for people's travel.

Transport goes beyond modes and infrastructures. With it being a substantial part of our urban realm, it also relates to our public health, issues with liveability and equity. There needs to be a conscious change in our future transport system from the "car-oriented" mindset of public transport, prioritises and encourages sustainable transport options including walking, cycling and public transport, and to shape our urban environment to be people-oriented.

2. Vision and strategy

The future transport system needs to be efficient, sustainable, safe, and resilient. Owing to the fact that transport is the means of people accessing opportunities, it poses far-fetched socio-economic implications. The below four strategic goals illustrate our thinking and actions Hong Kong can take to actualise the strategic vision.

a. **Enabling travel modes other than driving** - Establish a “hierarchy of mode”, dictates our preference of modes and its resource allocation in our transport planning. This is delivered by managing car travel demand, rationalise parking provision and kerbside usage, creating a favourable condition for service and delivery vehicles operation, and to deliver a world-class public transport system by enhancing travel experience, priority measures and operation model, making public transport as the default choice of travel.

b. **“Vision Zero ” for road safety** - Make zero road fatalities and severe injuries as our road safety target, and set up specific targets along timescales and action plans for achieving such road safety targets. “Safe system approach” should be embedded from the design stage, ensuring road safety from design of roads, junctions and crossing, speed limit, vehicle standards, enforcement, and planning processes to reduce the incidence of collisions and its severity. “Direct Vision Standard” for good vehicles and lowering speed limit would be two of the key initiatives for achieving vision zero.

c. **Streets at human scales** - With streets being the largest interconnected network of public spaces, its place function has wide implications to safety, public health, liveability, and vibrancy in the local area. Planning and design of streets should recognise that and thus be considered at human-scale, instead of focusing its function of movement to prioritise thoroughfare by vehicular traffic. As such pedestrian needs and placemaking concepts should be emphasised.

d. **Strategic provision for cycling** - Cycling as part of Active Travel is efficient, personalised, sustainable and provides public health benefits, thus having the potential of being the default mode of transport for short to medium distanced trips. To enable this, there should be a comprehensive strategy for cycling implementation, development of urban cycle networks in Hong Kong and Kowloon; and strategic connections across severances like the Lion Rock tunnel can enable cycling as a viable utility option of transport for people. Accompanying that data for existing cycling patterns would be necessary for building the case and evidence base for cycling potential dictating the network development for cycling. Quality, safety, and connectivity of existing network as well as junction design standards should be reviewed to see if it’s fit for purpose and cycle-friendly, while ancillary facilities like parking should be provided more.

3. Delivering the vision

A suite of changes to the institution and sector landscape would be necessary to kickstart and enable us to deliver the strategic vision, and to build such capability and institution in place ready to adapt for future challenges in the transport system. These includes:

a. **A planning system for transport** - “Decide and provide” approach based on a strategic vision and planning of transport, adopting a hierarchical planning system, revamp of existing transport standards and guidance, take an “evidence-based”

approach to inform planning decisions, formulate delivery plans, monitoring, evaluation, and public engagement framework for transport planning processes.

b. Institutions and resources for the delivery - Promote interdisciplinary collaboration within the urban realm with transport planning professionals for a people-oriented planning approach; ensure sustainable allocation to sustain strategic transport initiatives by ring-fencing funding streams; and institutions to support the uptake of technology and data in the transport realm.

c. “People-oriented” transport planning - Adopt self-enforcing designs on roads and streets, ensure proactive public engagement processes, especially for those under-represented, politically ambitious for promoting changes for better good in future transport.

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Introduction: Challenges ahead

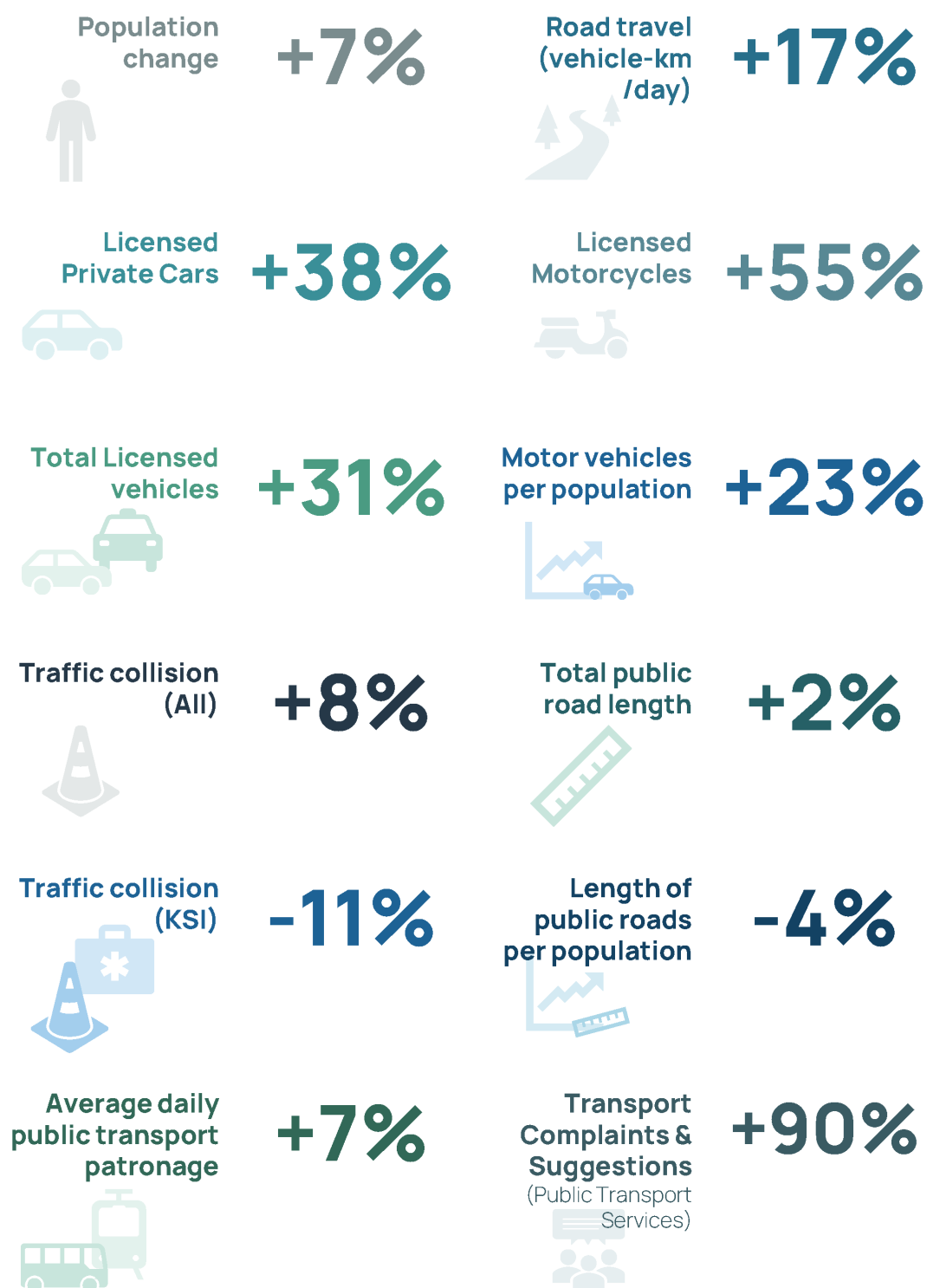
1. Introduction - challenges ahead

Transport and mobility are our city's lifelines - enable people's access to resources and opportunities, enable society and the wider economy to thrive. Ensuring transport is in place - visions and planning at strategic levels all the way down to road and street designs all contribute to the transport landscape and how people travel after all.

As one of the densest cities in the world, our highly efficient transport system deals with the enormous travel demand. The 2011 Travel Characteristics Study has suggested a daily motorised trip of over 12.6 million, with around 90% of motorised trips being public transport - which is the highest uptake amongst cities worldwide. Our compact urban form has also allowed walking as a big part of our daily travel.

Despite our currently efficient transport system, the challenges present to us at the moment warrant bigger changes in transport planning to better prepare our transport planning and system for the future.

Key transport statistics (2010-2019)



Data sources: Monthly Traffic and Transport Digest, Transport Complaints Unit Annual Report, Population estimates, Census and Statistics Department

1.1. Spatial mismatch & increasing travel demand

Spatial challenges remain the top issue for transport in Hong Kong. One part of it is the mismatch of spatial configurations in Hong Kong brings enormous travel demand and thus stresses the transport system in Hong Kong. Our transport system thus evolved to be efficient with public transport doing the majority of heavy lifting in meeting travel demand.

While Hong Kong 2030+ provides the conceptual spatial framework for counteracting such mismatch, it is deemed very difficult to achieve drastic changes within 10 - 25 years where the population is projected to grow beyond 8 million before levelling off after 2050.¹ While **population growth is likely to exacerbate our travel demand**, how travel demands are to be further managed, and how transport systems adapt remains the top challenge for our transport system in Hong Kong.

1.2. Poor public transport accessibility at new developments

To enhance housing supply, there has been a notable surge in the construction of new residential developments in remote locations in recent years, including areas like Queen's Hill in Fanling, Kai Tak, and Pak Shek Kok in Tai Po. These new development areas all face challenges in terms of public transport accessibility. Situated far from railway stations, a significant portion of the population heavily depends on bus and minibus services. However, residents continue to grapple with issues such as limited route options, infrequent schedules, inconsistent service quality, and unreliability.

The lack of dependable and ample public transport services may encourage more well-off residents to travel with private cars, exacerbating traffic congestion and environmental impacts. Hence, future transport planning must address and ensure adequate provision for transport to them as development follows in these areas. This is crucial to enabling residents access to convenient and efficient travel options, enhancing their overall quality of life while reducing private car usage, and promoting the uptake of sustainable mobility.

¹ Table 150-11001 : Projected Mid-year Population by Sex and Age Group, Census and Statistics Department:
https://www.google.com/url?q=https://www.censtatd.gov.hk/en/web_table.html?id%3D150-11001&sa=D&source=docs&ust=1683543531471481&usq=AOvVaw1wDsD_RQBRMkbeGqww6OX3

1.3. Implications of “car use inefficiency” to Hong Kong’s land challenge

Transport is an integral part of the wider planning problem in Hong Kong in terms of the shortage of land. PlanD statistics suggest that 4.2% of Hong Kong’s land is accorded for Roads and Transport Facilities ² - excluding railways, airport, and port facilities while public and private housing combined being at just 4%. As an extremely scarce resource in Hong Kong, land users should have been as efficient as it takes.

Hong Kong boasts a well-developed public transportation network with 90% of modal share in public transport. Yet private cars make up 70% of total licenced vehicles, it only carries only about 16% of the people.³ In 2014, private cars accounted for 55% of traffic on major roads but carried a mere 15% of people; buses and minibuses in contrast carried 70% of people accounting for only 15% of traffic.⁴

Another example is the AM peak in the Cross-Harbour Tunnel: 2018 data suggested Private cars account for 56% of traffic flow carrying only 1.3 people per vehicle on average. Franchised buses instead made up only 5.6% of traffic flow but carried 70% of passengers per bus on average.⁵

The examples above illustrate the fact that private cars are inherently inefficient in terms of the use of space while travelling to carry 1 if not 2 people on average, or in idle taking up parking spaces. This was not helped by the fact that Hong Kong is one of the most “Car-saturated” places in the world with 371 vehicles per kilometre of road ⁶ compared to 278 in Singapore and 205 in London. ⁷

Imagine a healthier model mixed with higher use of more sustainable transport modes like Active travel which take up much less space, or public transport that uses space much more efficiently by carrying more people; leaving cars the alternative option for people who have genuine needs for one.

There has been an unhealthy trend of rising car ownership over the last decade, with private cars per capita rising over 20% between 2012 and 2022, while the population only grew 4.2% for the same period; daily average public transport patronage grew 6% pre-covid

² Planning Department - Land Utilization in Hong Kong 2021
https://www.pland.gov.hk/pland_en/info_serv/open_data/landu/index.html

³ Report on Study of Road Traffic Congestion in Hong Kong -
https://www.tlb.gov.hk/eng/boards/transport/land/Full_Eng_C_cover.pdf

⁴ Ditto.

⁵ Annual Traffic Census 2018, Transport Department

⁶ Monthly Traffic and Transport Digest - Dec 2020, Transport Department
https://www.td.gov.hk/filemanager/en/content_4981/2012.pdf

⁷ Cullinane, Sharon & Cullinane, Kevin. (2003). Car dependence in a public transport dominated city: Evidence from Hong Kong. Transportation Research Part D: Transport and Environment. 8. 129-138. 10.1016/S1361-9209(02)00037-8.

(2012-2018) and even shrunk back 20% as to 2022 due to the pandemic.⁸ **Our congestion problem owes to the inefficient use and uptake of road space by an uncurbably growing fleet of private vehicles.**

Demand management as established in the current transport strategy will therefore continue to be crucial in forming the transport strategy for Hong Kong. **Existing demand management attempts are becoming more ineffective as we see continued, uncurbable growth in private cars.** Taxations and user charges/ fees were not adjusted upon inflation and growth in purchasing power; fuel-efficient vehicles and EVs have made fuel tax obsolete.

1.4. Public transport becoming less competitive & attractive

Public transport comprises over 90% of total passenger trips⁹ - for which it has been the highest in the world. This was again very much attributed to our spatial mismatch where there is huge demand for travelling longer distances, where the extreme-compact urban form very much makes such high patronages inevitable and supports the public transport industry model in HK to be economically viable.

Despite great results in public transport uptake, Street Reset is concerned of it becoming less competitive and attractive, thus less appealing and resulting in shifting preferences away from public transport. Over the past decades with the ever-increasing population thus travel demand, our public transport improvements very much follow only in the forms of large capital rail projects. These new railway lines resolve bottlenecks and provide strategic connections in our railway network, yet the overall strategic inclination towards rail in the dispense of any other public transport options furthers our reliance on the railway. **Our transport system now is not resilient - instead very susceptible and vulnerable to the disruptions at rails due to its over-reliance on it.** This has been proven time over time by city-wide disruption events in the MTR system in the recent decade.

Public transport is inherently the most efficient mode of transport at strategic levels - hence it should always be promoted as the priority in our strategic planning. Yet actual modal choices of people depend far more than just the provision or availability of services. Intangible yet decisive factors like passenger experiences have been less regarded throughout the transport planning processes. **We need to stop the bleeding of modal share from public transport shifting towards cars** due to failing demand management but also failing public transport that pushes people away from using it.

⁸ Monthly Traffic and Transport Digest - Feb 2023, Transport Department

⁹ Public Transport Strategy Study, Transport Department

https://www.td.gov.hk/filemanager/en/publication/ptss_final_report_eng.pdf

1.5. Transport - an environmental challenge - air pollution and climate crisis

Road traffic stands as a significant contributor to air pollution, making it a pressing environmental concern. Local studies have underlined a compelling link between severe air pollution and hospital admissions due to respiratory and cardiovascular ailments. Despite some reduction in the annual average concentrations of nitrogen dioxide (NO₂), particulate matter (diameter $\leq 10 \mu\text{m}$ - PM₁₀), and fine particulate matter (diameter $\leq 2.5 \mu\text{m}$ - PM_{2.5}) in 2022, levels continue to be over the safety standards set by the World Health Organization¹⁰, despite the fact that there are no safe limits for air pollution at all. Notably, NO₂ levels by roadsides exceed the standard by more than fivefold,

Furthermore, road transport remains the second-largest emitter of greenhouse gases in Hong Kong¹¹, second only to power generation. Despite the "Hong Kong's Climate Action Plan 2050" having initiatives around green transport, including the ceasing the new registration of fuel-propelled and hybrid private cars by 2035 or earlier; it's essential to recognise the considerable carbon footprint of private vehicles irrespective of types of propulsion, when compared to public transport and active travel modes. It has to be acknowledged that owning and using electric private cars still leaves a considerable carbon footprint when compared to public transportation from a road space efficiency perspective, or from the whole life cycle perspective of electrical vehicles.

Promoting the transformation of commercial vehicles is undoubtedly a pivotal step in reducing carbon emissions and combating air pollution. However, encouraging citizens to reduce or relinquish their reliance on private cars is equally important. Commercial vehicles play a vital role in maintaining societal and economic functions, but private cars are neither indispensable nor irreplaceable by public transit in most cases. The high per capita carbon footprint of private cars and their inefficient use of road infrastructure underpins the issues with persisting a "car-centric" approach in transport planning.

To effectively address the ongoing climate crisis, future transportation strategies must adopt the "Avoid - Shift - Improve" framework. This approach prioritises travel demand management, including measures to reduce the need to travel and use of private cars, shifting travel demand onto sustainable modes including public transport and active travel, and improving the provision of these better mobility options.

¹⁰ Clean Air Network 2022 Air Quality Review

¹¹ Environment and Ecology Bureau (2023) GHG Emissions & Trends <https://cnsd.gov.hk/tc/climate-ready/ghg-emissions-and-trends/>

1.6. Transport - a societal challenge - public health, liveability, and equity

Transport is more than just thoroughfare - the flow of vehicles and people; it is also the means of how people access opportunities and resources - hence the transport landscape as part of the built environment presents complex societal implications with respect to public health, liveability, and social equity.

Currently, Hong Kong's approach to road planning heavily prioritises accommodation of vehicular traffic, with street design emphasising vehicle speed and traffic flow but less to vulnerable road users including pedestrians and cyclists; undermines streets' role as public spaces and places for the community. Neighbourhoods are segmented by severance created by heavy traffic links, resulting in a fragmented urban fabric and communities. Pedestrians face a higher risk of accidents and fatalities, particularly among the elderly, as data from the Transport Department reveals.

The excessive accommodation of private vehicles exacerbates externalities like traffic congestion, air pollution, and noise, all of which have adverse effects on public health and overall well-being. In certain underserved communities where accessibility and convenience of public transportation fall short, it limits residents' access to crucial services such as healthcare, education, employment, social welfare facilities, and everyday necessities, contributing to social inequality.

Active travel, including walking, wheeling, and cycling offers health benefits by promoting physical activity and reducing the risks associated with sedentary lifestyles. Nevertheless, Hong Kong's urban environment generally lacks the infrastructure to support active travel as a viable, utility mode of transport apart from its leisure purposes, limiting individuals' transportation choices and, unfortunately, not harnessing the full potential to improve public health.

To foster liveable communities and improve public health, it is imperative that we shift away from a "car-centric" approach to transport planning. Instead, we should give precedence to and enhance sustainable transportation choices, such as walking, cycling, and public transit. This transformation aims to establish an inclusive transportation environment that motivates residents to embrace active modes of commuting.

1.7. Institution's capability to guide us through uncertainty

Learning from COVID and recent innovations like Artificial Intelligence, the future entails uncertainty and is prone to disruption and changes - be it good or bad. Professor Glenn Lyons (Vice president for Chartered Institution of Highways & Transportation, Mott MacDonald Professor of Future Mobility at UWE Bristol) in his blog post for Transport for the North, UK ¹² quotes:

“

The uncertainty is such that our traditional forecast-led approach in transport planning that has prevailed over past decades, now falls short in providing the sort of guidance to decision makers that they are entitled to expect in considering policy and investment decisions.

‘Predict and provide’ reflects demand-led supply: predict future demand for travel and provide appropriate transport supply to meet that demand.

Yet in the face of deep uncertainty, future demand cannot be predicted with much confidence. In turn, it becomes more challenging to understand what constitutes a resilient strategy and sound investment.

”

We will need a more established, evolved, and institutionalised transport planning approach for leading us to the desired future. This requires the right institutions, mechanisms, standards, instruments, sector mix and talents.

¹² The benefits of a ‘decide and provide’ approach to transport planning, Professor Glenn Lyons Transport for the North, UK <https://transportforthenorth.com/blogs/benefits-of-decide-provide-approach-transport-planning/>



2



Vision and strategy

2. Vision and strategy

Transport is fundamental to Hong Kong and our daily lives, enabling mobility of the people and accessibility of places, linking up places of different functions to people enabling their access to opportunities like jobs, resources but also their social needs. With the upcoming transport strategy to span over coming decades, setting the right overarching strategic vision that suits the future needs of Hong Kong will have Hong Kong well prepared for challenges ahead.

The challenges we highlighted above remain critical for the coming decades. Our spatial mismatch, social and environmental challenges, as well as an increasing travel demand all reflect the need for a future transport system that is **more efficient, sustainable, safe, and resilient**.

A transport system that is	Means the transport system...
Efficient	• Serves the travel needs of people well: get to places quickly and conveniently • From a system point of view, transporting more people at a less expense of resources
Sustainable	• Is considerate for the environment, our own well-being, community, and our next generation • Is just for users of all kinds - remove barriers to access (physical, monetary, etc)
Safe	• Is designed to prevent fatal and serious injuries as much as possible by accounting for human error and prioritising vulnerable road users • The street environment should be 'forgiving' - meaning its design should reduce the risk and severity of collisions when someone makes a mistake
Resilient	• Offers diversified mobility options, mitigating vulnerability by factoring in redundancy • Transport planning and operation have built-in flexibility, robustness, and responsiveness to ever-changing needs of travel and challenges

Street Reset believes that this overarching strategic vision is the basis for the development of our future transport system in Hong Kong. To achieve this, it warrants a reset and rejiggle of our value propositions in current transport planning in Hong Kong to be aligned to the visions above. Following our internal deliberations, the above vision has allowed us to come to the four strategic goals below, furthering the current four preliminary key directions in TTSS.

- Enabling modes other than driving
- “Vision Zero” for road safety
- Streets at the Human Scale
- A strategic provision for cycling

Proposal 1

The new transport strategy should embed the following four proposed strategic goals along with the current four preliminary key directions in TTSS. They include:

- Enabling modes other than driving
- “Vision Zero” for road safety
- Streets at the Human Scale
- A strategic provision for cycling

2.1. Enabling modes other than driving

2.1.1. Roles of different modes

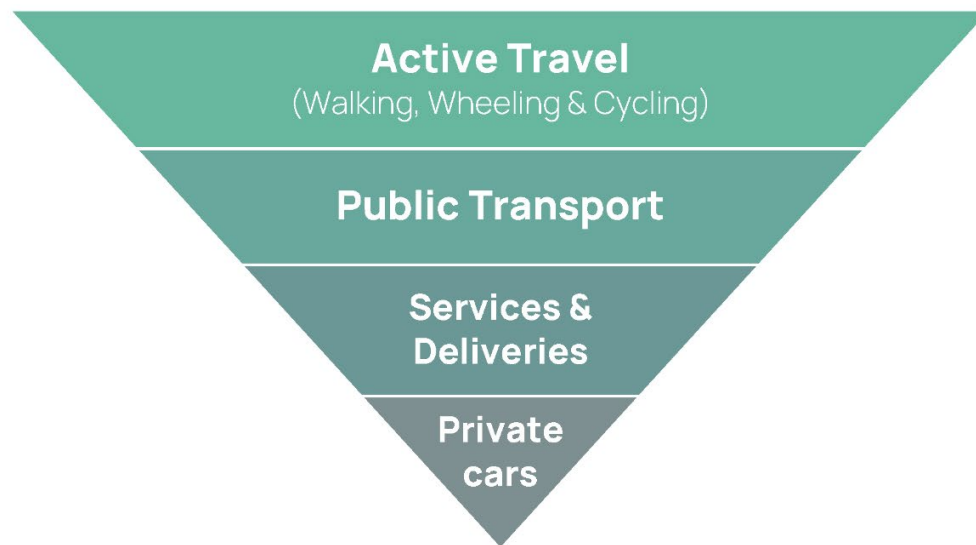
Historically we are conscious of the inefficiency of private cars - they take up to 70% of road spaces but carry merely 16% of people in our current road network in Hong Kong.¹³ CTS-3 also acknowledges so by stating the need to manage (private car) demand through restraint of vehicle ownership and usage. With our limited road space and induced demand, it is self-evident that we can’t build our way out of growth and congestion.

The current transport strategy sets out a hierarchy of the roles and positioning of the different public transport services having regard to their efficiency and functions. Yet it seems that there has not been a differentiation among all transport modes including non-public and non-motorised modes which have also been a key part of our transport system. Our observation was that the general transport thinking in our resource allocation has been “mode agnostic” to all road transport - i.e., treating every road mode equally irrespective of the strategic importance or its current status whether being dominant or marginalised.

Street Reset thinks that there should be a conscious inclination toward an efficient distribution of space and resources between different modes, with the value proposition

¹³ Report on Study of Road Traffic Congestion in Hong Kong, p.6-
https://www.tlb.gov.hk/eng/boards/transport/land/Full_Eng_C_cover.pdf

behind that prioritises modes with better efficiency, more benefit, less (social) cost and externalities for the transport system. That is why we proposed a hierarchy of modes of transport to be in place that dictates our preference of modes in our transport planning, where resources should be allocated in the first place, and the use of such modes should be promoted and protected or managed accordingly.



Hierarchy of Transport Modes

Proposal 2

To develop a hierarchy of transport modes that dictates our strategic vision and preference of transport mode. The hierarchy shall act as the fundamental principle in all decision-making processes, and direct our resources and investment, including the establishment of funding sources and streams amongst promoting, protecting, or deterring the use of relevant modes accordingly.

Why active travel?

Walking and cycling is the most efficient way of getting around in short to medium distances. Walking (and wheeling for people with special needs) is integral to how we travel - it is the most intuitive direct way of travel upon our compact urban form and is always the mean of travelling first/ last mile of the journey to our final destinations, or to the main mode of transport that covers the longer distance part of the journey. Cycling, when given the right network, effectively covers trips at short to medium distance up to 10 km, that is usually deemed too long for walking alone as well.

Active travel modes are inherently efficient - they take up much less footprint - both physical and carbon footprint to travel. The potential benefits from them are huge¹⁴:

¹⁴ Gear Change - A bold vision for cycling and walking, Department for Transport, UK
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904146/gear-change-a-bold-vision-for-cycling-and-walking.pdf

- **Public Health & Well-being**
 - Address physical inactivity, encourage active lifestyle improves well-being including physical and mental health including prevention for some cancer, heart disease, type 2 diabetes, and depression
 - Public health benefit alleviates our already stretched public healthcare system
- **Congestions and transport system efficiency**
 - Active travel has much less physical footprint, increasing the carrying capacity of our streets
 - Cycleways can carry much more people compared to a typical traffic lane. Examples in London suggested its east-west and north-south cycleways carried over 46% of people with only 30% of road spaces
 - Average speed of cycling is more than 3 times faster than that of walking. A 5 km trip (from Central to North Point) take only 20 minutes.¹⁵
 - Shifting short trips to active travel helps streamline public transport operations by replacing shorter trips
- **Air quality, carbon emission and climate change**
 - Modal shift to zero-emission modes improves air quality, prevent premature deaths and is one of the most effective ways to decarbonise transport
- **Social & economics benefits**
 - Well-planned access improvements support local businesses and boost footfall
 - Employees being active improves productivity
 - Pedestrian-friendly neighbourhoods are associated with more social interaction, a stronger sense of community and more social capital

Despite the huge benefits of walking and cycling, they remain the most vulnerable group of road users on our road network. To unlock these potential benefits, we will need better infrastructures for them - investing in active travel will also make roads quieter, safer and more attractive for people to walk and cycle – a virtuous cycle.

See our chapter 4 - 6 for further context and our bold-vision on delivering a step-change in active travel and improving its safety in Hong Kong.

Why public transport?

Public transport remains one of the most efficient modes of transport. It carries much more people covering much longer distances including inter-district and regions of travel. We are proud that as one of the most sustainable ways it can be, public transport continues to be

Segregated cycleways and e-bikes - the future of urban travel, Friends of the Earth
<https://policy.friendsoftheearth.uk/insight/segregated-cycleways-and-e-bikes-future-urban-travel>

Walking & Cycling - the economic benefits, Transport for London, UK
<https://content.tfl.gov.uk/walking-cycling-economic-benefits-summary-pack.pdf>

¹⁵ Assuming an average cycling speed of 15 km/h

the main way people in Hong Kong get around, accounting for over 90% of total passenger trips every day, which is the highest in the world.

Needless to say, our dense urban nature and spatial mismatch suggest that public transport will continue to be one of the vital means of travel for decades to come. As one of the forerunners in public transport uptake in the world, we would need to do more to ensure that the efficiency of public transport operations is safeguarded and prioritised.

The current transport strategy sets out, and the latter RDS-2014 reaffirmed the policy of using the railway as our backbone, with bus and light rail, then other public transport as supplementary roles. In principle, we agree that railways should be the backbone as their dedicated right of way means a much higher level of services and capacity in doing the heavy lifting along corridors to carry large amounts of passengers conveniently and emission-free.

However, we could not agree that such accorded priority to railways is at the expense of other means of transport. In fact, CTS-3 has also stated that the objective (of priority to off-street modes) “is not to eliminate all competition, but to strike a balance between effective use of public transport and the freedom of choice for the public”.

Taking franchise buses as an example, they are deployed much more flexibly, having much more flexible catchment and routing options compared to rail. Buses and rail's relatively comparable mode share has suggested their complementary roles serving users of different needs.

It is worth mentioning that active travel and public transport are complementary rather than competing modes. Despite having a limited catchment area, cycling is highly flexible with respect to destinations and timing of travel; public transport on the other hand is ideal for longer journeys and has much higher capacity but is bounded to routes and schedules. From both the user's perspective and the standpoint of optimising the entire transportation system, harnessing the advantages of these two modes in tandem provides multiplying benefits.

Street Reset considers that public transport improvements should never be in dispense to any other public transport and active travel modes, as each mode has its distinctive functions borne respectively and they all complement one another forming an efficient yet resilient transport system. We therefore, agree with the latter PTSS point of view that quotes “Other public transport modes continue to play an important role, particularly for serving areas inaccessible by railways and meeting new demands from new development areas, providing comprehensive services and choices for the public.”

In chapter 3.2 we will illustrate further context, our strategic visions, and relevant proposals to further Hong Kong's delivery of a future-ready world-class public transport system.

Why are services & deliveries still important?

Commercial trips for service and deliveries (S&D) would often find themselves in conflict with other users in urban areas. S&D activities including loading and unloading have had implications for the wider road environment, including the safety for vulnerable road users, congestion, and emission concerns.

Nevertheless, S&D is the means that businesses of all kinds operate and rely on. We need better coordination and planning where we ensure the safe yet efficient passage of goods, with a lesser impact on the wider road environment in both vehicles itself and in operation terms.

Check Chapter 3.1 and 4 for our relevant proposal with regards to S&D and its safety.

Manage demand of private cars - by utilisation and means of propulsion

Cars are inherently less efficient - they carry far less passengers on average, they are not space efficient during both journeys compared to other modes, and also take up space to park whenever they are not used (See Chapter 1). These are critical issues of cars when we think we have an acute land shortage problem in Hong Kong, amid other externalities including congestion and emissions.

Our proposition is that within the categories of cars, there should also be a preference in terms of favouring cars with higher occupancy/ utilisation, and types of propulsion systems that are more environmentally considerate. Cars that are utilised more often including taxis, car-club vehicles (if any) can have a higher priority. Electric vehicles should be preferred, followed by hybrid, petrol, and lastly diesel combustion engine cars.

Ideally, our vision is that these trips can be replaced when better alternatives exist, better as in both the efficiency and less externalities in transport planning terms, but more importantly - generally a better journey experience and deal for the passengers to induce such modal shifts.

Find out more in Chapter 3A on our holistic proposals on contemporary transport demand management car cars and other sustainable transport initiatives.

Strategic roles and coordination among modes

Street Reset considers that each of the different modes bears strategically different functions and is complementary to one another. We largely agree with what PTSS has outlined in terms of the strategic roles of each public transport mode, but in addition to that, active travel would also be the key as feeders for onward public transport journeys that enable a larger catchment of the heavy-lifting public transport services including heavy rail and buses.

Despite our hierarchical preference of modes, we should note that personal circumstances and needs differ as well. Having a hierarchy of modes does not mean we should completely disregard individual circumstances, but more about enabling options and removing barriers for modes across the hierarchy making them accessible for all, especially in making active travel and public transport a feasible, more preferable and encouraged option for people from all walks of life.

Where sometimes more preferred modes might not be a viable option for the entirety of the journey, we should still aim to encourage part of the journey to be shifted to a more preferred mode. With thoughtful planning and coordination, integration between modes for intermodal trips would be key to our future transport system in providing more flexible, efficient, and convenient travel for everyone.

2.1.2. Vision-led innovation

In the earlier progress report for the Traffic and Transport Strategic Study, “embracing advanced transport technologies to develop smart mobility” were one of the preliminary findings, striving to develop autonomous vehicles and smart traffic management in highways leveraging technologies from sensor detection, AI processing and big data analysis.

Street Reset considers that technology, when applied appropriately, can be a catalyst or even disruptor in transforming ways people travel. Yet we must never forget that, while embracing technology, the strategic visions, and goals we wanted to achieve in the future transport system. **We must ensure that the technology uptake in the transport realm is vision-led, aligns, and furthers the policy objective to create a transport system that is human-centric; instead of adopting technology for technology's sake, letting the hype of technology take over in guiding the transport development.**

The preliminary results of the TCS 2022 suggested that, amongst respondents that are willing to use autonomous driving, 40% would travel more with autonomous private cars. This suggests a worrying trend that popularisation of autonomous vehicles is likely to increase uptake and use of private cars, worsening the excessive number of private cars on road and thus congestion issues.

The Transport Department needs to be more proactive in curbing the uptake and use of private cars, mitigating the prevalence of technology innovation inducing undesired transport outcome of increased private travel demand by cars. Introduction of autonomous vehicle technology should be carefully planned and guided to gear towards sustainable modes of shared nature, including public transport and shared demand responsive transport to improve level of service by reducing waiting time and enhancing service reliability thus passenger experience; instead of inducing further travel demand by private means.

Proposal 3

Ensure technology uptake are vision-led, aligning with the strategic vision and goals for a human-centric transport system. Introduction of autonomous vehicle technology should be geared towards sustainable modes of shared nature including public transport and shared demand-responsive transport, avoiding the unwanted consequences of inducing further private travel demand.

2.1.3. Moving away from “predict and provide”

The traditional “predict and provide” approach has prevailed in the transport planning industry around the world for decades. Evidence around the world yet again disproves the “predict and provide” approach as capacity provisions attract **induced demands** in the context where transport networks seek system equilibrium. This is what traditional transport planning, including its evidence base - modelling has failed to account for by giving false certainty.

We are conscious that “capacity building” was one of the themes in the recent “Strategic Studies on Railways and Major Roads Beyond 2030”. While we understand that providing major roads strategic connections enables resilient network connectivity to developing areas, with the enormous travel demands in Hong Kong brought by spatial mismatch, the existing travel pattern is still very much suppressed with private cars uptake and modal shifts are still seen despite the extremely high uptake of public transport in Hong Kong. We are very much sceptical as to the traffic burden these road-based solutions bring than it is trying to solve.

Authorities around the world have started to move from “predict and provide” to **“decide and provide”** where it takes a “vision-led” approach in what's the desired landscape and scenario of transport and travel within the area, then establishing and validating options thus interventions that can lead to the preferred future scenario. This is crucial to continue to shape where and how people travel in the forms of provisions, stemming from the decision of what is the desired future outcomes and scenarios.

In simple and practical terms, this means we should decide how people travel in the future (i.e., the vision) including ideal modal split, then provide relevant infrastructure, operation, and interventions to achieve the set vision.

Proposal 4

Move away from the ‘Predict and Provide’ model to ‘Decide and Provide’ and focus on measures to restrain road traffic demand. This includes:

- Formulation of vision and value proposition as integral part of TTSS with reference to our proposals
- Development of evidence bases for cases for change, options including relevant interventions, infrastructure, or instruments to achieve the set vision and its

objectives

- Mechanism of adopting and implementing TTSS, including a delivery plan on its initiatives

See chapter 7 for our thinking on the right factor to be in place for “Decide and provide” - a more established, evolved, and institutionalised transport planning approach that is future-ready.

2.2. “Vision Zero” for road safety

In comparison to other developed urban areas, Hong Kong has consistently maintained a higher standard of road safety in recent years, surpassing the global average. However, the current situation in Hong Kong still falls significantly short of the target of ‘Zero Accidents on the Road, Hong Kong’s Goal’. In 2021, we witnessed the highest number of traffic collisions recorded since the inception of Third Comprehensive Transport Study (CTS-3), with a staggering 17,800 cases. This resulted in nearly two thousand individuals suffering from severe injuries or even fatalities in these collisions.

While statistics can quantify casualties, each life lost is invaluable and irreplaceable. Despite notable progress in reducing fatal and severe collisions over recent years (a remarkable 36% reduction), we firmly believe that it is morally unacceptable for anyone to meet with death or severe injury during their commutes. Therefore, we should not become complacent due to past declines in casualties. The government must shoulder its responsibility, establish well-defined goals, and initiate action plans, leading both society and the transportation industry in collaborative efforts to enhance the safety of our road system and street environment.

2.2.1. Adopting “Vision Zero” Approach

First and foremost, we advocate for integrating “Vision Zero”, which aspires to achieve zero road fatalities and severe injuries (Killed or Severely Injured - KSI), into the core of the future transport strategy. Additionally, there should be specific targets along the time scale to reduce the incidence of road fatalities and severe injuries. This creates a specific, measurable safety benchmark for advancing our records on road safety, influencing upcoming road development and traffic management. Establishing clear-cut objectives also encourages the Transport Department to prioritise road safety, entails further allocations for a systematic review of problematic road sections and junctions thus following improvement projects that enhance safety, shifting away from the ideology that safety is an after-thought or a reactive responsive after collisions.

“Vision Zero” objective is also more realistic than the previous “Zero accident” target. Human error does occur to all road users, including drivers and pedestrians. Rather than pursuing an idealistic goal of “zero accidents”, a more pragmatic approach is to focus resources on minimising the severity of collisions. This ensures that, even when errors are made, they do not result in fatal or severe injuries. Considering recent and ongoing increase in the overall

number of collisions in Hong Kong, with a simultaneous decline in KSI, adopting "zero KSI" instead of "zero accidents" is a better proposition upon Hong Kong's road safety trajectory, and aligns with the road safety approach embraced by the majority of advanced city transportation authorities worldwide.

Proposal 5

We propose the integration of "Vision Zero," aiming for zero road fatalities and severe injuries, as a pivotal component within the future transportation strategy vision. Furthermore, the establishment of progressive mid-term targets and ultimate goals to curtail the number of road fatalities and severe injuries (KSI) is strongly advised.

By 2030: A 30% reduction in road fatalities or severe injuries compared to the average figures from 2015-2019.

By 2040: A 65% reduction in road fatalities or severe injuries compared to the average figures from 2025-2030.

Ultimate Objective: Aim to realise zero road fatalities or severe injuries on our roads by 2050 or earlier.

2.2.2. Adopt the Safe System Approach as the overarching principle in the government's road safety strategy

Hong Kong has experienced a notable 36% reduction in fatal and severe traffic collisions from 2000 to 2021. This commendable progress can be attributed not only to advancements in vehicle safety standards but also to the collaborative effort from the Transport Department and policing in areas from road design & engineering to law enforcement, and education. However, it is important to note that the drop in fatal and severe collisions in the New Territories (-5%) significantly lags behind that of Hong Kong Island (-42%) and Kowloon (-71%). There has also been a slight uptick in fatal and severe collisions since 2018, posing underlying concerns on our road safety improvements.

Furthermore, while the number of pedestrian fatalities and serious injuries witnessed a decline during the same period, pedestrians continued to face an unproportional risk of fatal collisions compared to other road users. This risk is particularly pronounced for elderly pedestrians, with over 60% of pedestrian fatalities in 2021 involving individuals aged 65 or above. Our research last year also unveiled that a staggering 70% of pedestrian collisions occur on secondary roads, such as inner streets and access roads, with no signs of any improvements whatsoever.

To effectively mitigate safety risks in the road system and strive toward "Vision Zero", we think that a "Safe System Approach" should be embraced. A concept and best practice originated from Sweden and the Netherlands, it is now a mainstream road safety strategy in Europe and many US cities. It is based on the underlying principle that it is never morally acceptable for anyone to be killed or seriously injured when travelling within the road

transport system, even if someone makes a mistake. The Safe System Approach is considered the best practice in road safety according to the World Health Organisation (WHO) and the Organisation of Economic Cooperation and Development (OECD).¹⁶

Although most collisions can be attributed to human errors, there are inherent links of the incidence of collisions to road design itself. Contrary to traditional road safety paradigms, the Safe System approach no longer puts the effort on perfecting user behaviour nor to blame on the human error, but instead recognises the fact that humans are prone to making errors and mistakes. Consequently, road design also no longer assumes perfect compliance with traffic rules by all road users but strives to minimise the severity of collisions when mistakes are unfortunately made, averting fatalities and severe injuries. This means designs are more forgiving especially within street environments with higher footfall.

Embracing the safe system approach is crucial to pedestrian safety, particularly in light of Hong Kong's ageing population. Elderly age groups (65+) currently make up over 60% of all pedestrian fatalities. By 2035, the proportion of elderly population will be doubled to 30%.¹⁷ With their deteriorating mobility and cognitive ability, senior citizens may not always be able to judge risks correctly. Therefore, efforts need to be made on preventing more deaths and serious injuries on our streets through creating a forgiving street environment and reducing impact to a tolerable level, reducing incidence of fatalities and severe injuries upon collisions.¹⁸

An illustration showing the five pillars of the Safe System Approach (image from FHWA, 2020)¹⁹



¹⁶ OECD (2016) *Zero Road Deaths and Serious Injuries: Leading a Paradigm Shift to a Safe System* https://www.oecd-ilibrary.org/transport/zero-road-deaths-and-serious-injuries_9789282108055-en

¹⁷ Census and Statistics Department (2020) *Hong Kong Population Projections 2020-2069*, <https://www.statistics.gov.hk/pub/B1120015082020XXXXB0100.pdf>

¹⁸ Federal Highway Administration (FHWA) (2020), *Safe System Approach flyer*, https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf

¹⁹ Ibid, Federal Highway Administration (2020)

Paradigm shift from traditional road safety strategies to the Safe System Approach, table adapted from WSP (2018)²⁰

	Traditional/ Prevailing thinking	Safe System Approach/ Vision Zero
Issue	Preventing all crashes	Preventing fatalities and serious injuries
Assumption	Deaths are inevitable	Deaths are preventable
Focuses on	Perfecting human behaviour	Designing a road system that accounts for human error
Responsibility on road safety	Individual road users	Shared: road users and system designers

Proposal 6

To systemically ensure pedestrian safety, we urge the Transport and Logistics Bureau (TLB), Transport Department (TD), Highways Department (HyD), the Road Safety Council (RSC) and the Police to jointly adopt the Safe System Approach as the overarching principle of the government's road safety strategy. By doing such, it means to create a 'forgiving street environment' that is designed around vulnerable road users.

Proposal 7

Transport department to formulate a Vision Zero Action Plan and develop specific safety improvement measures tailored to each type of vulnerable road users (including pedestrians and cyclists). These policies and measures should be regularly updated.

2.3. Streets at the Human Scale

Urban streets comprise 75% of the outdoor environment in our built-up areas ²¹, hence the design that leads to the comforts and safety of it all profoundly impacts our perception of the urban realm. With streets being the sole largest interconnected public space network in our city, it provides the space for various activities, becoming a pivotal part of citizens' daily lives. As a result, the planning and design of streets bear immense significance to our safety, well-being, and the overall liveability of our communities.

However, in Hong Kong, a lot of the streets are more like stroads with broad lanes and high-speed traffic. These design choices have made streets feel cramped and unwelcoming,

²⁰ WSP (2018) Vision Zero: Setting a higher standard for road safety, <https://www.wsp.com/en-GL/news/2018/vision-zero-a-road-transportation-system-free-of-fatalities-and-serious-injuries>

²¹ Development Bureau (2023) 《Street Tree Selection Guide》 (第 1.1 版), p. 88, https://www.greening.gov.hk/filemanager/greening/tc/content_118/Chpt_10.pdf

discouraging extended stays. Street designs also often lack pedestrian-friendly features, such as narrow sidewalks and continuous railings. Road geometry including excessively wide carriageway lanes and the absence of traffic calming measures yield higher traffic speed and the lack of courtesy towards pedestrians. Pedestrian crossings are placed away diverting people from the most direct routes, or to forcing them to use footbridges or tunnels, considerably increasing their walking distances. Heavy traffic flow segregated neighbourhoods, making our urban landscape and community fragmented as well.

We recognise the importance of maintaining traffic circulation with streets' function of thoroughfare. However, prioritising volume and speed of vehicular traffic on all streets means the essential role of streets as places for public life and community contexts are overlooked and neglected. This significantly undermines the convenience and comfort of pedestrians, but also the benefits brought by streets' function as a place. Merely improving street furniture, railings and pavement cannot genuinely enhance public perception and experience of urban streets, but instead, shifting focus away from car-centric design and embracing people-centric street transformation measures can, effectively addressing issues stemming from vehicle-oriented design.

2.3.1. Establishing a human-oriented street planning for liveability

Streets and roads are fundamentally different in purpose - roads (like highways and primary distributors in Hong Kong) primarily cater to vehicular traffic, connecting major population hubs and activity centres, forming the city's primary road network. In contrast, streets are designed to serve both pedestrians and vehicles, acting as vital links within communities, supporting economic activities. In other words, streets serve as both thoroughfare and public spaces.

However, Hong Kong's current approach to street design still reflects the "car-centric" thinking formed when cars first became widespread in the mid-20th century. This approach prioritises the efficiency of traffic flow and neglects the evolving complexity of streets, which is now a mix of modes including vehicles and pedestrians with conflicting needs. The traditional "car-centric" approach to street design no longer aligns with expectations of the public and contradicts recent government policies in enhancing walkability.

Transport and urban planning professionals need to recognize that streets are integral components of the urban landscape, its planning and design have implications beyond vehicular and pedestrian traffic, but also to the wider urban design, public spaces, public health, well-being, and economies.

As the most accessible public spaces in our daily lives, streets have significant implications to our health, well-being, and the liveability of our communities. In Hong Kong, 4.2% of land is allocated to roads and transportation facilities, surpassing the combined total of public spaces/recreational areas (2.5%) and public housing (1.5%). By prioritising street design to make streets more welcoming, they can be transformed into networks of readily accessible

public space, greatly benefiting the physical and mental well-being of community and sense of place.

The proportion of Hong Kong's elderly population is expected to rise to 30% by 2035. There is a pressing need to create an inclusive and vibrant street environment that enables the elderly to live safely and happily in their communities. As they age with reducing physical and cognitive abilities, pedestrian-friendly designs with less steps and slope will be necessary as well. To create an elderly-friendly city, streets should feature more safer and convenient crossings, shading and seating, clear visual signages for wayfinding, and more accessible public facilities.

In summary, we believe the future transport planning must encompass "streets at human scales" as part of the strategy, gradually reallocate road space and adopt design practices to improve streetscape for better liveability of the city. Authorities should prioritise safety, convenience, and comfort of pedestrians, by reducing vehicle traffic or dominance on streets. For local streets and inner areas, focus should be made on the well-being and needs of the local community, rather than movement and overall efficiency of the road traffic network.

The institution for future transport should also promote collaboration between transport professionals and the wider built environment professionals, especially urban designers, to allow street design to be more attuned to human needs, perception, and behaviour, rather than universally applying engineering principles overlooking real-world behaviours.

Proposal 8

Establish a policy direction that embraces "human-oriented streets," gradually reforming the allocation of road space and design patterns to enhance the city's overall liveability.

2.3.2. Prioritising pedestrians mean prioritising local economy & urban vibrancy

As previously outlined, Hong Kong's streets often face the challenges of heavy traffic congestion, air pollution, and absence of shades. While it's possible to navigate these streets on foot, they are far from being user-friendly or pleasant for walking. More people are reluctant to stay or take leisurely strolls on the streets. With post-pandemic economic slowdown, and increasing prevalence of online shopping, the public are less enthusiastic to go out and spend. To boost local spending, it is essential to recognize the vital role of people-centric street design in this context.

Implementing street transformations with a focus on pedestrians can re-render the street environment to be more inviting, infuse it with vitality, ultimately promoting a walking economy that generates economic benefits for society. This not only enhances the quality of life for local residents but also rekindles the allure of walking as a comfortable and

enjoyable activity. Fostering a lively atmosphere on the streets can attract people to visit and stay awhile, rather than just merely passing through. When people savour such an environment, they tend to stay longer, thereby increasing spending opportunities and fostering a desire to do so.

Street design that prioritises pedestrians is not just about pedestrianisation. Numerous practical and cost-effective approaches can also be adopted. For instance, enhancing and broadening pedestrian crossings, reducing the width of car lanes to create "curbside parks" and rationalised outdoor restaurant seating, introducing more shading through trees and additional seating, curbing traffic flow or speed in specific zones, and reclaim road space to create sitting out areas and plazas. Transformation can start small as a form of trials/ pilot at a relatively low cost, to validate the concept and garner public support.

It has been evident that pedestrian-friendly measures boost local economic growth with examples around the world. Since 2007, the New York City Department of Transportation kickstarted various street transformation initiatives, including one that rejuvenated a triangular junction in Brooklyn, rationalising the junction footprint and reclaimed the road space for a conversion into a public recreational area. Subsequent monitoring comparing retail activities before and after project implementation using sales tax data, revealing a 172% surge in business turnover in the area. Another project in Manhattan extended "curbside parks" and restaurant spaces along a street, leading to a 14% hike in turnover for nearby shops. Such success stories also extend to London, UK. In 2017, University College London conducted a comprehensive comparative study encompassing ten streets in different central London areas. The findings indicated that streets where recent pedestrian environment improvement projects were carried out experienced a 17% lower vacancy rate for shops compared to streets without such improvements.

The concept of walking economy by pedestrian-friendly designs should not be confined to metro areas of Hong Kong and Kowloon but extended to town centres in New Territories. Street transformations provide a versatile means to respond to community needs including local business needs despite economic challenges. There should be a proactive approach from the authority to champion innovative thinking and experiments to convert streets into attractive public spaces. Best practices and evaluation practices abroad, with data beyond traffic, including business turnover and pedestrian footfall can also be used to build the case to persuade the public and stakeholders.

Proposal 9

Enact pedestrian-centric street design measures to cultivate an inviting street environment, revitalise urban vibrancy, and repropagate the walking economy. For specific strategies, please refer to Chapter 5.

2.3.3. Establish a new “Streets Planning Framework” and design guidance

Taking advantage of the current "Traffic and transport strategy study", there should be a thorough review of the existing street planning and design models to actualise our aspiration of street at human scale and its potential for the wider society. We recommend the Transport and Logistics Bureau and the Transport Department to create a dedicated planning framework and design guidelines for streets (i.e., roads that are not strategic routes) in Hong Kong.

The primary challenge in improving walkability in Hong Kong is to redesign streets and reallocate spaces to accommodate both pedestrians and vehicles, and their respective competing needs. While we welcome the introduction of a new "Pedestrian Planning Framework" by the Transport Department in TPDM late 2022, we realise that the guidance and concepts primarily focus on pedestrian footway but not a holistic consideration of the entire building-to-building road space. It's crucial to understand that the quality and width of pedestrian pathways are just one part of the whole walkability equation, but also its interaction with carriageway space, including ease and comfort of crossing streets, the adequacy of crossing points, the number and width of car lanes, and the speed and volume of traffic on the streets etc. These are the often overlooked considerations that have the most significant impact on the pedestrian experience, but solely considering footway would fail to address.

Therefore, we suggest that the authorities refine the current "Pedestrian Planning Framework" as a new "Street Planning Framework", with a new "Street Design Guidelines" for streets to be developed. These guidelines should offer more comprehensive and clear principles on street design for various work departments, planning and engineering sectors and consultants for implementing street design at human scale. The street planning and design process should be based on a "Hierarchy of modes" (see **Proposal 2**) which places a greater emphasis on prioritising needs of active travel and public transport. It should also promote an integrated design approach that takes into account of the entire street environment, not to prioritise maintaining vehicle speed and traffic flow, but rather tailor space and priorities to the specific context and functions of each location, treating it as both a road and a place. Street transformations should aim to align with pedestrian behaviour as much as possible, enhance public space functionality, and improve the overall comfort of the environment.

Public health and user experience considerations should also be incorporated into street design. "Healthy Streets indicators" would be one of the renowned guiding references. Future street designs should also be more attentive to the needs of the elderly and disabled individuals including the making of crossings to be safer and more convenient for them, providing more tree shading and rest areas, and help improving air quality while reducing traffic noise. These aspects should all be included in the evaluation criteria for street transformation projects.

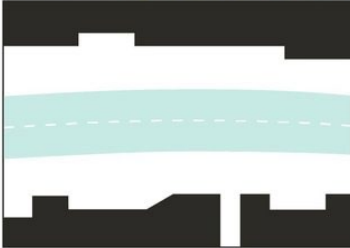
Proposal 10

Revise the "Pedestrian Planning Framework" and rebrand it as the "Street Planning Framework." Develop specialised "Street Design Guidelines" for Hong Kong's general street network (excluding strategic routes). Detailed measures can be found in Chapter 5, **proposal 58 and 59**.

街道的雙重功能：運輸與場所

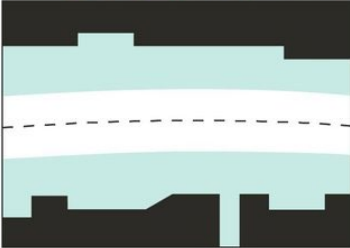
運輸

街道作為道路、供人車通行

場所

街道作為目的地、讓人停留活動

建築物
 主要使用者
 次要使用者

Streets movement and place function - Left being function of movement; Right being function of place. Colour in black represents buildings, turquoise represent primary users of that particular function and white as the secondary users.

2.3.4. Incorporate professionals across the discipline and to allocate resources for street transformations

Following the completion of the "Walk in HK" initiative late 2022, the government has yet to allocate any specific funding for walkability improvement or human-centred street transformation projects. Although the Transport Department's new "Pedestrian Planning Framework" includes the process of formulating an "Outline Pedestrian Plan" (OPP), there are no goals nor delivery plans for implementing related projects. The public remains unaware of how many OPP projects will be carried out in the upcoming fiscal year, the geographical extent covered by OPPs, or the timescale of an OPP from formulation to implementation. We recommend the government to allocate dedicated funding and establish goals or delivery plans for promoting human-centred street transformation projects.

Although the Transport Department established the Walkability task force in 2017, the group's personnel are tasked with a wide range of responsibilities from walkability improvement and lower speed limit zone measures in selected areas, to overseeing planning for pilot trial on use of Electric Mobility Devices (EMDs) and uphill escalator projects. For furthering street transformation projects, the department will require further dedicated resources.

Furthermore, the current personnel at Walkability task force primarily comes from an engineering background, making it challenging for them to break free from an engineering viewpoint, thinking and its associated value proposition that at times, conventional practices that are often contrary to street planning and design. There needs to be an inclusion of other built environment professionals, especially transport planners, urban planners and urban designers complementing one another to ensure that street planning and designs takes into consideration at a human scale, experiences, and behaviours in the urban realm. Additional training for current personnel would be necessary to genuinely incorporate human-centric design thinking, absorbing expertise in placemaking and public space development. In this regard, Invigorating Island South Office by the Development Bureau is one of a good example encompassing a cross-disciplinary team, merging perspectives from urban planning, engineering, architecture, and landscape design to collaboratively create more ideal street environments (see **Proposal 91**).

Proposal 11

Allocate resources and personnel to promote street transformation projects. Specific directions include:

- Allocating dedicated funding for the promotion of human-centred street transformation projects and setting specific goals or timetables.
- Increasing the number of permanent positions in the Transport Department's Pedestrian City Planning Group to address the long-term staffing needs.
- Introducing professionals from cross-disciplinary backgrounds, such as urban designers, transportation planners, or city planners, into the department's structure. Additionally, provide training in human-centred street design for engineering staff to genuinely integrate human-centric design thinking and incorporate expertise in public space design and placemaking (see **proposal 91**).

Look at chapter 5 to understand our thinking and proposed strategy on human-oriented street design in Hong Kong.

2.4. A strategic provision for cycling in the future

With growing environmental consciousness, awareness on public health and resiliency of urban transport, the public increasingly takes cycles for various trip purposes including leisure and utility trips. Bike share, cycle sports, and delivery by cycles are becoming more common, showing a diverse yet increasing profile of cycling use, especially during the outbreak of the COVID-19 pandemic.

Cycling has the potential as people's first choice of mobility upon its nature being personal and flexible hence reliable. It also provides the opportunity for people to exercise on the go, providing public health benefits. One of the key points of the TTSS is to "encourage active travel promoting healthier lifestyles". Promoting cycling as an easy, intuitive mobility option and making the experience of cycling safer, more convenient, and comfortable will be one of the most critical issues.

The government must seize this opportunity of formulating a strategy to establish a comprehensive active travel policy and to consolidate government internal resources; and drawing up a long-term plan to improve the planning and design of the existing cycle tracks as well as to establish a next-generation urban cycling network in the New Development Areas (NDAs) and urban areas.

2.4.1. Rationale of encouraging cycling

Cycling, as a point-to-point personalised transport mode, though not as suitable as motorised vehicles for long-distance travel, provides a flexible option for short to medium-distanced journeys within 10 km. A simple 5 km trip (roughly from Central to North Point) takes only 20 minutes on cycling. Cycling is cost-effective, more efficient than walking, personalised hence saving the time waiting for a service; it is an attractive mode of transport for many residents in the New Territories who have access to a network of cycle tracks, or even for some living in the urban areas.

Promoting cycling is beneficial in promoting public health, combating climate emergencies, and enhancing resilience in urban transport; it also has a positive impact on boosting the economy and productivity. Numbers of medical studies have revealed that cycling reduces all-cause mortality²², risk of cardiovascular disease²³, type 2 diabetes²⁴ and cancer²⁵ compared to private car drivers. Not only does cycling cause no air pollution, but it also has a

²² Andersen, L.B., et al. (2000) *All-cause mortality associated with physical activity during leisure time, work, sports, and cycling to work*. Arch Intern Med, 2000. 160(11): p. 1621-8, cited in Public Health England (2018) *Cycling and walking for individual and population health benefits: A rapid evidence review for health and care system decision-makers*, p. 23. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/757756/Cycling_and_walking_for_individual_and_population_health_benefits.pdf

²³ Patterson, R et al. (2020) *Associations between commute mode and cardiovascular disease, cancer, and all-cause mortality, and cancer incidence, using linked Census data over 25 years in England and Wales: a cohort study*. Lancet Planet Health 2020;4: e186-94. Available at: [https://doi.org/10.1016/S2542-5196\(20\)30079-6](https://doi.org/10.1016/S2542-5196(20)30079-6)

²⁴ Smith, A.D., Crippa, A., Woodcock, J. et al. (2016) *Physical activity and incident type 2 diabetes mellitus: a systematic review and dose-response meta-analysis of prospective cohort studies*. Diabetologia 59, 2527–2545. Available at: <https://doi.org/10.1007/s00125-016-4079-0>

²⁵ Patterson, R et al. (2020) *Associations between commute mode and cardiovascular disease, cancer, and all-cause mortality, and cancer incidence, using linked Census data over 25 years in England and Wales: a cohort study*. Lancet Planet Health 2020;4: e186-94. Available at: [https://doi.org/10.1016/S2542-5196\(20\)30079-6](https://doi.org/10.1016/S2542-5196(20)30079-6)

much lower carbon footprint than a petrol private car, even one-tenth that of an electric car²⁶. Widespread cycling is also shown to increase retail spending on high streets and increased productivity. Research suggests that cycle parking facilities generate five times more retail expenditure per square metre than private car parks of the same size²⁷. Another study also found that employees who commute by cycling takes 1.3 days less of sick leave each year on average, compared to those who commute by other means²⁸.

In view of the limited road space in Hong Kong, cycling is deemed to be the most efficient mode of transport for trips of short and medium distances. Cycling requires less road space than private cars, and only one-tenth of the space needed for parking. Cycling can carry more passengers upon a smaller footprint, reducing traffic load on the road and enhancing the resilience of urban transport. A well-designed infrastructure network with appropriate supporting facilities will actualise the full potential of cycling, making it the intuitive mode to travel with its flexibility and efficiency.

With limited catchment areas of public transport services, cycling can play a complementary role filling the gap, to make public transport a viable option. Many people who live beyond a comfortable walking distance from MTR stations or Public Transport Interchanges (PTIs) now often need to take an extra bus or minibus for the first/last-mile connection, not to mention having to wait for one. As the average speed of cycling is more than three times faster than that of walking, widespread use of cycles can expand the coverage of public transport and create synergy between cycling and public transport, thus reducing the incentives for people to own or drive a car for travelling.



Sheung Shui has always been a good illustration showcasing multimodal trips with cycling connecting to public transport. These best practices could be transferred elsewhere in Hong Kong.

Picture on the left shows the cycle parking area outside of Sheung Shui, comparably well-used to those in Netherlands.

²⁶ Brand, C. et al (2021) *The climate change mitigation effects of daily active travel in cities*, Transportation Research Part D: Transport and Environment, Volume 93, April 2021, 102764. Available at <https://doi.org/10.1016/j.trd.2021.102764>

²⁷ Raje and Saffrey (2016) *The value of cycling*. University of Birmingham and Phil Jones Associates for Department for Transport, p. 3. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/509587/value-of-cycling.pdf

²⁸ Hendrikson, et al. (2010) *The association between commuter cycling and sickness absence*. *Prev Med.* 2010 Aug;51(2):132-5. Available at: <https://doi.org/10.1016/j.ypmed.2010.05.007>

2.4.2. Current Problems

If we were to integrate cycling into citizens' daily life, we must really regard cycling as a genuine mode of transport. Despite continuous expansions of the cycle track network in the New Territories in the past, Hong Kong's current cycling policy, route planning and design, supporting facilities and even driver's culture on the roads are still very much hostile to cyclists, thus failing to encourage cycling as a mode of daily travel.

There are seven major problems with the existing cycling policy, planning and design:

1. **Lack connectivity and coverage of the existing network**

While the cycle track connections between the new towns have been gradually built up over the past decade or so, the coherence and coverage of the existing networks in the different towns vary. While most of the existing networks can link up with the certain town centres, many more of the peripheral areas or built areas have no cycle network. The networks are not dense enough so that cyclists have to take risks travelling on busy roads to reach their final destinations.

2. **Flawed design of cycle track posing safety hazard**

Many of the existing cycle tracks contain design flaws that are significantly inferior to the new ones and do not meet prevailing standards. Examples include disjointed sections, hidden or obstructed crossings, inadequate sight distance at the bottom of grade-separated crossings or sharp bends, and inappropriate or excessive bollards. In addition to the inadequate maintenance of some surfaces, some cycle tracks are too narrow to cope with the existing flow.

3. **Inconvenience caused by existing rules and design**

Under the existing rules and road design, users are often unable to complete their cycling journeys comfortably and smoothly, thus greatly reducing the attractiveness and convenience of cycling. For example, cycle tracks always terminate at road junctions, and cyclists are often not given the right of way or even allowed to cross the road by cycling; and they are also required to dismount when passing through traffic light crossings. All these requirements are contrary to the practical habits and make cycling travel very inconvenient.

4. **Inadequate parking and ancillary facilities**

Existing cycle parking spaces are lacking and poorly linked to buildings and facilities catering for the needs of users. Most of the cycle parking facilities provided by the Government are located far away from their destinations, with low pedestrian flow for passive surveillance nor CCTV surveillance in the vicinity, hence rampant bike theft. For the sake of convenience and self-protection, many cyclists are accustomed to parking their cycles at home or railings nearby.

5. **Lack legible wayfinding**

There are many grade-separated crossings in the existing cycle track sections in the New Towns, most of which are submerged beneath the road surface, making it easy for people to get lost, especially for cyclists not from the area. The few directional signs near the cycle track are either not legible from its small font size or insufficient for wayfinding purposes.

6. **No cycle tracks in the urban area**

Apart from the new urban waterfront shared-use paths that have been established in recent years, cycling infrastructure in the urban areas is almost non-existent. Shared-use paths are not ideal, not only are they uncomfortable for both pedestrians and cyclists, but they also result in the majority of cyclists preferring to use the carriageway as it is smoother and quicker. Except for those experienced cyclists, cycling in urban areas is difficult.

7. **Unfriendly road environment**

Despite the fact that cycling is a mode of road transport, many motorists are still unfamiliar with or don't know how to interact with cyclists, and even being hostile to them. Even with the inclusion of cycling-friendly provisions in the 2020 revision of the Road Users' Code, the interaction between motorists and cyclists still needs to be improved.

The above problems are attributed to the fact that the Government has not formulated a comprehensive cycling-friendly policy, nor has it conducted any in-depth study on how to improve the inherent road design standards so as to incorporate the needs of cyclists more flexibly and effectively. The new districts built over the past decade or so follow the design standards in the 1970s and 1980s, not prevailing standards nowadays that truly enable cycling, and fail to take into account factors such as comfort and continuity as well as safety, thus failing to encourage more people to cycle as their daily trips.

Moreover, the current cycling user group has become more diversified in recent years, with the number of bicycle use and traffic accidents on the rise. The planning and design of cycle tracks need to evolve with the times to better cater the needs of users of different speeds, capabilities, and purposes. Sports cyclists, daily commuters, courier cyclists and recreational cyclists all have significantly different experience and speeds of cycling but need to share the increasingly saturated cycle track space. All these reflect the need for the Government to establish a comprehensive bicycle-friendly policy, systematically improve existing cycle tracks, and tackle the problems with infrastructure improvement as the foremost strategy.

2.4.3. Integrate government resource, setting up dedicated department to promote active travel policies and projects

Street Reset believes that this Traffic and Transport Strategy Study is golden opportunities to comprehensively review existing cycling policy and to deliver a step-change to support cycling as a mode of transport. Only when the government allocates dedicated resources and establishes a holistic cycling-friendly policy top-down, there can be effective exploration as to the ways in which road infrastructure can be improved, existing design standards to be reviewed, and supporting facilities for active travel to be enhanced.

We suggest that the Government consolidate the relevant personnel and resources of various departments (e.g. the Walkability Task Force of Transport Department and the relevant project teams of Civil Engineering and Development Department) to set up an "Active Travel Coordination Office" (ATCO) led by a new "Commissioner for Walking and

Cycling" position, under Transport and Logistics Bureau (TLB) to coordinate, advocate and promote cycling and pedestrian-friendly policies, as well as to undertake network planning and oversee the delivery of strategic infrastructure projects.

With the objective to enhance the experience and safety of active travel, the Office should explore ways to encourage more people to cycle or walk in their daily life through improving the existing policies, infrastructure planning and design, as well as the supporting facilities at the destinations. This should be done from the perspective of the users rather than just from the engineering perspective of feasibility.

Proposal 12

Set up an "Active Travel Coordination Office" (ATCO) led by a new "Commissioner for Walking and Cycling" position under Transport and Logistics Bureau (TLB) to coordinate, advocate and promote cycling and pedestrian-friendly policies, as well as to undertake network planning and oversee the delivery of strategic infrastructure projects. With the objective to enhance the experience and safety of active travel, the Office should explore how to encourage more people to cycle or walk in their daily life.

2.4.4. Reforming cycle track and road design standards with core design principles

Experience and safety of cyclists are equally important for infrastructure planning and design of cycle networks, so as to achieve a truly cycling-friendly environment and reducing risk of cycling collisions. In other words, the Government should not always sacrifice the comfort and smoothness of cyclists on the grounds of safety. Instead, it should first change the priority of vehicles, the allocation of space on streets and the speed limit to achieve safety.

Currently, most of the sections of the Transport Department (TD)'s Transport Planning and Design Manual (TPDM) relating to the design of cycle track infrastructure are still modelled on overseas standards developed in the 1970s. Although TD commissioned a consultancy study on the improvement of the cycle track network in 2013 and partially reviewed the cycle track safety design standards based on the recommendations, the design and requirements in the existing standards are still heavily influenced by the concept of "giving priority to motor vehicles" and have not kept abreast of the times.

Examples include the requirement that cycle tracks must terminate at junctions, which has led to the criticism of fragmented cycle tracks. Even at minor road junctions, cyclists are not given priority when cycling along the major road and were forced to dismount as indicated by road signs, which are inconvenient to them. Moreover, many cycling-friendly road designs, including cycle lanes, advance stop lines or priority signals are not permitted by Hong Kong's standards even though they have been adopted by cities across the globe.

Road design standards in many foreign cities have now shifted to the perspective of cyclists, striking a proper balance between their needs and safety, and moving towards the goal of being truly cycling-friendly. In updating their road design standards for this purpose, they have adopted the following six "Core Design Principles": the cycle network and paths should be **coherent, direct, safe, comfortable, and attractive**, as well as being **inclusive**. As each of these elements influences one another, they are equally important and together represent the basic requirements for cycling facilities.

The Government should adopt the "Cycle Friendly Core Design Principles" with the objective to encourage more citizens to cycle as their daily choice of transport; and make reference to the latest overseas design criteria and update the design standards for cycling infrastructure and roads in the Transport Planning and Design Manual (TPDM).

Coherent	• There should be continuous cycleway to enable users to reach their daily destinations easily • The quality of paths should be consistent and easy to navigate
Direct	• Cycleway should be as direct as routes available to private cars, and preferably even quicker and more direct than carriageway • Cycleway should not detour over longer distances and users should not be required to stop or dismount frequently
Safe	• Safety is not bounded to existing cycle network • Where cycle tracks are not applicable, adequate, and effective cycle-friendly road design should be provided to surrounding streets and the overall road network to protect the safety of cyclists
Comfortable	• A good quality and well-maintained cycle network are important for maintaining a comfortable cycling environment • The surface of the cycleway should be kept moderately smooth, with no steep gradients, and with sufficient width to cope with the flow of cycling traffic. • Cycles must be treated as vehicles and not as pedestrians, so stopping and dismounting should be avoided • Where a cycling has to be in the carriageway without physical segregation, the relevant road section should be of low traffic flows and speeds
Attractive	• The overall environment and appearance of the cycling infrastructure is closely linked to people's desire to cycle • Therefore, high quality design and materials should be used for cycleway and parking facilities to create beautiful and comfortable public spaces that people are willing to spend time on and use

Inclusive	• Allow people of all ages and abilities to use the facilities safely and comfortably • Be compatible to the needs of users with different purposes behind cycling
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Proposal 13

The Government should make reference to the latest overseas design standards and update the design standards for cycling infrastructure and roads in the Transport Planning and Design Manual (TPDM) accordingly.

The new standard should include "Cycle Friendly Core Design Principles", to make the cycle network and paths coherent, direct, safe, comfortable and attractive, as well as being inclusive - compatible to the needs of all ages and abilities, and different purposes behind cycling.

2.4.5. Formulating the "Strategic Plan for Active Travel", and Expanding and Improving Cycling Networks and Supporting Facilities

To effectively implement the policy objective to encourage cycling, the Government should formulate the "Strategic Plan for Active Travel in Hong Kong" and draw on collective wisdom in the process, so as to establish a policy foundation for promoting cycling in Hong Kong in the long run. The new plan should also set out specific strategic measures and delivery timeframe, so as to progressively expand and improve the existing cycling network and ancillary facilities.

This plan will enable government bureaux and works departments to adopt a planning approach that encourages cycling and encourage the Urban Renewal Authority and private property owners to provide cycling infrastructure in future developments, paving the way for Hong Kong's transformation into a cycle-friendly city.

The Government can incorporate the following six strategic measures into the plan:

- Initiate studies and public consultation on the expansion of cycling network in Kowloon and Hong Kong Island (refer to **proposal 69**)
- Implement the Lion Rock Tunnel conversion project for walking and cycling use (refer to **proposal 70**)
- Widely collect data on cycling usage and build data models to estimate future cycle travel demand (refer to **proposal 71**)
- Enhance the quality, safety, and connectivity of the cycling network in the new town areas (refer to **proposal 73**)

- Integrate cycling into public transport and provide safe parking spaces at major stations (refer to **proposal 78**)
- Promote the provision of support and infrastructure to cycling in new developments (refer to **proposal 79**)

Proposal 14

Formulate the "Strategic Plan for Active Travel in Hong Kong" and draw on collective wisdom in the process, so as to establish a policy foundation for promoting cycling in Hong Kong in the long run. The new plan should also set out specific strategic measures and delivery timeframe, so as to progressively expand and improve the existing cycling network and ancillary facilities.

Chapter 6 will illustrate our thinking, vision, and strategy on promoting cycling as mode of transport by implementing cycle-friendly policies and expanding cycle networks.

Proposal 72 outlines our argument for halting the legislation on compulsory helmet regulations for cycling. TD should reconsider upon the potential implication it brings upon the new cycling strategy and thus uptake of cycling.



3



**Enabling travel modes
other than driving**

3. Enables travel modes other than driving

As we illustrated in our vision chapter - we need to make a decision to achieve a desirable future transport system that fits the needs of the future - that is efficient, sustainable, safe, and resilient. There is a need for a conscious preference in the way we travel in the future, achieving the 'right mix' of modal split as with the hierarchy set out earlier.

This would be by means of managing and curbing our car demand, this enables the room for improvements, including rationalising our public transport offerings, and promotion of active travel which is to be illustrated in chapter 5 & 6 respectively.

3.1. Travel demand management

3.1.1. Existing ownership restraints - Fee and taxes

It's been a growing concern since CTS-3 that the use of private vehicles would need close monitoring and adjust restraint measures accordingly to an acceptable and manageable condition upon road growth. Existing measures including first-time registration tax (FRT), and annual licence fee (ALF) have since been in place for a long time, yet we continue to see substantial increases in car ownership over time, as illustrated in the key statistics in our first chapter.

This sees diminishing returns of these taxation measures over time. Charges were not adjusted to purchasing power and inflation in a way that they are no longer effective in the current context. These existing pricing instruments remain a crucial part of demand restraints, but their charging level needs to be reviewed to make them relevant and effective.

Proposal 15

Review existing charge levels for first-time registration tax (FRT) and annual licence fee (ALF) at a proportionate level as with inflation and changes in purchasing power, curbing the growth of private vehicle ownership. In the long term, develop an adjustment mechanism for reviewing the charge level of the above fee/ tax, ensuring that they remain prevalent.

3.1.2. Pricing for the use of roads

We are keen to see continued yet strengthened ownership and usage restraint on cars as a form of demand management. Despite reviewing the pricing level of various taxation measures, direct user fee pricing for the marginal social cost would also be necessary to curb the usage of private cars.

Historically this comes in the form of fuel duty, but with the rise of fuel-efficient, hybrid or electric vehicles, the road user charging notion of fuel duty has become more and more obsolete as a form of demand management. Nevertheless, we would still need fuel duty to continue to be in place for pricing the externalities including emissions from the use of fuel-propelled vehicles.

Proposal 16

Review existing charge level for fuel tax at a proportionate level as with inflation and changes in purchasing power, curbing the use of fuel-propelled private vehicles. In the long term, develop an adjustment mechanism for reviewing the charge level of the fuel tax, ensuring that it remains prevalent.

Given that the government has decided to cease any new registration of fuel-propelled private vehicles including hybrid vehicles in 2035 or earlier, it is imperative to seek an alternative to replace the income from fuel duty.

Fuel-efficient cars and electric cars, despite their lower operating carbon footprint, from a strategic point of view are still less sustainable either - they are space inefficient in the same way, they have less (or zero) tailpipe emissions but their production, operation and overall lifecycle still stresses our environment, and our built environment will still be built around cars, not people, if they become more prevalent.

We would also need a new pricing instrument, road pricing so that private, space-inefficient car trips can be priced proportionately at the marginal social cost of one additional trip and the distance travelled.

Countries and regions around the world have implemented electronic road pricing, or similar forms of pricing such as congestion pricing, and low emission zones with a similar notion - reducing car traffic and its associated externalities. With HKeToll being implemented by the end of 2023, the technology for road pricing is very much ready as well.

Proposal 17

Implement road pricing by extending the use of HKeToll to toll the use of private cars. Pricing should be proportionate upon the marginal social cost, for an additional car trip but also the distance travelled.

Actual pricing models can be subject to further studies, including but not limited to strategic cordon/ congestion-based charging within and/or across areas, and tolling for use of strategic routes across regions, or distance-based charging. Pricing should be varied depending on typical demand patterns and portfolio, and not in the absence of traffic displacement onto streets. The ultimate goal is to lower the overall use of private vehicles.

Lowering the use of private cars helps reduce overall traffic levels, reduces congestion which allows efficient operations of road public transport, but also reduces the severance effect of traffic to active travel.

3.1.3. Strategic use of kerbside

Parking is also seen as another form of restraint, where the provision of parking has been limited despite the continuous growth of private vehicles, so as to uphold the threshold for owning/ using a car. This is to be in line with the existing policy to “prioritise accommodating commercial vehicle needs, and where appropriate to adequately provide parking for private cars, not to a point to induce modal shift to private cars thus worsen congestions”, Legco statistics suggested that the ratio of licensed vehicles to parking spaces has been declining from 1.32 in 2006 to 1.05 in 2016.²⁹

Street Reset very much welcomed parking as another form of ownership restraint to limit ownership and usage of private cars. Below list our recommendations on reviewing existing parking and kerbside use policy.

Proposal 18

Further existing inventory of parking and kerbside control measures, including:

- Review or dynamic pricing of public parking to moderate its use upon demand, especially for the fee for kerbside parking which has yet been adjusted since 1994
- Introduction of controlled parking zones (CPZ) for permit holders, usually for local residents/ businesses need
- Rationalise on-street provisions of parking, where appropriate to convert as loading bays to prioritise commercial vehicle operation, or introduce parking control
- Rationalise “no parking” prohibition. Designation of no parking but allowing loading/ unloading make enforcement difficult upon prolonged waiting, loading, and unloading.

Proposal 19

Further enforcement against traffic and parking contraventions, especially those along pedestrian desire lines or in proximity to crossings, to protect pedestrian safety.

Proposal 20

Review existing level of penalty to pay, and relevant mechanisms to deter parking contraventions.

²⁹ Legco Statistical Highlights - Transport: Parking spaces in Hong Kong ISSH11/17-18
<https://www.legco.gov.hk/research-publications/english/1718issh11-parking-spaces-in-hong-kong-20180126-e.pdf>

However, our view is that for areas where provision has been so limited, it would lead to prevalence of illegal parking (like parking on double yellow lines and double parking) or excessive cruising traffic causing congestion. For which it poses a negative impact to road safety and traffic circulations.

We therefore support, where deemed necessary, to rationalise a moderated provision of kerbside parking, possibly converted from kerbside with single yellow dashed line, along with road design improvements to ensure road safety and overall traffic circulation. Places like illegal parking hotspots can justify adequate provision, with physical barriers to deter further illegal parking. For certain roads with wide carriageways, parking can be rationalised to achieve a traffic calming effect.

Proposal 21

Review existing parking provision and where appropriate upon an evidence base, rationalise a moderated, adequate provision of on street parking, possibly converted from single yellow dashed lines for better road safety and traffic circulation.

Places like illegal parking hotspots can justify adequate provision, with physical barriers to deter further illegal parking. For certain roads with wide carriageways, parking can be rationalised to achieve a traffic calming effect.

Service and deliveries are also crucial for local businesses to operate, where their needs in operating a vehicle, loading, and unloading need to be catered for and prioritised at times. Yet currently there is an acute shortage of parking for commercial vehicles, including good vehicles and non-franchised buses, even worse than private cars. We therefore think there are needs to formulate a strategic, tailored plan to understand the needs and operation of commercial vehicles and to provide relevant infrastructure and interventions. Below we listed some of the initiatives or keys we think would be crucial for ensuring service and deliveries are included in the conversation and their needs prioritised.

Proposal 22

Develop a commercial vehicle strategy in reviewing its needs and identify relevant instruments to streamline their operation thus overall traffic circulations, where it would also fit the future transport system that is efficient, sustainable, safe, and resilient. Some key action includes:

- Rationalise provision of (timed) loading bays, possibly converted from existing on-street parking
- Identify opportunities for consolidated logistics facilities at a local level, allow dissemination in at more sustainable mode with fewer footprints, i.e., on foot, by cargo bikes or electric vehicles
- Initiative to encourage retiming of service and delivery at off-peak periods
- Couple loading/ unloading facilities with technology streamlining its use and utilisation
- Ensuring safety of medium and heavy good vehicle, including more stringent safety vehicle vision and speed assistance standards, and training for good vehicle

- drivers
 - Provide more parking facilities for commercial vehicles

We would also like to see more strategic measures ensuring that kerbsides are provided for people who have genuine needs. This includes recognising the local context and strategically identifying relevant provision, control, and enforcement measures catering needs of a suite of local users, including services and deliveries.

Proposal 23

Develop a parking, loading and kerbside management strategy, a systematic yet local context-driven approach to the provision of parking, evaluation, and prioritisation of kerbside needs, as well as local service and delivery facilities.

Proposal 24

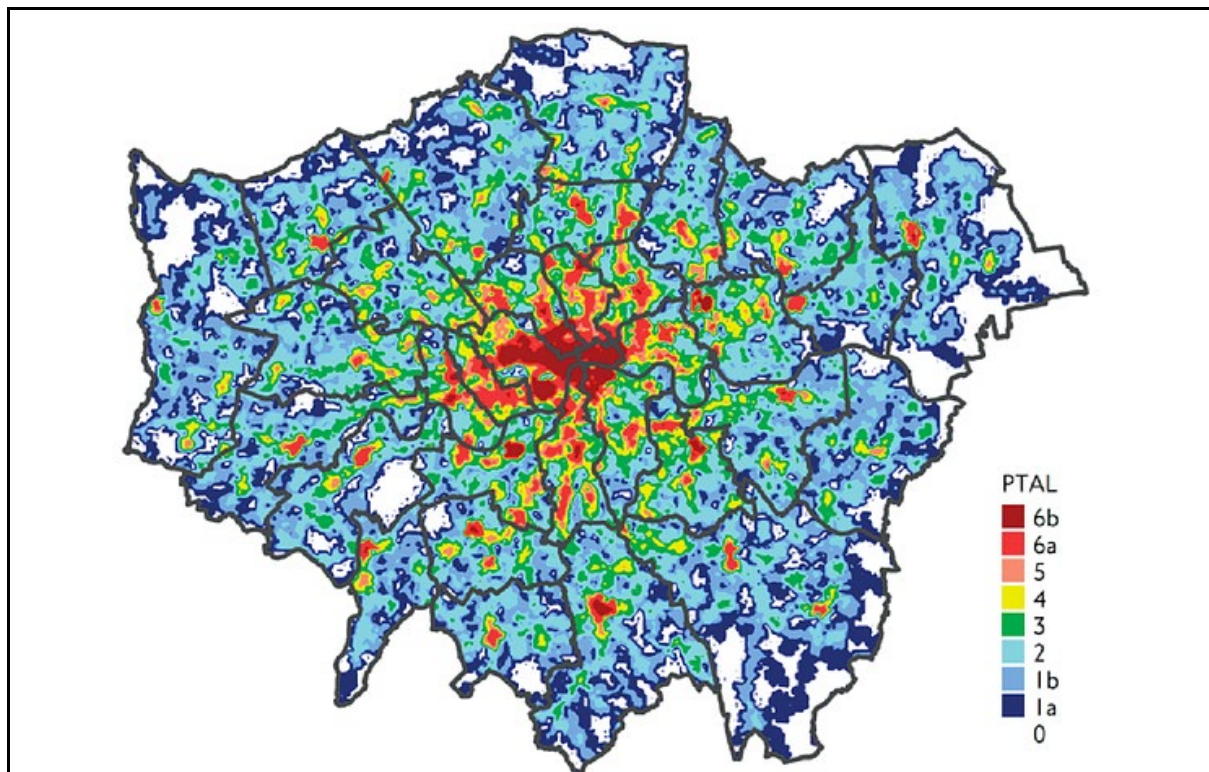
Embed technology with parking provision to allow drivers locate available parking spaces, reduce traffic at street level cruising for parking spots.

3.1.4. Tighten parking provision at new developments

Despite existing provisions, provisions in new developments also warrant concerns. Car parking provision standards at new developments were updated in HKPSG in August 2021, where the number of ancillary parking spaces for PCs in private and subsidised housing developments were increased from 1 parking every 6-9 flats to every 4-7 flats. Factors for provision adjustments in relation to floor area of flats were also adjusted to provide more parking.

Our view is the current (minimum) parking standards substantiates the use of private cars. To effectively manage demand for private cars, the parking provisions at new residential developments must be moderated to uphold the threshold for owning a car. Street Reset thinks that a ceiling of parking provision should instead be imposed with accordance to the accessibility by public transport. If it is deemed very accessible by public transport, no private car parking should be provided, with the exception to disabled parking, commercial vehicles, and service & delivery parking to remain unchanged.

Evaluation of public transport accessibility should not be based upon a set 500m distance to railway station, but also consider other public transport modes, its routing, frequency, and reliability in the form of subjective assessment. Reference can be taken from the "Public Transport accessibility level, PTAL" developed by the Transport for London, which provides a systematic methodological approach to assess public transport accessibility in new developments, and to set the maximum level of parking provisions accordingly.



(Image source: Transport for London)

Transport for London's Public Transport Accessibility Level (PTAL) is a systematic methodology to spatially assess public transport accessibility. It is classified into 6 levels with 6 being the highest accessibility and 1 the least. It is derived by assessing actual walking distance to public transport stops and respective service frequency at the relevant stop. It is regularly updated and includes most of the public transport modes including buses, light rail, tram, and other public transport modes.

London's planning policy has suggested new development situated in areas with PTAL level 5 or above should have no private car parking provided. Parking provisions for other areas will be lowered as PTAL is higher.

Proposal 25

Revert and tighten parking standards in HKPSG, uses public transport accessibility as a metric to dictate level of parking provisions. If a new residential and commercial development is situated in an area with high public transport accessibility, no parking for private cars should be provided to uphold the threshold for ownership and usage of cars by limiting parking supply.

3.1.5. Further ownership restraint

Despite the current constrained road and parking environment upholding the threshold for owning a vehicle, the distinctly dense nature of the urban realm in Hong Kong would inevitably necessitate more drastic **ownership restraints**. Upon continued growth despite various efforts to suppress so - Street Reset supports any forms of eventual caps/ ceiling on

car ownership growth - with measures transition into something similar to the vehicle quota system (VQS) in Singapore.

Proposal 26

Explore opportunities for further vehicle ownership restraint, including introduction ceiling/ caps on vehicle registration and importation.

3.1.6. Better alternatives

All forms of ownership and usage restraints must come with better alternative mobility options to enable modal shift. Public transport (including the introduction of demand-responsive transport) and active travel are definitely two of the key alternatives in sustainable mobility which a dedicated section is to follow. Other mobility options include the introduction of adequate provision of car clubs/ carsharing to replace car ownership for drivers with only occasional needs for car travel; and developers' travel plan commitments in planning to promote sustainable mobility in new developments. But also reduces the general need for travel by establishing a culture to adopt flexible and hybrid working arrangements and practices.

Proposal 27

Introduce car clubs/ car sharing schemes, including establishing relevant policy and institution framework, identify possible areas.

Proposal 28

Explore the opportunities for developer's contributions and commitments on new development sites, including the preparation of travel plans to promote sustainable mobility in new development sites.

Proposal 29

Establish within the administration and encourage corporates to adopt flexible and hybrid working practices, including flexi-hours, and options to work from home.

3.2. Delivering a “World-class” public transportation system

3.2.1. Delivering the strategic vision

Public transport is the most efficient mode of transport over a longer distance. Hong Kong has a mature public transport system with massive patronage and a successful modal split of over 90% on public transport. This allowed us to be one of the most sustainable areas in terms of urban mobility, even with our huge travel demand exacerbated by a very dense urban population and spatial mismatch.

Despite our exceptionally high uptake of public transport, we see continued growth of private vehicles as we illustrated in earlier chapters. This suggests the shifting preferences away from public transport. We need a conscious action to retain the comparative advantage of public transport as the default, favourable option to getting people back on board, or stop people shifting away from public transport - i.e., we need to mitigate the factors that trigger such modal shift (to cars).

But it's not just about mitigating push factors. As the world's forerunner in public transport uptakes, we need to aspire to more than just a system that works. We need the aspiration of a world-class, exemplary public transport system that continues to support our future needs - a public transport system that is:

Safe	Affordable	Easy to use	Convenient	Accessible	Comfort	Reliable
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These principles are passenger-centric and focus on their travel experiences thus making public transport the default, preferred and quality option of people's travel, fitting in the aspiration for a future transport system that is efficient, sustainable, safe, and resilient.

PTSS has defined strategic roles and positions of each of the public transport modes, understanding how each of the public transport modes would have their distinctive functions born respectively and how they complement one another forming an efficient yet resilient transport system. The strategic vision will need to, not only revalidate this as an integral approach for the future but also further develop this in a local context, formulating the public transport and/ or movement strategy for the districts.

Proposal 30

Revalidate the strategic, integrated and step-change provisions for the future world-class public transport system in the upcoming TTSS. This includes regional/ district evidenced-based strategic review on the baseline provision, and to develop the role, positioning and future provision of each of the public transport modes with local context.

Below lines out our proposition for transcending our public transport system with a “whole-journey approach”:

3.2.2. Enhancing travel experience

To enhance the travel experience it would be necessary to take on a **whole journey approach** to consider and where necessary, advance every aspect and step of the travel on public transport to be an appealing option to travel from the passenger's perspective.

Before the journey - Barrier accessing public transport	During the journey - an efficient, convenient ride	After the journey - Getting to next leg, final destinations
• Know-how - information & trip-planning • Fare & concessions • Accessibility by users of different needs	• Design-led approach & priority measures • Comfort & loading factor • Timetabling & headways	• Transfer & multimodal options, first/last-mile journey to destinations

Getting people on board - breaking barriers accessing public transport

Enabling access to public transport for people from all walks of life and needs is crucial to actualising public transport being the default first choice of how people travel in our future mobility scenario.

And for sure public transport offerings should be accessible to people from all walks of life. Particularly people with special needs accessing/ using public transport physically, mentally, or financially. But that does not mean average people naturally feel it is easy to access public transport. The key is to make public transport the natural, easy option for all.

Journey planning and mobility information

Navigating through public transport systems can be stressful and overwhelming at times, especially for people less used to taking a particular journey. Providing useful information and guidance reduces stress and gives reassurance to users before and during the ride and makes informed decisions before and during their journey taking into account delays, service changes and disruptions.

Journey planning tools provide ways for passengers to plan their journey in advance and make informed decisions. Despite journey planning generally not being a concern with the prevalence of apps and websites including TD's HKeMobility, but also a limited degree of open data from operators and third parties, we think that there is room for more.

Street Reset believes that there should be a journey planning protocol in place integrating information, especially real-time feeds of real-time headways (and ETA), disruptions, traffic conditions and service changes; but also route planners element incorporating value

proposition to prefer more sustainable modes that is higher up in the hierarchy like active travel and public transport.

Journey planning can, or even should involve intermodal suggestions, meanwhile journey incorporating walking and cycling could involve availability and suitability of assets and infrastructures like crossings and tracks, but also physical attributes like terrain as well. The same goes for people in wheelchairs with respect to accessibility needs navigating in public transport, including the availability of lifts/ wheelchair spaces in public transport.

Enabling these would require an establishment of protocol, innovation but also data feeds from public transport operators being open for all uses. We believe having data available to the public allows innovations and competitions for which it's what the private sector excels and provides options to users that are used to obtaining journey planning information at other platforms.

Proposal 31

Development of journey planning protocol including development of relevant route planning APIs, open data unifying data feeds from transport operators and traffic conditions. It should take into account real-time data including traffic, public transport headways, loading, availability of infrastructures and assets across different modes of transport, physical attributes like terrain, and costs of travel like fares.

Nevertheless, providing this information on site and people with less access to technology would still be important. This includes information displays and in-person support being available at urban stations, and stops; but also information being available at alternative formats/channels for people with various needs or more rural areas where the same level of support cannot be justified. This can be in the form of helplines or social media platforms.

Fare and concessions

Fare could be one of the barriers to people refraining from travelling. Hong Kong's average fare for public transport has been one of the lowest in the world, alongside concessionary and subsidy schemes for public transport use. We support the continuation and review of various concessionary and subsidy schemes to promote public transport use, especially for those in need. We must not forget transport would be the means for people to access opportunities - hence making them accessible for those who are in need is important and often in hindsight.

One of the recent considerations in moderation of travel demand and preventing the abuse of concession, the \$2 scheme in particular, is to limit the use of concession to non-peak hours, or local routes that cost less. We think that they are scopes for moderating such concessionary demand, especially for user groups that often make less time-sensitive trips. However, with the state of how the concession is provided at the moment, there needs to be careful consideration of how concession or the adjustment of it will enable/deter/limit people to travel, strain public transport systems and public finance to provide such schemes.

Although maintaining a simple fare structure is crucial for making the public transport system easy to use, we also encourage deals for frequent use of public transport and make these deals interoperable among different modes and public transport operators - if under public control.

We are also glad to see more public transport operators start to accept contactless and other payment methods. We think that contactless will be becoming more prevalent with smartphones and wearable devices and it also helps tourists to access public transport systems without the need to get an octopus card. Nevertheless, having an extra option is great but the choice of choosing to pay by cash should never be negated - ticketing machines or fare boxes should always provide the option to pay by cash at any time.

An accessible public transport for all

Public transport systems of any kind should be able to adapt to users of different needs. Accessing public transport can be at times difficult for people including:

- Physically
 - Disabled people/ people with restricted mobility
 - People with hidden disability
 - Parents with buggies/ prams, new borns
 - People using active travel as part of their journey
- Mentally
 - Mentally impaired person

On-board spaces, low-floor and/ or ramps have been more developed in MTR and buses. This includes priority seats and multi-purpose areas in the cabin; some bus operators are also providing the availability of wheelchair spaces on board in their apps. We are keen to see more public transport modes, where practical to be made accessible for people with additional physical needs.

We think that people with hidden disabilities are also worth being considered in transport planning for disability. Awareness, education for the public & respective training for staff are necessary for all to understand that not all disabilities are visible, and they're special needs and support necessary for people with hidden disabilities and mental impairment as well. There can be design tweaks for them - for example, to improve the legibility of signages and wayfinding, the reduced noise level can make them less distressed during travel.

Proposal 32

Raise public awareness that not all disabilities are visible. Educate the public and provide training for staff to understand special needs for people with hidden disabilities.

Respective infrastructure can also be in place, including age-friendly infrastructures like toilets, and benches (especially in long tunnel areas and public transport interchanges);

baby-friendly infrastructures like breastfeeding and baby changing rooms; as well as active travel-friendly infrastructures (see **proposal 79**).

It also needs to be realised that sometimes certain public transport options might not be viable for people with special needs - there should always be options for them to travel with less stress with the provision of affordable, demand-responsive paratransit/ community transport alternatives.

Listening and consulting to these passenger groups are crucial - see **proposal 96 & 97** for further details.

Proposal 33

Provide more inclusive facilities, for example children and elderly friendly facilities, toilets, benches at long subway sections and public transport interchanges (PTI), facilities for baby care - including breastfeeding rooms and baby change rooms.

An efficient, convenient ride**Design-led approach & priority measures**

While rail transport must have a dedicated right of way, road public transport remains susceptible to road traffic conditions. To ensure them being reliable, we need more design-led priority measures to be in place. They can include bus priority lanes, queue jump lanes, signal priority and optimisation (designed/ communication based), bus gates (or known as bus plugs), etc to establish the right of way and lower susceptibility to road traffic conditions, ensuring reliable services.

A design-led approach to address bottlenecks and pinch points along public transport corridors would be needed to ensure public transport but also overall traffic circulations. Say a junction that is prone to illegal parking hindering bus turning movements, a design-led approach would consider footway build-out to mitigate the impression that parking would not affect turning movements.

Priority measures are also often considered as part of the wider strategic traffic management to reduce overall traffic level by road space reallocation and providing quality mobility alternatives. These are often measures transport planners would consider as part of traffic reduction schemes yet retain (and very much improve) public transport services.

Proposal 34

To widely adopt road design that prioritises public transport and take on a design-led approach to mitigate bottlenecks and pinch points along public transport routes, to mitigate impact of traffic conditions on public transport, ensuring reliable services.

Comforts on board and timetabling

Public transport planning is a balancing act between coverage and frequency. It's about getting more passengers on board without waiting too long while getting where they need to go quickly at the same time with the best use of resources. Stop placements, actual routing and frequency would be one of the considerations worth reviewing during rationalisation processes.

Research suggests personal commuting experience has always been one of the key push factors for public transport, for which emphasis will need to be put on enhancing comfort to retain passengers to choose public transport. One of the keys is the crowding/ load factor of public transport services, especially during peak hours when current services might have capacity loading on board.

We need to recognise that rationalisation should not be at the expense of substantially worsening travel experience, including waiting time and load factor of services; but instead factoring in capacity for optimal loading thus passenger experience. We need to capitalise on the loading data/ survey to address this by either reviewing the frequency of services, or from an operational perspective arranging short-working service to start late or finish early, or express services where appropriate to ensure the best use of services with regards to comfort. In the same way, using such data as a basis for timetabling and mediating headways avoids bunching or fully loaded services having to wait for the next available services.

Proposal 35

Capitalise loading data, surveys to understand load factor of services and develop the evidence base for service/ headway optimisation. Set up an optimal loading factor with consideration of passenger comfort and crowding level on board. Optimise service provision including short-working trips, that is responsive to demand changes.

Transfers, intermodal connections, and getting to the final destinations

Transfer, be it intermodal transfers or transfers between routes within the same mode, are all effective use of public transport resources. However, in the view of travel behaviour, transfers pose heavy transfer penalties to individual's travel budgeting. Timetabling, including shortening waiting time between transfer of routes, and transfer experiences at interchanges would therefore be the key to mitigate such impact.

Proposal 36

Review transfer arrangements at buses including timetabling and/or operational optimisation to allow for seamless transfer. Enhance transfer experience by considering the provision of better interchange facilities for passenger comfort, including air-conditioning, amenities like toilets, nursing facilities, etc.

Street Reset thinks that having good intermodal connections, especially to active travel or micro-mobility modes, would be the disruptive factor for better public transport. It enlarges the service catchment of transit stops by providing such first/last-mile, park-and-ride solutions. With first/last-mile taken care of, which includes walking and cycling, as well as accessibility improvements - we can then in turn streamline our public transport routings to stop less frequently - then enhance the level of services by more frequent services, reducing dwell time or picking up/ dropping off more passengers at a time.

Proposal 37

Provide quality intermodal connections, especially active travel connections to public transport services by the provision of relevant facilities like secure cycle parking and storage; and mobility hubs at larger public transport interchange.

3.2.3. The operating model for future public transport

Public transport is rarely a viable business model, with countries around the world often seeing it as public goods and services where it requires not just some form of regulation but also subsidy and investment for the upkeep of public transport operations. That is very much less of a case for Hong Kong due to its exceptionally high population density supporting a sufficient level of patronage for public transport services and yielding a high farebox recovery ratio for public transport operation.

Fundamentally we think that the value proposition of public transport operation very much drives the public transport services that we experience daily. The current operation model allows operators to make changes around services, fares, routes, frequencies, and standards of services upon permission. However, these operators would naturally make these decisions based on commercial interest, which at times in jeopardy of passenger interest, thus overall public transport patronage and travel patterns.

Street Reset thinks that there is a need to revisit existing franchise models and bring further public control and more autonomy to the Transport Department as the transport regulator to plan for public transport operations. This comes as in a form of operating services rather than existing franchising framework, which includes a quality assurance framework with service quality-driven KPIs to provide commercial incentives and accountability for public transport operators to provide quality services; further control in route and frequency ensuring an attractive mobility option; as well as a partnership framework for transport operators duty and obligation to drive up the service quality and provision of public transport; last but not least a restructure in current business model as to certain revenue streams being shared between TD and operators to strive for diligence in governance and operation excellency.

A similar approach has been adopted in London and very recently in Manchester as part of their local devolution deal. Say London as an example, the Transport for London (accountable to the mayor) specifies what bus services are to be provided. TfL decides the

routes, timetables, and fares. The services themselves are operated under contract by private companies through a competitive tendering process with service targets to achieve.

In particular, public control and oversight over the planning of public transport services would be critical in ensuring how various public transport services will complement one another and serve varied needs. This would require a local, public, and evidence-based approach in understanding patronage, but also demographic and spatial reach and demand of public transport services.

We think that these come with the prerequisites for a sufficiently robust and friendly operating environment, including investment in infrastructures for public transport including priority measures and interchange facilities and other commitments mentioned in the earlier section.

Proposal 38

Reform existing franchise model to a service agreement model to allow for more public control and autonomy for the Transport Department as the transport operator and ensure public transport operators are accountable to provide quality services. It should entail:

- A reworked model of revenue stream shared between TD and operators to strive for diligence in governance and operation excellence
- Quality assurance framework providing commercial incentive for operators to uphold service quality with relevant KPIs
- Further public control in the level of service, including routes, frequency, fare etc. Planning of services to be driven publicly with input from operators.
- Partnership framework between TD and operators for initiatives to drive up service quality, provision of services and passenger experience

These changes are enabled by a favourable regulatory and planning landscape for public transport, including commitment and investment in public transport infrastructure including priority measures.

Proposal 39

With further public control over public transport in place, develop a framework to develop local and regional public transport strategy, with a public and evidence-based approach with respect to patronage, demographic and spatial demand, coordinating public transport services to complement one another, ensuring local travel demand and service quality are met.

We understand that these conscious changes in public transport operation do come with a cost. We suggest that public transport investment should have funding streams ring-fenced from transport demand management measures including road pricing and tolling (Proposal 15-17), an arrangement resembling the existing road safety fund. This is to ensure that the use of more preferred modes like public transport, can receive proportional investment to

promote its use and achieve modal shift. This is to be further discussed in Chapter 7 for the delivery of the vision.

The future of public transport operation, as mentioned in the earlier section, needs to be customer centric as well. We think that in local planning of public transport can involve commoning and a further degree of community involvement, including local passenger groups for local services improvement, passenger panels and watchdogs representing passengers, ensuring service quality and varied user needs are met. This is especially true with the rise of local (public) transport pages that put a great emphasis on local transport service provisions, providing local tacit knowledge of operations.

Proposal 40

Develop a framework in public transport operation to incorporate representation of passenger interest, overseeing service level and quality. Ensure public engagement in local public transport planning processes.

3.2.4. Mobility as a Services

Future transport models, namely MaaS (Mobility as a Service) includes a variety of service models like ride-hailing and car-pooling services, demand responsive transport (DRT), shared vehicles including shared bikes, e-bikes, e scooters and car club options. We think that MaaS produces huge benefits for public travelling, with some providing decentralised or demand-responsive service filling in gaps within formal transport, ensuring reach for more people and areas capitalising technology. Street Reset thinks that as with technology uptake, they will for sure be part of the future transport system for which, there is necessity for relevant legislation and legalisation, code of practices and institutional framework for these MaaS solutions to operate and thrive alongside existing transport modes.

Proposal 41

Develop an institutional framework, including relevant legislation for various MaaS solutions to operate and thrive with the vision of them being part of the future transport system alongside existing transport options.



4



**“Vision Zero”
for road safety**

4. “Vision Zero” for road safety

Traffic accident casualties are represented as numbers, yet each of these figures represents a precious human life. As expounded earlier, it is imperative that the government assumes responsibility by establishing tangible objectives and action plans. Such initiatives will galvanise both society and the transportation sector to collaborate in achieving the lofty goal of “zero road fatalities and severe injuries.”

To this end, we must embrace a novel paradigm known as “Safe system approach” which takes into careful consideration the inherent fragility of human life and the potential for road users to make mistakes. Relevant authorities should take steps to further enhance road system and vehicle designs to minimise the severity of accidents, with the ultimate aim of preventing fatalities and severe injuries. This philosophy resonates with the contemporary “forgiving” principle championed by road designers globally in recent years.

In light of these principles, we put forward ten specific recommendations pertaining to the existing policies and street designs in Hong Kong:

4.1. Lower speed limits on streets with high risk of pedestrian-vehicle conflict

We cannot effectively address pedestrian safety without truly recognising the role of speeds contributing to pedestrian casualties. Speed not only affects the severity of a crash, but also directly relates to the chance of a collision occurring. The faster the speed, the longer it takes for the driver to react and stop the vehicle.

According to literature review collated by the OECD’s International Transport Forum (ITF), the pedestrian’s risk of death is about 4-5 times higher in collisions with a car at 50 km/h compared to the same type of collisions at 30 km/h.³⁰ Another study by the Transport Research Lab also found a direct correlation between speed and crash risk - for every 1 mph (1.6 km/h) reduction in average speed on urban roads, there was an average reduction of 5% in the chance of a collision.³¹

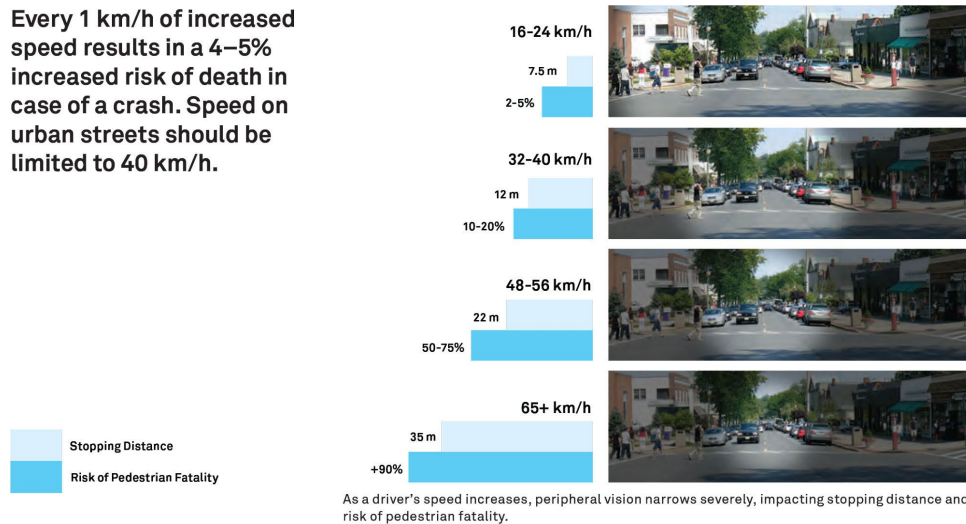
To systematically lower the collision risks and crash severity for pedestrians, we urge the TLB and TD to implement lower speed limits with effective traffic calming measures at the following high-risk locations, in reference to the typologies proposed in the TD’s new Pedestrian Planning Framework:

³⁰ ITF-OECD (2018) *Speed and Crash Risk*. Available at: <https://www.itf-oecd.org/sites/default/files/docs/speed-crash-risk.pdf#page=15>

³¹ Taylor C, Lynam D C, Baruya A (2000) *The effects of drivers’ speed on the frequency of road accidents (TRL 421)*. Available at: <https://trl.co.uk/uploads/trl/documents/TRL421.pdf>

- 30 km/h on any 'inner grid' streets, or 'outer grid' streets with high place function and/or footfall, as well as those in proximity to sensitive land uses (such as healthcare facilities, schools, and elderly/community centres, etc.)
- 40 km/h on 'outer grid' streets in densely populated areas

Illustration explaining drivers' diminishing peripheral vision and increasing risk of pedestrian fatality related to vehicle speeds, image from Global Designing Cities Initiative (2016)³²



TD should consider lowering road sections that are historically classified as "rural trunk roads". Roads like Castle Peak Road and Ting Kok Road have no grade separated intersections and crossings with frequent interactions with side roads, a 70 km/h speed limit poses a very high risk of fatalities and severe injuries to vulnerable road users including pedestrians and cyclists.

In addition, risks are even higher for older pedestrians than for younger pedestrians. A research by the American Automobile Association Foundation for Traffic Safety suggests that the standardised risk of severe injury for a 70-year-old pedestrian struck at any given speed was approximately equal to the average risk for a 30-year-old struck by a vehicle travelling 9.3 mph (15 km/h) faster.³³ This finding not only explains the especially high proportion of KSI casualties amongst the elderly age groups, but also highlights the immense potential safety benefits that speed reduction would make to protect the elderly pedestrians from the danger of death.

To attain the "Vision Zero" objective, we must refrain from solely attributing accidents to human errors and relying on educational and enforcement measures. Instead, authorities should adopt a more proactive approach, focusing on designing streets in line with the "forgiveness" principle to mitigate the risk of fatal and severe injuries.

³² Global Designing Cities Initiative (2016) *Global Street Design Guide*, <https://globaldesigningcities.org/publication/global-street-design-guide/design-controls/design-speed/>

³³ Tefft, B.C. (2011). *Impact Speed and a Pedestrian's Risk of Severe Injury or Death (Technical Report)*. Washington, D.C.: AAA Foundation for Traffic Safety. <https://aaafoundation.org/wp-content/uploads/2018/02/2011PedestrianRiskVsSpeedReport.pdf>

In recent years, many major cities have already implemented low speed limit zones with traffic calming measures on a large scale in urban areas. Aside from arterial roads and most main roads, many side streets and connector roads have already implemented the speed limit of 30 or 40 km/h, in order to create a safe and forgiving street environment to systematically prevent fatal or serious pedestrian injuries (see explainer and case studies below). Since Nov 2020 TD has trialled 30 km/h low speed zones in 6 of the road segments and has achieved great results. We are keen to see more being implemented accordingly to improve road safety.

The existing section in Chapter 6, Volume 6 of the "Transport Planning and Design Manual" regarding speed limits still contains recommendations against implementing speed limits below 50 km/h on public roads. It also raises doubts about the contribution of lower speed limits to accident prevention, quoting "it is doubtful that the lower speed limit imposed will contribute significantly to accident prevention".³⁴ This content is clearly outdated in light of current scientific evidence and contradicts the present policy aimed at introducing more lower speed zones. Therefore, authorities should revise this manual section to facilitate the implementation of additional lower speed zones.

Proposal 42

Drawing inspiration from the "Inner and Outer Grid" street types outlined in the latest Proposed Strategy and Conceptual Pedestrian Plans, we propose the implementation of corresponding lower speed limits and traffic calming measures in areas with heightened safety risks:

- 30 km/h on any 'inner grid' streets, or 'outer grid' streets with high place function and/or footfall, as well as those in proximity to sensitive land uses (such as healthcare facilities, schools, and elderly/community centres, etc.)
- 40 km/h on 'outer grid' streets in densely populated areas

Proposal 43

Consider lowering the speed limit on some sections of roads that were known as "Rural trunk roads", so as to reduce the risk of serious injuries to pedestrians and cyclists in traffic collisions. Examples include Castle Peak Road and certain sections of Ting Kok Road.

Proposal 44

Conforming to the current policy for the expansion of lower speed zones, we recommend updating the section in Chapter 6, Volume 6 of the "Transport Planning and Design Manual" regarding speed limits to facilitate the streamlined establishment of additional lower speed zones.

³⁴ TPDM Volume 6 Chapter 6 - Speed Limits, Paragraph 6.4.2.5

Area-wide Lower Speed Limits *explainer & case studies*

The concept of area-wide low speed limits is becoming a worldwide norm. Many major cities, including London, Paris, Tokyo, Singapore, Sydney, New York City and Shanghai, have already implemented large-scale speed reductions (to 30 and/or 40 km/h) in residential areas or areas with high footfall to reduce traffic collisions and pedestrian fatalities. In London, 60% of the streets have implemented a 20mph (32 km/h) speed limit³⁵. Shanghai's Street Design Guidelines published in 2016 also stipulates that minor roads should be implemented with a 30 km/h speed limit.³⁶

Both the Netherlands and Spain have recently adopted 30 km/h as the default speed limit on all urban secondary roads^{37 38}, and Wales has also just passed the law to enable a default 20mph (32 km/h) urban/village limit to be implemented by September 2023.³⁹

Evidence from multiple cities/countries have also demonstrated the effectiveness of area-wide lower speed limits in reducing the number of pedestrian casualties. A list of selected figures is presented in Table 5 below.

Table 6: Selected list of cities/countries implemented with area-wide lower speed limits & change in casualty figures

Cities/Countries	Speed Limit Reduction	Change in casualty figures
London, UK	From 30mph to 20mph (48 km/h -> 32 km/h)	-42% in all casualties -35% in pedestrian KSI casualties ⁴⁰ No casualty migration to nearby areas
Singapore	From 50 km/h to 40 km/h	-75% in collision rates involving senior pedestrians ⁴¹

³⁵ Transport for London (2022) *London Digital Speed Limit Map*, <https://content.tfl.gov.uk/london-digital-speed-limit-map.pdf>

³⁶ Shanghai Bureau of Planning and Land Resources (2016) *Shanghai Street Design Guidelines* (Chinese only), <http://files.in5.cn/201906/jiedaodaoze/%E4%B8%8A%E6%B5%B7%E8%A1%97%E9%81%93%E8%AE%BE%E8%AE%A1%E5%AF%BC%E5%88%99-%E5%85%AC%E7%A4%BA%E7%89%88.pdf>

³⁷ SWOV (2022) What are the speed limits in the Netherlands? <https://swov.nl/en/fact/speed-what-are-speed-limits-netherlands>

³⁸ Global Alliance of NGOs for Road Safety (2021, May 25) *30 km/h Becomes Default Urban Limit in Spain*, <https://www.roadafetyngos.org/events/30-km-h-becomes-default-urban-limit-in-spain/#:~:text=On%2011%20May%202021%2C%20in,vary%20from%20city%20to%20city.>

³⁹ Welsh Government (2022, July 12) *UK first – Welsh Senedd gives green light for 20mph legislation*, <https://gov.wales/uk-first-welsh-senedd-gives-green-light-20mph-legislation>

⁴⁰ Across 200 20mph zones in London, between 1986 and 2006, after adjusting for background trends. See Grundy, C., Steinbach, R., Edwards, P., Green, J., Armstrong, B., & Wilkinson, P. (2009). Effect of 20 mph traffic speed zones on road injuries in London, 1986-2006: controlled interrupted time series analysis. *BMJ (Clinical research ed.)*, 339, b4469. <https://doi.org/10.1136/bmj.b4469>

⁴¹ Land Transport Authority (2019, Mar 7) Factsheet: 20 More Silver Zones to Enhance Road Safety by 2020, <https://www.lta.gov.sg/content/itagov/en/newsroom/2019/3/2/factsheet-20-more-silver-zones-to-enhance-road-safety-by-2020.html>

Japan	From 50 km/h to 30 km/h	1,704 injuries prevented ⁴² (across 3,105 low speed zones in a 5-year period)
Barcelona	From 50 km/h to 30 km/h	-29% in all casualties ⁴³
New York City, USA	From 25 mph to 20mph (40 km/h -> 32 km/h)	-9% in all casualties ⁴⁴

Case study: Singapore's Silver Zone

The Silver Zone scheme was implemented by the Singapore's Land Transport Authority (LTA) in 2014. Silver Zones typically have a reduced speed limit of 40 km/h, additional traffic-calming and other senior-friendly road safety features. They are implemented where there have been senior pedestrian collisions and in areas with a high proportion of senior residents and senior amenities such as medical establishments. By 2019, LTA has already implemented 15 Silver Zones, and intends to implement a total of 50 Silver Zones by 2023.

LTA statistics show that the collision rates involving senior pedestrians within Silver Zones have been reduced by almost 75%. Collisions overall have also decreased from 14 cases to 4 cases per year (on average) in the 15 completed Silver Zones.⁴⁵

In 2021, LTA announced that speed limits at least five Silver Zones will be progressively lowered from 40 km/h to 30km/h following a successful trial in 2020.⁴⁶

Singapore's Silver Zone Traffic Calming Features (image from LTA)⁴⁷



⁴² Inada, H., Tomio, J., Nakahara, S., & Ichikawa, M. (2020). Area-Wide Traffic-Calming Zone 30 Policy of Japan and Incidence of Road Traffic Injuries Among Cyclists and Pedestrians. American journal of public health, 110(2), 237–243. <https://doi.org/10.2105/AJPH.2019.305404>

⁴³ Change between overall monthly average number of injured in 2009 and pre-intervention period in 2007 across 5 areas; time trend and seasonality adjusted. See Pérez, K., Santamariña-Rubio, E., Novoa, A.M., et al (2011) Effectiveness of Zones 30 km/h in the number of Road Traffic Injuries in Barcelona, ISEE Conference Abstracts 2011(1), <https://ehp.niehs.nih.gov/doi/abs/10.1289/isee.2011.00657>

⁴⁴ Included 26 lower speed zones implemented from 2012 to 2015. See Jiao B, Kim S, Hagen J, et al (2019) Cost-effectiveness of neighbourhood slow zones in New York City, Injury Prevention 2019;25:98-103. <https://injuryprevention.bmj.com/content/25/2/98>

⁴⁵ Land Transport Authority (2019)

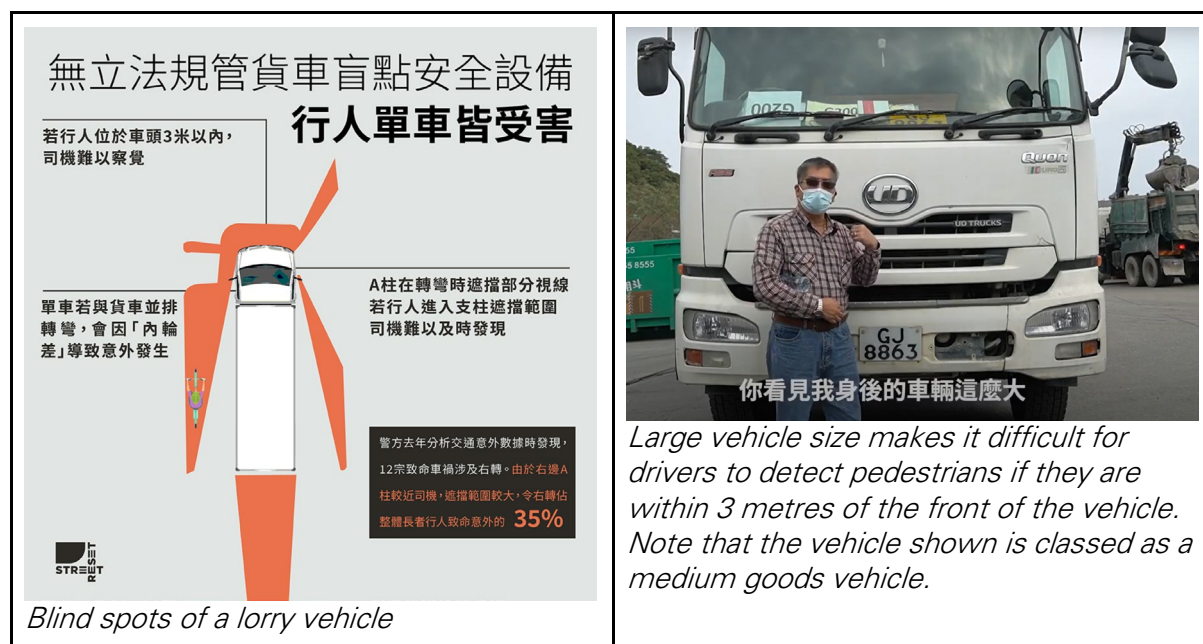
⁴⁶ Channel News Asia (2021, Aug 13) Speed limit at some Silver Zone locations to be lowered to 30kmh, <https://www.channelnewsasia.com/singapore/silver-zone-lower-speed-limit-30-kmh-lta-2110711>

⁴⁷ Land Transport Authority (2022) Road Safety, https://onemotoring.lta.gov.sg/content/onemotoring/home/driving/road_safety_and_vehicle_rules/road-safety.html

4.2. Making goods vehicles safer with more stringent safety standards

Blind spots on medium and heavy goods vehicles have become one of the main causes of fatal or serious collisions involving elderly pedestrians, according to the Police.

Through analysis on collisions that happened in 2019, the Police found that nearly 80% of elderly pedestrian fatalities involved medium and heavy vehicles such as lorries and buses, and many of these were caused by vehicle blind spots. At present, the usual design of lorries creates many blind spots, making it difficult for drivers to detect pedestrians if they are within 3 metres of the front of the vehicle. In addition, the windscreen pillars (A-pillars) on either side of the windscreen of a vehicle can partially block the driver's view when turning. If a pedestrian enters the area blocked by the pillars, it is difficult for the driver to detect them in time. Besides, the police found 12 fatal accidents involving right-hand turns. As the right A-pillar was closer to the driver, it was more obscured and accounted for 35% of all fatal collisions involving elderly pedestrians in 2019.



The current legislation only mandates the installation of Reversing Video Devices (RVDs) on all goods vehicles, but there is no safety equipment requirement for the blind spots in front and on both sides. Drivers often have to check multiple reflective mirrors for clearance, which leaves a high chance for human error. Given many private passenger cars are now equipped with sensors and video devices to eliminate blind spots, the lack of such safety equipment on most goods vehicles is unacceptable.

Over recent years, the local tipper truck driver industry has initiated requests for authorities to advance measures that enhance visibility, specifically targeting blind spots⁴⁸.

⁴⁸ on.cc 東網 (2022 年 8 月 21 日) 1日2宗泥頭車嚴重車禍 業界指需改善中重型商用車盲點

<https://bit.ly/48Hz93t>

Furthermore, on an international scale, there is a concerted effort underway to promote safer truck designs that mitigate risks to pedestrians and cyclists. The European Union has already made the installation of side-facing radar mandatory for all goods vehicles from 2022, which is expected to reduce the number of serious collisions involving goods vehicles and bicycles by up to 60%. The UK's Transport for London, which introduced the 'Direct Vision Standard' for all heavy goods vehicles (HGV) in 2019, will also require all HGVs entering the city to meet the new standard by 2024, allowing drivers to see directly or monitor their vehicles' blind spots with equipment. To cope with the new standards, commercial fleet owners in London are in the progress of switching to newly designed vehicles, namely 'Direct Vision HGVs'. Direct Vision HGVs are equipped with a low windscreen and fully transparent doors, allowing drivers to see directly ahead and to the sides of the vehicle (see figures below).

Comparison of direct vision coverage between conventional (in red) and Direct Vision HGV (in blue) (image from TfL)⁴⁹



Examples of Direct Vision HGVs operating in London



The long working hours and frequent fatigue of drivers have become a common concern. Even a slight lapse of attention can lead to fatal accidents. To prevent more avoidable injuries caused by visibility blind spots, the TD should look to the successful example set by the London authorities and take swift action to tighten vision standards for newly registered medium and heavy-duty trucks. Additionally, the authorities should gradually mandate that

⁴⁹ Transport for London (2016) Direct vision – Working towards the Direct Vision Standard for London's heavy goods vehicles, <https://content.tfl.gov.uk/working-towards-direct-vision-hgvs.pdf>

existing trucks be equipped with specific designs or devices that enable drivers to directly observe or monitor all blind spots on their vehicles. In this regard, the authorities can draw inspiration from London's "Heavy Goods Vehicle Safety Permit" system and progressively enhance the requirements for safety equipment during the implementation period.

The authorities should offer industry-specific subsidy programs for this purpose. Given the ongoing Environmental Protection Department program to phase out Euro IV diesel commercial vehicles, the authorities can collaborate with the Environmental Protection Department and increase the subsidy limit. These requirements should be put into effect promptly, allowing vehicle owners to consider them when replacing their vehicles and minimising the negative impact on the industry.

In fact, some of the new refuse trucks currently in operation under the Food and Environmental Hygiene Department or its outsourced contractors have introduced innovative designs that are reminiscent of the "Direct Vision HGV" used in other regions. These designs feature exceptionally low windshields, reduced side windows, and vehicle blind spot visual devices that allow drivers to have a direct view of the front and sides of the vehicle. It is worth noting that these introductions were made to comply with safety clauses in government contracts. The authorities can take a cue from these provisions and implementation models to include clauses pertaining to the adherence to new vision standards in outsourced service contracts, government engineering tenders, and government vehicle procurement procedures, with the expectation of swift results.

Streets Reset urges the authorities to promptly confront the issue of visibility blind spots in medium and heavy-good vehicles, engage in productive dialogue with the industry, and promptly amend regulations to require all existing and newly registered trucks to be equipped with vehicle visual aids or sensor systems that enable drivers to directly observe or monitor all blind spots on their vehicles. This is crucial to prevent further tragic incidents involving elderly pedestrians.

Proposal 45

Swiftly tighten visibility standards for medium and heavy-duty trucks to reduce the risk of avoidable road injuries.

Specific measures include:

- Consulting with relevant government departments to introduce clauses in outsourced service contracts or government engineering tenders, stipulating that outsourced contractors or companies involved in government projects must utilise trucks that comply with the new visibility equipment requirements, allowing drivers to have direct visibility of all blind spots on the vehicle. This requirement should also be extended to the procurement process for all government vehicles.
- Amending regulations and engaging in effective dialogue with the industry to raise visibility standards for newly registered medium and heavy-duty trucks.
- The new regulations should include sunset clauses for existing older-style trucks, requiring vehicle owners to install front blind spot visual aids, side cameras, detectors, and compliant wide-angle mirrors before the specified deadline. Vehicles should also be equipped with audible alerts for left turns and rear warning markings to signal pedestrians, cyclists, and motorcyclists to maintain a safe

distance.

- The authorities should establish industry-specific subsidy programs for this purpose. Given the Environmental Protection Department's ongoing program to phase out Euro IV diesel commercial vehicles, the authorities can collaborate with the Environmental Protection Department and enhance the subsidy limits, also to encourage adoption of fleets with direct vision design, or fleets equipped with relevant sensors/ safety equipment. These requirements should be implemented promptly to factor into vehicle owners' considerations when replacing their vehicles, thereby minimising any adverse impact on the industry.

4.3. Roll out safety improvement program for junctions and road sections with poor track record of safety

To systematically improve road safety, we urge TD to allocate dedicated resources to improve road safety at collision hotspots, including junction and road segments. TD should review the collision data and identify junction and road segments with poor safety record, and redesign the relevant junctions/ road segment to mitigate road safety risk of vulnerable road users. This can include reviewing/ redesigning elements like road typology, alignments, priority, and method of controls.

Street Reset published “‘Collision Not Accident’ An Overview of Road Danger against Pedestrians in Hong Kong” in 2022, identified the top 10 locations of pedestrian traffic collisions by collating and analysing traffic collision data by TD. Within these top 10 locations half of them are in outdoor market areas, with the other half located in high street and junctions linking to local streets. Pedestrian activity in these areas is often very high, with substantial crossing demands from pedestrians most of the time. Despite some of these streets being lined with guard railings and equipped with signs prohibiting pedestrians to cross, they are proven ineffective by the high pedestrian collision rate recorded.

Given there are competing uses of space at these locations, it is essential to remove risk factors by reducing vehicle speeds, volume, and/or junction complexity. Rather than continuing to correct human behaviour through failed measures, we should provide more dedicated space and/or priority to pedestrians to enable safer and more convenient crossing movements.

For example, provision of wider footway space, guard railing removal, more safer crossings, lower speed limits and traffic calming features could be considered. Although these measures should be implemented subject to specific conditions of each site, authorities should not be afraid of putting in measures that would reduce motor vehicle access or priority to enable these to happen.

Proposal 46

Target intersections and road sections with poor safety track record in Hong Kong, allocate resources to implement safety improvement programs to redesign the typology, alignment, priorities, and methods of control at these locations, aiming to reduce the safety risks to vulnerable road users.

4.4. More effective speed management by traffic calming

To manage vehicle speeds effectively, it is important to make the speed limits self-enforcing by installing traffic calming measures where possible. Such an approach will be the most cost effective in maximising speed limit compliance, as the Police would not have an infinite amount of resources to enforce speed limits everywhere.

We are aware that the TD has already successfully trialled the use of raised tables as part of the Walkability Study. Therefore, we urge the TD and HyD to install more raised tables across the road network where feasible, especially on secondary roads where the majority of pedestrian collisions happen.

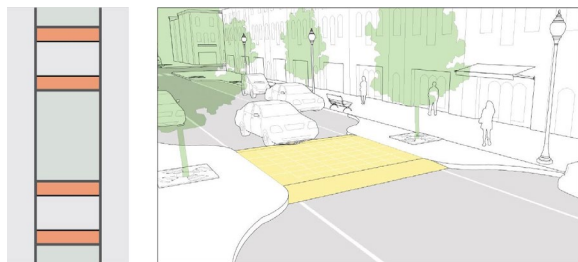
We also recommend the TD and HyD to trial and use a wider variety of traffic calming measures, as listed below. Some of these measures are new to the context of Hong Kong, which may require amendments to the Transport Planning and Design Manual (TPDM) to permit their use. By enabling their use, it will offer engineers and street designers a wider variety of measures available in their toolbox. More traffic calming measures can therefore be implemented flexibly based on site-specific constraints and circumstances, maximising pedestrian safety benefits.

Proposal 47

For the effective management of vehicle speeds, the authorities should consider the following actions:

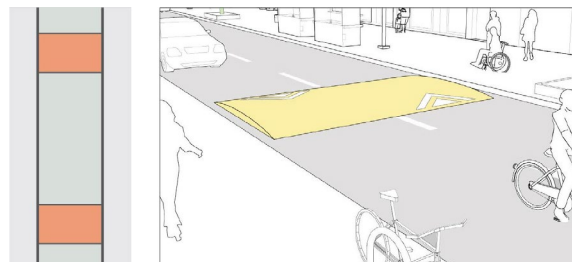
- Implement widespread installation of traffic calming devices on secondary roads to promote self-regulation of vehicle speeds by drivers.
- Install additional speed detection equipment on major roads passing through heavily populated areas to address the growing problem of habitual speeding.

Suggested Physical Traffic Calming Measures

Raised Table

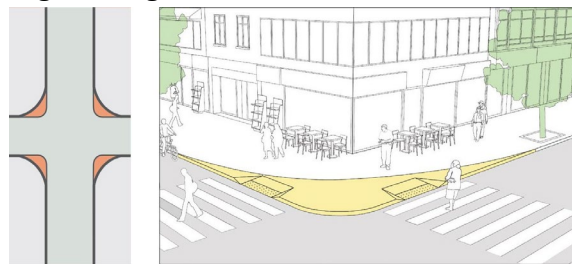
Raised tables are formed by raising sections of the road with a flat top, typically 6–9 m long. Raised tables can be used to reduce vehicle speeds and increase drivers' likelihood to give way to pedestrians.⁵⁰ They can also provide a levelled surface for pedestrians to cross comfortably and can be used along bus routes without significant impact to passenger comfort.

We are aware that the TD has already successfully trialled the use of raised tables at junctions, mid-link, and street entry points at limited locations in Hong Kong, including Shum Shui Po, Kai Tak, Central and Sha Tin.

Road Hump

Road humps are formed by raising sections of the road in a sinusoidal shape, typically 10–15 cm high and 4–6 m long. They can be extremely effective in keeping vehicle speeds low. Research conducted by the UK Transport Research Laboratory found that road humps can reduce mean and 85th percentile speeds between humps by an average of 10 mph (16 km/h)⁵¹ According to general practice in the UK, road humps are usually placed in a regular interval along a street every 180 m.

Unlike speed bumps used regularly in car parks and private roads, road humps have a gentler profile and long travel distance, which only cause minor discomfort to car occupants. Road humps are already being used on some village and rural roads in the New Territories, usually managed by the Home Affairs Department.

Lane Width Reduction**Tightening Corner Radii**

⁵⁰ Martin, A (2006) for Transport for London, Factors influencing pedestrian safety: A literature review, PPR241, TRL Limited, <https://content.tfl.gov.uk/factors-influencing-pedestrian-safety-literature-review.pdf>

⁵¹ Ibid, Martin, A (2006)

Most streets and roads in Hong Kong adopt a standard lane width of 3.65 m or wider where possible, as set by the minimum carriageway width specified in the TPDM.⁵² However, plenty of overseas research suggests that such widths are too wide, which can contribute to excessive speeds and negative pedestrian safety impacts.

The *Manual for Street 2*, published by the Chartered Institution of Highways and Transportation (CIHT) and endorsed by the UK Department for Transport (DfT), specifies that lane widths narrower than 3.65m will be appropriate in many circumstances (particularly in built-up areas) as it could encourage low traffic speeds without causing a significant loss of traffic capacity and the carriageways easier for pedestrians to cross.⁵³ This is supported by Transport Research Lab's findings about the association between reduced road widths and lower speeds.⁵⁴

Such views are echoed by counterparts in the United States. *The Urban Street Design Guide*, published by the National Association of City Transportation Officials (NACTO), also specifies that lanes greater than 11 feet (3.35 m) should not be used as they may cause unintended speeding.⁵⁵ Research also suggests that each additional metre of lane width is related to a 15 km/h increase in drivers' speeds.⁵⁶

Many junctions in Hong Kong have generous corner radii (7 m or wider) to facilitate swift vehicle turning movements. However, such large radii can cause more danger to pedestrians. As vehicles can turn faster (32-48 km/h) compared to smaller radii (16-24 km/h), it can cause more danger to pedestrians, with fast turning vehicles being more likely to cut across crossing movements. Large corner radii also require deflection to the pedestrian desire lines since it requires detour to minimise crossing distance, as illustrated in Figure 40 below. Pedestrians must also look further behind to check for fast turning vehicles and cannot normally establish priority to cross.

Narrowing corner radii can reduce vehicle turning speeds as well as pedestrian crossing distances. Minimising the size of a corner radius is critical to creating safe and compact intersections.

However, it is well noted that this measure is not suitable for junctions with higher speed roads. It may also not be feasible on roads with a high frequency of larger vehicle use. At some signalised junctions, stop lines may need to be moved back in the side road to support the safe turning of some larger vehicles.

⁵² Table 3.4.2.1 (Minimum Carriageway Widths in Urban Areas), Volume 2, Chapter 3 of the Transport Planning & Design Manual (TPDM)

⁵³ CIHT (2010) *Manual for Streets 2: Wider Application of the Principles*, <https://tsrgd.co.uk/pdf/mfs/mfs2.pdf>

⁵⁴ York, A Bradbury, S Reid, T Ewings and R Paradise (2007) *The Manual for Streets: Redefining Residential Street Design*. TRL Report No. 661. Crowthorne: TRL
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/3893/manualforstreetsevidence.pdf

⁵⁵ NACTO (2013) 'Urban Street Design Guide', <https://nacto.org/publication/urban-street-design-guide/>

⁵⁶ Fitzpatrick, K. et al. (2000) 'Design Factors That Affect Driver Speed on Suburban Arterials', Transportation Research Record 1751 (2000):18–25.
https://nacto.org/docs/usdg/design_factors_that_affect_driver_speed_fitzpatrick.pdf

Hence, we recommend that lane widths be reduced to between 3 and 3.2 m in order to make speed limits more self-enforcing. If lane width reduction is not feasible due to local circumstances, the use of special road markings or material to give the appearance of reduced lane width should at least be implemented.

Chicanes and Lane Shifts

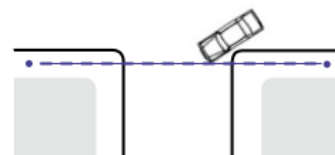


Chicanes and lane shifts use alternating parking, kerb extensions, or edge islands to form an S-shaped path of travel which lowers vehicle speeds.

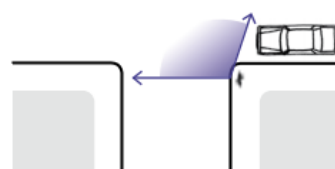
A study conducted by the UK Transport Research Laboratory in 1998 studied 142 chicanes across the UK. The study found a mean speed reduction of 12 mph between one-way chicanes, and 6 mph between two-way chicanes.⁵⁸

Negative impacts of large corner radii on pedestrians (image from Manual for Streets)⁵⁷

Small radius (eg. 1 metre)



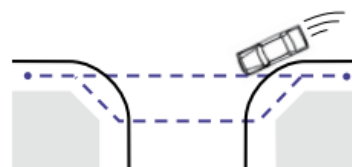
- Pedestrian desire line (---) is maintained.
- Vehicles turn slowly (10 mph – 15 mph).



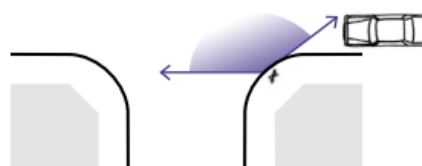
- Pedestrian does not have to look further behind to check for turning vehicles.
- Pedestrian can easily establish priority because vehicles turn slowly.

Figure 6.3 The effects of corner radii on pedestrians.

Large radius (eg. 7 metres)



- Pedestrian desire line deflected.
- Detour required to minimise crossing distance.
- Vehicles turn faster (20 mph – 30 mph).



- Pedestrian must look further behind to check for fast turning vehicles.
- Pedestrian cannot normally establish priority against fast turning vehicles.

Devon County Council

⁵⁷ Department for Transport (2007). Manual for Streets. Thomas Telford, London, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1072722/Essex_Manual_for_Streets_Redacted.pdf

⁵⁸ Transport for London (2019) Achieving lower speeds: the toolkit, <https://content.tfl.gov.uk/achieving-lower-speeds-toolkit.pdf>

4.5. Make crossing points more visible by safeguarding vehicle-pedestrian sight lines

The increasing parking demand has become a serious problem for road safety. Many parked vehicles often illegally obstruct pedestrian crossing points, are parked next to junctions or crossings or even double parked, resulting in reduced lines of sight for both pedestrians and vehicle drivers. Such conditions consequently obscure crossing pedestrians, posing threats to both perceived and actual safety of road users. These issues are particularly serious on secondary roads of old urban districts.

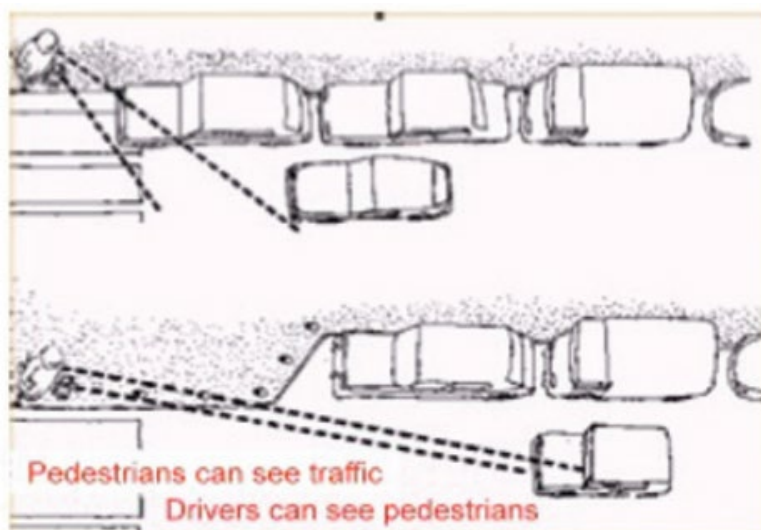
We recommend the TD and HyD to install more kerb buildouts and gateway features around junctions, and all controlled and uncontrolled (cautionary) crossing points where possible. This approach can physically deter vehicles from illegal parking, safeguarding pedestrian-vehicle visibility from being obscured.

It is important to install kerb buildouts or other physical features to deter parking that obstructs sightlines. Painted hatched markings are ineffective for this purpose, as shown in images below.

Proposal 48

Consider expanding pedestrian walkways in the vicinity of additional intersections, pedestrian crossings, or near auxiliary lanes, ensuring that the visibility of pedestrians and drivers remains unobstructed to enhance road safety.

Kerb buildouts are more effective in safeguarding pedestrian-vehicle sightlines against obstruction caused by parked vehicles



Kerb extension build-outs with gateway features (illustration from GCDI)⁵⁹



Parked vehicles obstructing vehicle-pedestrian sightlines in Shum Shui Po



⁵⁹ Ibid, GCDI (2016)

Painted hatched marking are ineffective in deterring parking that obstructs pedestrian sightlines



4.6. Provide more at-grade crossing points that fit better for prevailing pedestrian desire lines where possible

Although most grade-separated crossing facilities (e.g., subways or footbridges) have been mostly fitted with lifts to ensure accessibility for people with mobility needs, it is often still a considerable detour route compared to crossing directly at-grade. The mismatch between crossing facilities and desired lines can sometimes cause pedestrians to take more risks and climb over barriers to cross, which could often result in severe injuries. Hence, we believe that it is essential to provide more at-grade crossing points that cater for prevailing pedestrian desire lines where possible.

If there is already a strong desire line amongst pedestrians to cross at a particular location, the use of guard railing often cannot deter all pedestrians from doing so. As such, the railings caused some pedestrians to become trapped in the road, taking longer to reach the safety of the footway. Railings can also become useless when there are inevitable gaps due to the presence of junctions, bus stops, vehicular accesses, and median openings.

Therefore, rather than using physical severance features to make pedestrians cross with an indirect route, we recommend the TD to consider formalising the desired lines by providing at-grade crossings as much as possible.

Proposal 49

Provide more at-grade crossing points that cater for prevailing pedestrian desire lines where possible.

Guard railings and signs are ineffective to deter pedestrians from crossing the road if there are gaps. In such cases, authorities should consider formalising the crossing point to accommodate prevailing pedestrian desire lines. (From top left to bottom right: Des Voeux Road in Central, Wan Chai Road, Junction between Kweilin Street and Yu Chau Street in Sham Shui Po, and Kowloon Park Drive in Tsim Sha Tsui)



4.7. Enhancing speeding fines and linking them to income for a stronger deterrence

The existing four-tier fixed-speeding fine structure was established in the year 2000⁶⁰. With over two decades having elapsed, the deterrent impact of these fines has gradually diminished due to inflation and improved living standards. It is imperative for the authorities to reevaluate the fine structure in order to preserve its effectiveness as a deterrent. Our suggestion entails not only amending the legislation to elevate fines across all tiers but also tethering these fines to the offenders' incomes. This approach ensures that the economic ramifications of these fines are more or less uniform, thus reinforcing the equitability of law enforcement, especially concerning high-income individuals.

Finland and Switzerland have already implemented a "progressive fine" system targeting speeding drivers, which calculates fines based on offenders' daily disposable income. Taking Finland as an example, the fine amount constitutes half of the offender's daily earnings, multiplied by a factor corresponding to the gravity of the violation. In 2017, the UK introduced a similar speeding penalty regime, where fines are calculated according to the offender's weekly income and categorised into three levels based on the violation's

⁶⁰ 立法會（2000年）立法會參考資料摘要《2000年道路交通法例（修訂）條例草案》應付超速駕駛的措施, https://www.legco.gov.hk/yr99-00/chinese/bc/bc12/general/98_brf.pdf

severity. In the case of the most severe speeding violation, fines can reach as high as 175% of the offender's weekly earnings, with a maximum fine ceiling of £2,500 (approximately HKD 24,000)⁶¹.

Speeding diminishes drivers' reaction times and lengthens their braking distances, rendering accidents more likely. Moreover, higher-speed collisions generate greater impact forces, heightening the risk of more severe, or even fatal, injuries. Consequently, it is imperative for the authorities to amplify speeding fines to uphold their deterrent effect. Furthermore, tying these fines to the offenders' incomes is essential in curtailing the growing issue of chronic speeding and safeguarding the security of all road users.

Proposal 50

Amend the existing legislation to escalate speeding fines across all tiers and tether the fine amounts to the incomes of the offenders, ensuring that fines deliver a deterrent effect on all drivers.

4.8. Mandatory installation of Intelligent Speed Assistance systems for all newly registered public service and commercial vehicles

Citing accident data spanning the years 2015 to 2019 provided by the Transport Department, it has come to light that more than half (59%) of pedestrian accidents resulting in fatalities or severe injuries involve freight or public service vehicles. Notably, public minibuses exhibit the highest accident rate in severe pedestrian accidents among all categories of vehicles. Furthermore, an analysis of the 2019 accident data by law enforcement authorities revealed that freight and public service vehicles collectively accounted for nearly 80% of accidents leading to elderly pedestrian fatalities.⁶²

In order to elevate the safety standards of public service and commercial vehicles, we strongly recommend that the authorities enforce the mandatory installation of Intelligent Speed Assistance systems for all newly registered public service vehicles and trucks. This measure follows the current requirement for all newly registered buses to incorporate this system, thus establishing a valuable precedent for extending this stipulation to other vehicle types.

Proposal 51

Enforce the mandatory installation of Intelligent Speed Assistance systems for all newly registered public service vehicles and trucks.

⁶¹ Which? (1 September 2023) Speeding Fines, Tickets and Penalties Explained, Available at: <https://bit.ly/45zZ3mO>

⁶² Ockenden, J (2020, June 13) CSI bemoans lack of sensor tech on death truck, *Transit Jam*, <https://i0.wp.com/transitjam.com/wp-content/uploads/2020/06/police-infographic-elderly.jpg?ssl=1>

4.9. Upholding independence of Road Safety Audits

Starting from April 2019, all new road construction projects and major road improvement initiatives are mandated to undergo Road Safety Audits (RSAs). According to the TD's regulations, the Works Department is tasked with assigning independent auditors or expert teams to conduct these audits. However, even though auditors are supposed to maintain their independence, the current regulations permit consulting companies involved in the projects to nominate their own employees to serve as auditors. This arrangement raises concerns about the auditors' ability to remain free from potential pressures exerted by project teams or superiors, as well as the possibility of conflicts of interest. Such concerns exist both in perception and in practice, even when the rules restrict auditing roles to employees who have had no involvement in the project.

To ensure the efficacy and credibility of road safety audits, it is crucial for the authorities to address this issue and enhance the autonomy and fairness of the audit process. Consequently, we suggest that the authorities amend the procedural guidelines. These revisions should make it clear that auditors must not be employed by the project's consulting firm or any of its affiliated entities. Instead, auditors should be drawn from different consulting companies or individuals working independently. An even more robust approach would involve mandating that auditors are directly employed or delegated by government departments specialising in public works.

Furthermore, it is advisable for the authorities to regularly review various project evaluation reports in collaboration with the Highways Department. These reviews should serve to gauge the quality of the reports, pinpoint issues, foster a culture of learning, and establish mechanisms for constantly elevating standards and the safety design practices in the industry.

The independence of road safety auditors is critical to the efficacy of audits. Truly independent auditors are better equipped to identify safety concerns within project designs in their early stages and to provide sound recommendations for enhancements. This not only safeguards the safety of road designs but also mitigates the costs and project delays that may be incurred when rectifying issues at later project stages.

Proposal 52

Revise the procedural guidelines regarding road safety audits, stipulating that auditors must not be employed by the project's consulting firm or any of its subsidiaries. Auditors should be sourced from a different consulting company or should be independent professionals, thus ensuring the independence and impartiality of the audit process.

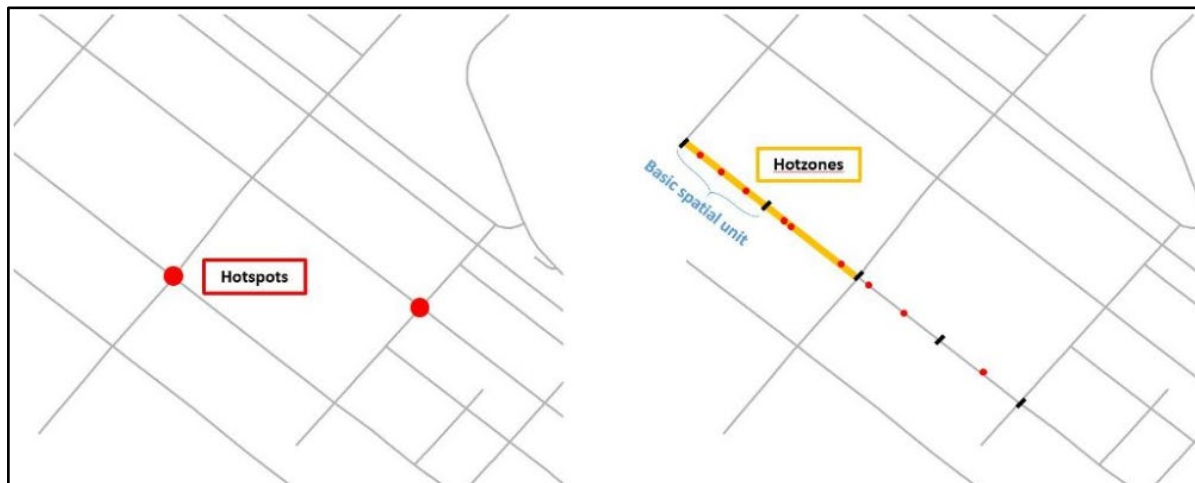
Establish a continuous review process in collaboration with the Highways Department, focusing on various project evaluation reports. The objective is to assess the quality of these reports, identify issues, encourage a culture of learning, and set up mechanisms for the ongoing enhancement of standards and safety design practices within the industry.

4.10. Adopting the Hotzone Analysis Approach in Place of the Current Traffic Accident Black Spot Analysis

The TD currently analyses the traffic collision based on the hotspot (or junction blacksites) analysis, identifying specific road intersections of a relatively high number of traffic crashes. However, dangerous road locations do not only include road junctions, but also some road sections, requiring corrective measures. For example, almost no hotspots can be identified on expressways. It is important to identify the dangerous road sections in order to devise preventive measures in advance, and to further reduce the number of traffic crashes and promote road safety.⁶³

To address this issue and extend the identification of dangerous areas beyond intersections, our recommendation is for the Transport Department to transition to hotzone analysis approach, replacing the current hotspot analysis. Hotzone analysis, pioneered by Professor Becky P.Y. Loo from the University of Hong Kong's Geography Department, excels in identifying continuous road segments of a certain threshold of traffic crashes.⁶⁴

Hotzone identification methodology developed by Loo (2009), image from Tsoi (2020)⁶⁵



In the context of modern road safety analysis, the hotzone analysis approach surpasses the traditional practice of identifying intersection black spots. The hotzone methodology takes network contiguity into account instead of identifying single hot spots of road crashes. It is very useful in road safety analysis because a hot spot might be a result of randomness rather than a systematic deficiency.⁶⁶ Therefore, we recommend that the Transport

⁶³ Tsoi, Ka Ho Jason (2020) *Where are the most dangerous road locations in Hong Kong?*, ArcGIS StoryMap, <https://arcg.is/jCWTX>

⁶⁴ Loo, B. P. Y. (2009) The Identification of Hazardous Road Locations: A Comparison of the Blacksite and Hot Zone Methodologies in Hong Kong, *International Journal of Sustainable Transportation*, Volume 3, 2009, Issue 3, Pages 187-202, <https://www.tandfonline.com/doi/abs/10.1080/15568310801915583>

⁶⁵ Tsoi, 2020

⁶⁶ Loo, 2009

Department collaborates with the University of Hong Kong to introduce the "Hotzone Segment" analysis approach. Simultaneously, the department should establish a contemporary system for identifying high-risk segments, which will enable a more precise identification of these areas and enhance the allocation of resources for road safety improvements.

Proposal 53

Replace the current traffic accident hotspot analysis with the hotzone analysis approach.

Collaborate with the University of Hong Kong to establish an up-to-date system for identifying high-risk segments, ensuring more precise identification and improved resource allocation for enhancing road safety.

4.11. Reforming the Road Safety Council to Promote Wider Engagement and Diverse Opinions

The current composition of the Road Safety Council, led by the Deputy Commissioner (Operations) of the Police Force, comprises official members from seven government decision-making bureaus and departments. Non-official members represent various social sectors, including automobile clubs, the driving industry, logistics sector, medical field, insurance industry, education sector, and the business community, all selected during its establishment. However, some groups and sectors directly linked to road safety, such as those advocating for the rights of the elderly, persons with disabilities, pedestrians, and cyclists, have been conspicuously absent from the Council's composition. In addition, certain professional sectors closely tied to road safety matters, like road safety engineering consultants, urban planners, road and traffic engineers, and public transportation operators, have also been left out. The exclusion of these voices and expertise has impeded their ability to participate fully in shaping road safety strategies.

To address this issue, we recommend that the government undergo a reform of the Road Safety Council's composition. This reform should encompass the inclusion of representatives from the aforementioned groups and sectors.

Proposal 54

Revamp the Road Safety Council to facilitate broader participation of diverse groups and sectors and enhance the development of comprehensive road safety strategies.

The groups and professions to be incorporated are:

- Representatives advocating for the rights of the elderly, persons with disabilities, pedestrians, and cyclists.
- Representatives from the road safety engineering consultancy, urban planning, road and traffic engineering, and public transportation sectors.

4.12. Establishing an Official Map-Based Collision Database for Enhanced Data Transparency and Public Access

Although comprehensive statistics regarding accidents are available to the public on the Transport Department's website, understanding the geographical context and trends of collision remains a challenge for the average citizen. Therefore, we recommend that the Transport Department create an official map-based collision database, accessible to the public. This initiative should be integrated into the department's "Annual Spatial Data Program." Furthermore, the department should routinely release information, including the geographical coordinates and details of all accidents, thus fostering public discourse and insights into road safety improvements.

Proposal 55

Establish an official map-based collision database for public access and ensure regular updates to enhance transparency in data reporting.



5



Streets at the Human Scale

5. Streets at the Human Scale

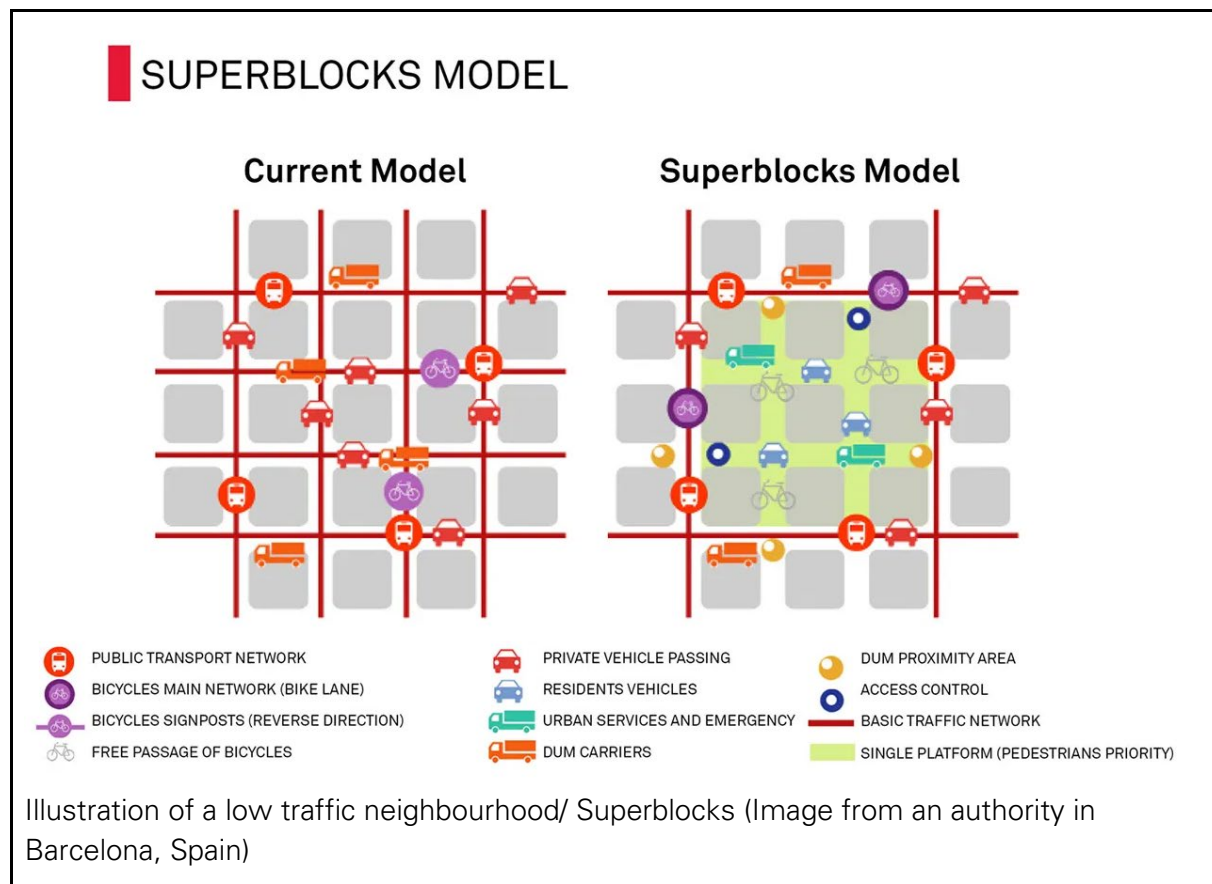
Streets, beyond being an urban lifeline, are also integral public spaces in our daily lives. To genuinely elevate pedestrian accessibility, the government must adopt a people-centric approach to street planning and design. This involves departing from past thinking to solely focus on traffic circulation, but to recognise streets' importance in the community environment. It necessitates comprehensive reforms that prioritise pedestrian needs and the creation of public spaces at human scale. This section outlines specific recommendations for transforming streets to improve pedestrian experience.

5.1. Reducing motor traffic permeability on local streets

Local streets stand out as unique spaces in our urban landscape, serving as the hubs/ living room for neighbourhood life and community gathering places. Unlike major roads with high traffic volumes, local streets have lower traffic movement function but a stronger sense of place, offering invaluable public space for community life. Regrettably, our previous street planning often saw local streets as mean to redirect traffic from major roads, leading many drivers to use them as shortcuts (known as rat-running), resulting in increased through traffic. This brings noise and air pollution to the local neighbourhood, hampering community interactions.

To address this, we propose the implementation of Low Traffic Neighbourhood measures (also known as Superblocks) on suitable local streets, restricting access to traffic unrelated to the neighbourhood. This will enhance community liveability by reducing air and noise pollution and risk of collision with vehicular traffic, makes walking and cycling safer, and promoting community interactions by creation of public space and placemaking initiatives, which is achieved by reclaiming road space to create public areas, parks, or recreational spaces for residents, fostering stronger social bonds and community cohesion.

Notably, Low Traffic Neighbourhoods, as opposed to exclusive pedestrian zones, permit vehicle access in and out, but not through the area by the use of barriers like bollards, fences, planters, or other obstacles. When implemented well, this does not impact access by local vehicles at all. Alternatively, licence plate recognition can be used instead of physical barriers, allowing buses, public service vehicles, or registered local businesses vehicles to pass through.



This aligns with the government's "Pedestrian Planning Framework" and the "Inner/Outer Urban Grid of Mobility" concept, which provides more space and priority for pedestrians in the "Inner Grid." The concept of Low Traffic Neighbourhoods has gained popularity in the UK and mainland Europe, enhancing the liveability of residential areas and city centres in places like Barcelona, London, the Netherlands, and Germany. Although it may entail initial changes and adjustments in traffic, in the long term, such transformations significantly improve residents' quality of life, encourage active travel, and reduce car usage.

The implementation of Low Traffic Neighbourhoods or reducing road space for motor vehicles, while potentially increasing traffic on streets at the regional boundaries in the short term, often leads to a gradual decrease in traffic flow on these boundary streets and nearby areas. As drivers adapt to traffic changes, it doesn't merely shift traffic issues elsewhere but gradually reduces overall traffic flow.

Superblocks in Sant Antoni, Barcelona



Before (top) and After (Bottom)

Low Traffic Neighbourhood in Walthamstow Village, London, UK



People feel welcomed to stay in, or travel through the area due to the low traffic environment

Proposal 56

Implement Low Traffic Neighbourhood measures on suitable local streets, limiting access to traffic unrelated to the neighbourhood, to reduce automobile access on local streets and prioritise pedestrians.

5.2. Seizing the opportunity of the Central Kowloon Route to transform parallel surface streets

The forthcoming opening of the Central Kowloon Corridor in 2025 presents a unique opportunity to reshape road allocation on alternative routes like Boundary Street, Prince Edward Road West, and Argyle Street. It allows a shift from the current car-centric design towards creating people-friendly, liveable streets, enhancing the quality of life for Central Kowloon residents.

According to a consultancy report, with the full opening of the corridor, the traffic volume/capacity ratio (V/C) on Boundary Street, Prince Edward Road West, and Argyle Street will decrease from the current 1.2-1.3 to 0.7-0.9. As the overall capacity of east-west roads in Kowloon increases, this is likely to induce new traffic demands. Without taking

action, the existing east-west surface streets will soon return to high traffic levels, making it challenging to achieve the goal stated when the Central Kowloon Corridor was under construction of reducing vehicle air pollution and noise disturbances on east-west surface streets.

We recommend that the government take advantage of this transition by initially converting one lane in each direction of Boundary Street, Prince Edward Road West, and Argyle Street into dedicated bus lanes, preserving some road capacity. As the right time emerges, these lanes can be transformed into pedestrian paths, lined with trees, or dedicated to bicycles.

Proposal 57

Seizing the opportunity of the Central Kowloon Route to transform parallel surface streets, this involves reallocating road space on Boundary Street, Prince Edward Road West, and Argyle Street, to create a people-friendly, liveable streetscape.

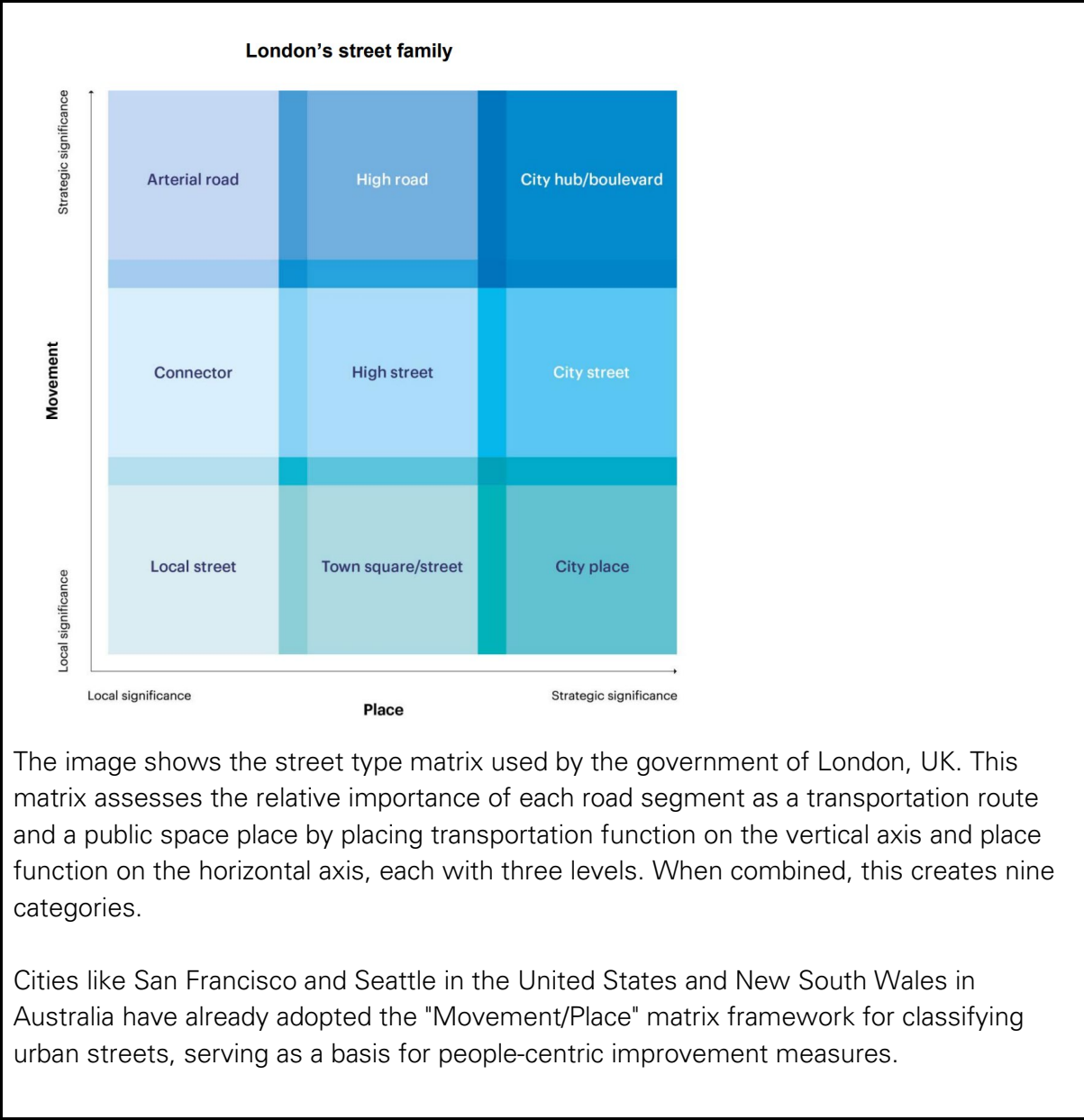
5.3. Establishing a street type classification system to aid decision-making

The improved and renamed "Street Planning Framework" should adopt the "Movement and Place Matrix" as the means of identifying street types in existing built-up areas. In contrast to the past approach, which primarily classified roads based on transportation function and traffic capacity, the new street classification will be defined by the strategic transportation function of individual road segments and the land uses on either side. This shift allows for a fair evaluation of the importance of both transportation and place functions for each road segment, assisting the authorities in making context-specific space and priority allocations and providing a foundation for future planning decisions.

We have noticed that the "Pedestrian Planning Framework" introduced the concept of this matrix as the minimum width standard for pedestrian walkways. It also proposed the "Inner/Outer Urban Grid" concept, giving pedestrians greater priority on inner grid streets. However, as mentioned in the strategy section above, achieving a harmonious balance between pedestrians and vehicles on streets requires a holistic approach, rather than focusing solely on the width of pedestrian walkways. Furthermore, exclusively adopting the "Inner/Outer Urban Grid" concept for street planning might limit the potential for improvements to outer grid streets, but just to concentrate efforts on inner grid streets. Some outer grid streets (such as Nathan Road, Yau Ma Tei, and Queen's Road Central) serve not only as major traffic arteries but also as shopping and tourist destinations with significant place functions. Unfortunately, these streets may be overlooked if the "framework" explicitly prioritises vehicle movement on outer grid streets.

Therefore, we believe that future street planning should adopt a more proactive and forward-thinking approach by fully utilising the "Movement and Place Matrix" to identify street types in existing built-up areas. This approach will enable the authorities to create

context-specific space and priority allocations and lay a solid foundation for transitioning to a people-centric street planning model.



Proposal 58

Fully adopt the 'Movement and Place Matrix' to identify street types in existing built-up areas, allowing for context-specific space and priority allocations and providing a basis for future planning decisions.

5.4. Developing a new and separate Street Design Guidelines to advise and standardise the transformation process

The current 'Transport Planning and Design Manual' by the Transport Department lacks a clear distinction between the design principles for highways and streets, resulting in fragmented information on street design. The existing standards in the manual primarily revolve around traffic flow and vehicular efficiency, focusing on engineering design and geometric dimensions, but lack a holistic design perspective for street spaces. The manual fails to address the current need for creating people-centric streets, even with the updates made in the "Pedestrian Planning Framework" last year. The design guidance for different street types and intersection types is insufficient, and the sections introducing pedestrian improvement measures lack depth and visual explanations, casting doubt on their utility for designers.

Therefore, we propose that the Transport Department establish dedicated design guidelines for the general street network in Hong Kong, excluding strategic routes. The "Street Design Guidelines" should comprehensively update and integrate relevant standards for street design. They should provide designers with guiding principles, transformation strategies, and design measures for creating people-friendly street designs and help them make flexible decisions according to local conditions.

The proposed content framework is as follows:

1. **Design/Transformation Principles for Different Street Types and Intersections:**

The guidelines should establish guiding design principles tailored to the characteristics of various street types and intersections. These principles should identify common existing issues, transformation goals, considerations, priorities, and recommend corresponding space allocations and design measures to assist designers in making context-specific decisions.

2. **Toolbox of Street Design Elements:** This section should concentrate on introducing various street design elements, such as different pedestrian crossing facilities, traffic calming measures and installations, lane restrictions for general vehicle turns or entry, bus lanes and dedicated bus routes, speed limits and low-speed zones, pedestrian and vehicular lane widths, parking spaces and loading zones, roadside tree planting, intersection redesign, and specialised traffic signal designs, among others. It should provide detailed information regarding their dimensions and geometric standards, practical considerations, and effectiveness data.

3. **Promoting Pilot or Temporary Transformation Projects:** The guidelines should also cover strategies, relevant considerations, and design principles for promoting pilot or temporary transformation projects. This might include expanding pedestrian walkways using lightweight materials, creating "curbside parks," extending dining or temporary bike lanes, and more. (For related explanations, please see Recommendation XX).

4. **Addressing Strategic routes-to-local Street Connections:** The guidelines should specifically address how to handle connections between strategic routes or elevated sections and ordinary streets, proposing appropriate design measures to alert drivers that they have exited the primarily vehicle-oriented road environment, encouraging reduced speeds and increased caution for vulnerable road users.

Upon reviewing the design standards for road systems in different regions and cities, we have found that many cities have separate street design guidelines alongside highway standards. To facilitate navigation, we recommend that the Transport Department restructure the composition of the "Transport Planning and Design Manual" by splitting its content into the "Street Design Guidelines" and "Strategic Route Design Standards."

We suggest that the authorities refer to the 'Shanghai Street Design Guidelines' and the 'Urban Street Design Guide' by the National Association of City Transportation Officials of the United States as reference when creating these guidelines. The guidelines should undergo comprehensive review and updates every five years and should be applied first in ongoing new development area planning and to drive street transformation projects in urban areas.

Proposal 59

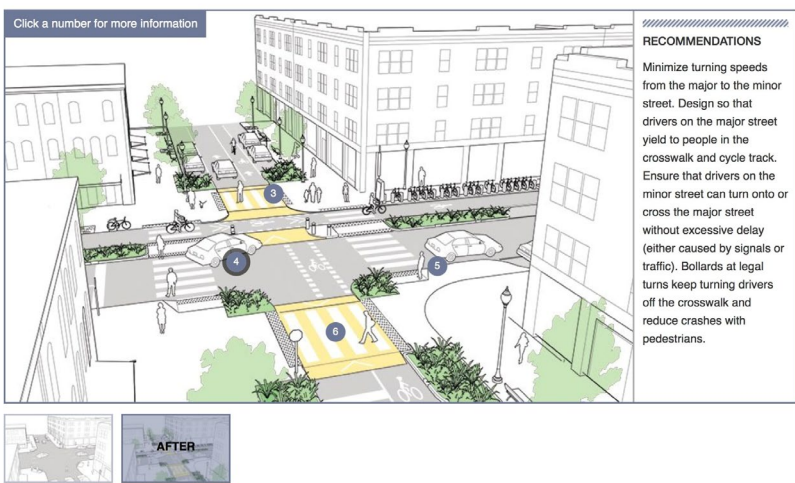
The newly established 'Street Design Guidelines' should comprehensively update and integrate relevant standards for street design, offering guiding principles, transformation strategies, and design measures to promote people-centric street designs and help designers make flexible decisions according to local conditions.

Proposal 60

Restructure the composition of the "Transport Planning and Design Manual" by splitting its content into the "Street Design Guidelines" and "Strategic Route Design Standards."

Proposal 61

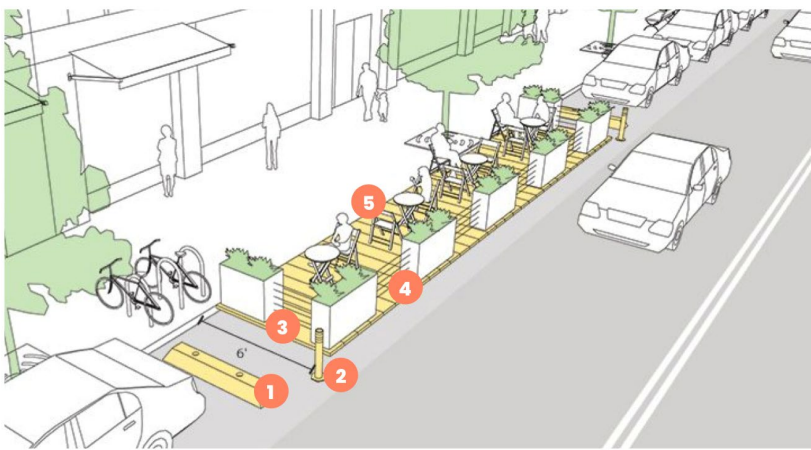
Review the revision mechanism of the "Transport Planning and Design Manual". Set up a committee with external experts, term of reference to ensure TPDM being kept abreast with latest thinking on transport planning, roads, and street design with regard to latest research and innovation.



RECOMMENDATIONS

Minimize turning speeds from the major to the minor street. Design so that drivers on the major street yield to people in the crosswalk and cycle track. Ensure that drivers on the minor street can turn onto or cross the major street without excessive delay (either caused by signals or traffic). Bollards at legal turns keep turning drivers off the crosswalk and reduce crashes with pedestrians.

'Urban Street Design Guide' by the National Association of City Transportation Officials of the United States - providing a design toolkit of various street design, link and junction typology, respective geometric standards, considerations behind it, monitoring and evaluation info. ⁶⁷



- 1 Parklets must be buffered using a wheel stop 4 ft from the parklet
- 2 Parklets should have vertical elements that make them visible to traffic, such as flexible posts or bollards
- 3 Parklets have a desired minimum width of 6 ft (or width of the parking lane); generally entail the conversion of one or more parallel parking spaces or 3-4 angled parking spaces
- 4 It is recommended to include an open guardrail to define the space that is no higher than 3 ft and be capable of withstanding at least 200 ft of horizontal force
- 5 It is recommended to incorporate seating into the parklet

5.5. Enhancing the convenience and safety of at-grade pedestrian crossings

To comprehensively improve pedestrian mobility, the TD should prioritise pedestrians' experience at crossings. We recommend the TD to adopt the seven targeted measures listed below to enhance the convenience and safety of at-grade pedestrian crossings:

1. **Install more ground-level crossings to align with pedestrian routes and habits,** as detailed in the previous section (see **proposal 49**).

⁶⁷ NACTO (2013) Urban Street Design Guide. Available at: <https://nacto.org/publication/urban-street-design-guide/>

2. **Implement at-grade pedestrian crossings in all directions at signalised intersections.** In some signalised intersections where pedestrians are allowed to cross, there are instances where crossings are provided only in certain arms, while others are separated by barriers or equipped with cautionary crossings. This poses inconvenience and safety risks to pedestrians, especially when pedestrians only realise so after crossing a section of road at grade, making jaywalking prevalent. Not having a crossing signal in any direction can also confuse pedestrians and increase the likelihood of misjudgement, thereby raising safety concerns.
3. **Upgrade high-risk cautionary crossings to signal-controlled or zebra crossings.** Pedestrians do not have priority on cautionary crossings. Many cautionary crossings intersect high traffic volumes and vehicle speeds, making it challenging for pedestrians to cross, or even some have incidence of fatal or severe accidents, reflecting its high safety risks. The department should undertake a strategic assessment of cautionary crossings, reviewing their safety records, and upgrade those high-risk or high traffic locations to controlled crossings. Cautionary crossings should be lit to ensure pedestrians are visible at night as well.
4. **Set vehicle stop lines back further from pedestrian crossings:** Most large vehicles currently have blind spots within the first 3 metres of the vehicle's front. A number of fatal accidents involving large vehicles are attributed to drivers not realising pedestrians (especially elderly) who are still crossing ahead of the vehicle while the vehicle resumes movement. We suggest TD to shift the stop lines at signalised intersections and pedestrian crossings for at least 3 metres back to enhance the visibility of pedestrians for large vehicle drivers.
5. **Reduce pedestrian signal waiting times:** Research has indicated that pedestrians begin to feel impatient when waiting for pedestrian signal for over 30 seconds, which could lead them to make impulsive decisions to jaywalk. Consequently, the department should conduct a comprehensive review of signal timing practices, aiming to adjust waiting times for pedestrian signals to approximately 30 seconds or less. This not only enhances pedestrian mobility but also promotes pedestrian compliance, contributing to road safety. The department should also incorporate "reducing pedestrian delay" as one of the performance indicators during signal timing reviews.
6. **Review pedestrian green phase timing:** In TPDM, TD should lower the current assumed value of walking speed for pedestrians to clear the crossing from 1.2 m/s to 0.9 m/s in all scenarios. TPDM have now already recommended using 0.9 m/s as the assumed speed at areas with higher footfall, or more elderly/ disabled users. As with the ageing population, there would only be more elderly on the street. We therefore suggest a unified approach to all roads and streets to improve inclusivity at all controlled crossings.
7. **Implement all-pedestrian phase/pedestrian scramble at more signalised junctions to allow diagonal crossings:** Many intersections in Hong Kong witness high pedestrian traffic. Implementing "pedestrian-exclusive phases" (all-pedestrian phase/pedestrian scramble) with green lights in all directions at more intersections would enhance operational efficiency, making it more convenient for pedestrians to cross, especially diagonally across two arms at a time. Moreover, it contributes to safety benefits.

8. Convert central medians in suitable locations into informal pedestrian crossing strips:

strips: There is a frequent demand for pedestrian crossings on numerous urban streets. Instead of creating barriers that force large numbers of pedestrians to cross at the same location, it would be more practical to provide pedestrians with a safer environment, allowing them to cross the road freely as needed, aligning with their real requirements (see examples in the image below).



Regent Street in London, a renowned tourist hotspot, was a major thoroughfare. Before its transformation (above), the roadside was lined with railings, similar to Hong Kong, preventing pedestrians from crossing at undesigned spots.

After a renovation in 2014 (below), aside from widening pedestrian walkways, planting trees, and setting up small resting areas, the pedestrian railings were removed. A roughly two-metre-wide pedestrian strip, also known as an informal crossing strip, was added to the central median. The purpose of such pedestrian strips is to allow pedestrians to cross one segment and stand securely on the strip, closely observing oncoming traffic on the other side, reducing the chances of pedestrian accidents.

Proposal 62

Implement the following measures to comprehensively enhance the convenience and safety of at-grade pedestrian crossings:

- Install more ground-level crossings to align with pedestrian routes and habits (see **Proposal 49**)

- Implement ground-level pedestrian crossings in all directions at signalised intersections
- Upgrade high-risk cautionary crossings to signal-controlled or zebra crossings
- Relocate the stop lines at pedestrian crossings
- Reduce waiting times for pedestrian signals
- Review pedestrian green phase timing
- Implement pedestrian-exclusive phases at more intersections and allow diagonal crossings
- Convert central medians in suitable locations into informal pedestrian crossing strips

5.6. Gradual removal of pedestrian guard railings on suitable streets

Placing pedestrian guard railings (PGR) at suitable locations, such as alongside highways or main thoroughfares, is a sensible measure for road safety. However, in recent times, we've witnessed an overabundance of railings on our everyday streets in Hong Kong. This not only creates a sense of confinement in our urban landscape but also hampers the ease of pedestrian movement. Research abroad has also revealed that pedestrian railings can encourage drivers to speed up, thereby increasing the likelihood of severe accidents. In essence, it seems that railings, when used on regular streets, might be doing more harm than good for traffic safety.

We believe that the relevant authorities should undertake a comprehensive review of the necessity of railings at all pedestrian crossings and on streets within established communities. This review should assess the suitability of removing these railings or replacing them with bollards in more appropriate locations. If we can reduce the speed limit on these streets to 30 or 40 km/h, the authorities can consider completely removing pedestrian railings, allowing pedestrians to choose the most direct and convenient paths according to their needs. This would greatly enhance the comfort and accessibility of our urban environment.

While it's true that railings can reduce pedestrian-related accidents, it's also important to note that when such accidents do occur, the consequences are often more severe. A study commissioned by the Transport for London in 2017 compared the number of serious pedestrian collisions at 70 junctions and pedestrian crossings in London before and after the removal of railings. The results showed a significant 53% reduction in the number of serious pedestrian collisions compared to the three years before the removal of railings. The number of serious pedestrian collisions involving all road users (including car drivers and passengers) has also decreased by 47%. Another study conducted by researchers at the University of Southampton in the United Kingdom in 2003 found that locations with railings had a slightly higher 85th percentile speed (+ 4 kilometres per hour) compared to locations without railings.

These research findings could very well apply to the Hong Kong situation. According to accident statistics from the Transport Department, accidents involving pedestrians within pedestrian crossings (including signal-controlled pedestrian crossings and zebra crossings) or within 15 metres of these crossings resulted in pedestrian deaths or serious injuries at rates of 29.4% and 26.3%, significantly higher than the average for accidents at other locations (21.7%). This suggests that the presence of pedestrian crossings does not necessarily guarantee pedestrian safety and may be linked to vehicle speed or the placement of railings near these crossings.

Pedestrian Location When Collision Happened

2015-2019

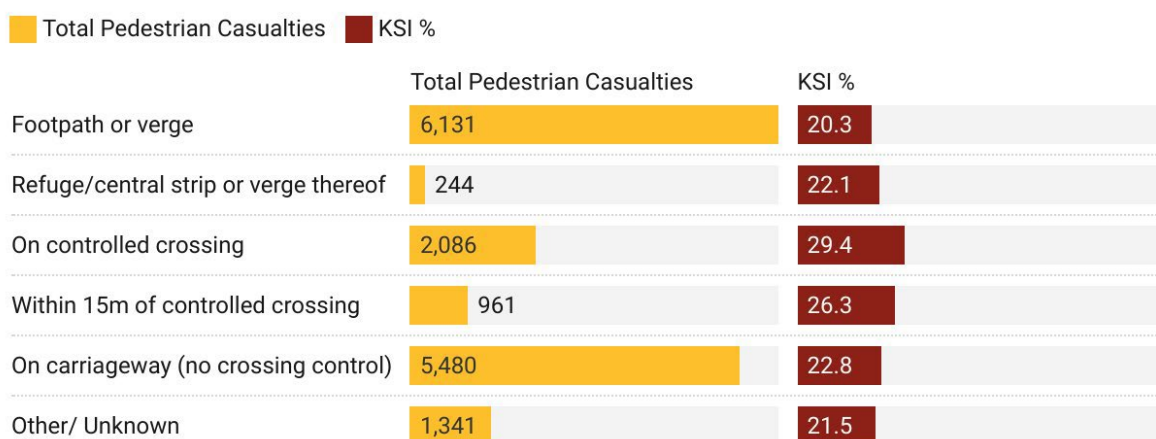


Chart: Street Reset • Source: TD Road Traffic Accident Statistics - Figure 1.12 (Pedestrian casualties by location of pedestrian and degree of injury) • Created with Datawrapper

Pedestrian location when collision happened (2015-19)

As mentioned in the 2017 London study, pedestrian railings may restrict drivers' visibility, leading them to mistakenly believe that pedestrians and vehicles are adequately separated, thus making them overconfident and more inclined to speed up. However, without railings, pedestrians may have a heightened sense of caution when crossing the road from any point, leading drivers to slow down and be more vigilant.

Moreover, the removal of railings could also boost the safety and comfort of cyclists. It provides them with an escape route in case of unforeseen accidents, preventing them from being trapped on the wrong side of the railing and exposed to potential vehicle collisions.

We recognise that the TD has been making efforts to address this issue, which began with establishing a "minimal approach" on guard railing installation in response to the 'Walkability Study' and are working to minimise the installation of pedestrian railings at pedestrian crossings. Since late 2019, they've also been reviewing the necessity of certain pedestrian railings in busy areas. Furthermore, the authorities will be reviewing the need for railings when responding to complaints, accidents, and when carrying out traffic improvement projects. In line with Audit Report No. 77 of 2021, the Transport Department has also committed to actively demonstrating the benefits of appropriate railing removal to the

public.

Proposal 63

Conduct a comprehensive assessment to determine the necessity of PGR at all pedestrian crossings and on streets within established communities. PGR should be removed in more appropriate locations or replaced with bollards where feasible, illustrating the benefit of adequate railing removal to the public.

If street speed limits can be lowered to 30 or 40 km/h, TD should consider the full removal of pedestrian railings in those areas, which will create a more comfortable and accessible urban environment.

5.7. Widening footways to provide parklets and outdoor dining space

To infuse more life into our streets, we suggest that the Transport Department take a page from the "Parklet" concept from other places. This involves repurposing street-side parking spaces or lanes into areas for relaxation or the extension of dining spaces. This not only enhances the visual appeal of our streets but also draws in more foot traffic, encouraging people to take a break, rest, and savour the urban surroundings. Ultimately, this will promote pedestrian-friendly economic activities.

The concept of "Parklets" first emerged in San Francisco in 2005 and has since become a common strategy to enhance the charm of urban streets in many cities. In the United States alone, there are over 3,000 "Parklets." These spaces are typically created by transforming existing parking spaces into pedestrian-friendly areas. They feature elements such as benches, tables, chairs, greenery, bike racks, and sometimes canopies and lighting to provide an engaging public space where people can sit down and unwind. Many restaurants and cafes have also adopted this concept by extending their storefronts onto the street. A study on a pilot project of San Francisco's Parklets showed a 37% increase in foot traffic on weekday evenings. Similarly, a program in the Hammersmith Business Improvement District in London, United Kingdom, boosted the turnover of nearby businesses by 30%.

The success of "Parklets" stems from their temporary and cost-effective nature. If needed, they can be easily removed, minimising financial risks associated with experimentation. The government can allow eligible businesses to apply for the creation of "Parklets" or extensions of dining spaces at suitable locations, with businesses sharing part of the construction and maintenance costs. As these initiatives mature, the government can even generate revenue from businesses in prime areas, which can be more financially and economically beneficial than using the space for roadside parking.

This concept has been successfully applied in various cities, including New York City and Singapore. In New York City, the Open Restaurant Program was launched during the

pandemic to enable restaurants to use pedestrian and roadside spaces for outdoor dining. This arrangement has since become a permanent feature, even post-pandemic.

Proposal 64

Explore the idea of repurposing kerbside lanes or parking spaces into 'parklets' or outdoor dining spaces, with the aim of creating spaces where people can leisurely enjoy and stimulating pedestrian-oriented economic activities.



From left to right, top-bottom: London, UK; Singapore, San Francisco, US; New York, US⁶⁸



St Marks Place in New York, US. The pandemic has restricted indoor dining, NYC DOT decided to invite applications for "Open Restaurant Program", allow restaurants to use the footway and kerbside area as outdoor dining area. Such an arrangement has become permanent post-COVID.⁶⁹

⁶⁸ WMB Studio, LopeLab, jeremyashaw/Flickr, Choongky/Shutterstock

⁶⁹ Flickr - Eden, Janine and Jim (CC BY 2.0)

https://live.staticflickr.com/65535/50295553313_cd32277c65_k.jpg

5.8. Promoting experiential street redesign projects and encouraging community involvement in the design process

In response to the aspirations of our citizens for a more liveable city, the government must take a proactive approach for trial and error, embracing innovative thinking and undertaking urban experiments. This is essential to strike a balance between the function of traffic circulation and liveability of the community with streets as places. We suggest that TD should initially experiment with low-cost, temporary, and tactical road reconfigurations, introducing the concept of “participatory design” and “co-design”, and encourage local residents to take part in the design process.

Low-cost trial projects offer multiple advantages. Firstly, they enable government agencies to collaborate with the community in testing new ideas and designs, observing their effects, and making improvements based on real-life observations. The use of temporary and cost-effective materials during trials allows easy removal or adjustments as needed, reducing cost and risk associated with decision-making. This approach also prevents projects from stalling due to unresolved concerns, which is a common issue with traditional decision-making processes or when the benefits of high-cost investments are unclear.

Secondly, trials allow citizens to gradually adapt to changes and provide empirical evidence to address public concerns. It lets people experience the benefits of change in first hand, thus gaining the support of affected groups and the general public, ensure public acceptability of the project. During trials, the authorities can also organise “co-design” workshops, encouraging community residents to participate in the design process and actively incorporate public opinions, ensuring that the final design of the project takes into account and responds to the “pain points” of the public. A transparent and meaningful community involvement process can further build trust in the authorities and a sense of belonging to the community among citizens.

This flexible experimental program has been proven to drive real innovation. In recent years, Hong Kong has opened many new public spaces, such as Quarry Bay East Park and the Wan Chai Promenade, which include innovative rail-less designs, creating attractive public spaces for citizens. These have successful outcomes because relevant departments made the effort to adopt new approaches. Among government departments, the Architectural Services Department, the Leisure and Cultural Services Department, and even the Drainage Services Department have started to collaborate with community groups to organise participatory design projects, using design thinking to solve problems. In terms of street design, we believe the Transport Department can do the same.



TACTICAL URBANISM: THE SPECTRUM OF CHANGE

Pilot scheme in place to push for street transformation step-by-step.⁷⁰ This can be applied in any type of street transformation schemes including walking improvement schemes.

Proposal 65

Begin street redesign projects with low-cost, temporary road space reconfigurations and introduce the concept of "participatory design" to involve the community in the design process. This approach will provide multiple benefits by allowing for flexibility and building public support while promoting real innovation in our city's development.

5.9. Planting more street trees and rain gardens to enhance climate resiliency

In light of the prevailing global climate change trends, Hong Kong is grappling with escalating scorching temperatures and the exacerbating urban heat island effect. Moreover, incidents of flooding triggered by heavy rainfall and typhoons are becoming increasingly frequent. To bolster the city's ability to withstand and adapt to increasingly severe extreme weather events, we recommend that the government takes proactive steps to make the most of roadside spaces. This would involve planting more trees along the roads and setting up "rain gardens". Opportunities can be explored to widen pedestrian walkways in suitable locations to serve these purposes. This initiative aims to significantly contribute to the battle against the ever more severe extreme weather conditions.

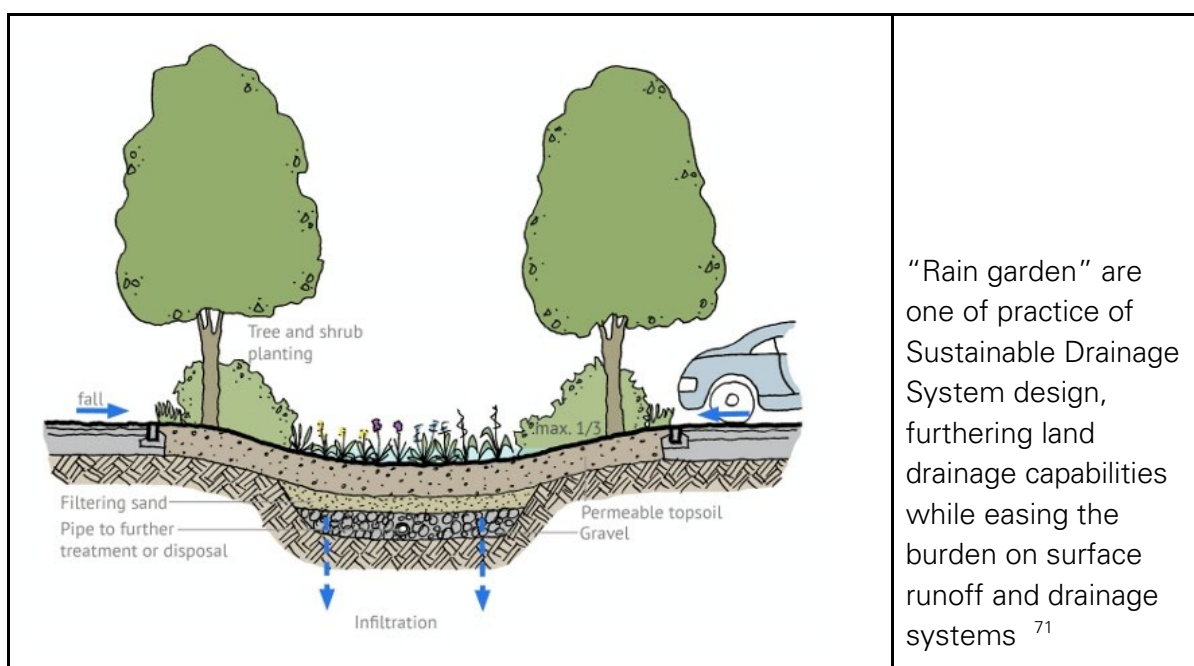
⁷⁰ 圖片來源：People for Bikes - Quick Builds for Better Streets Guide

<https://www.peopleforbikes.org/reports/quick-builds-for-better-streets-a-new-project-delivery>

The extensive greening of city streets brings a basket of benefits. It not only provides pedestrians with shade and helps filter out dust and pollutants but also offers cooling effect from the urban heat island effect, improving the microclimate of our streets. Research indicates that, especially in tropical urban areas, streets lined with trees can experience temperatures up to 5.6 degrees Celsius lower than those without trees. Furthermore, these green stretches can lower humidity and reduce concentrations of airborne particles. Beyond the climatic benefits, urban greenery enhances aesthetics, improves the local environment, and humanises the streetscape, particularly in high-rise density areas. Roadside trees also serve as moderate traffic speed altering streetscape, but also offer a buffer between pedestrians and vehicles, thereby promoting road safety.

The deployment of sustainable drainage systems (SuDS) such as "rain gardens" in line with the concept of "sponge city", also aids Hong Kong in being more resilient against extreme rainfall. Despite the recent establishment of underground rainwater storage and discharge systems in various areas, the widespread introduction of rain gardens can further land drainage capabilities while easing the burden on surface runoff and drainage systems. Several mainland and foreign cities have already embraced the concept of rain gardens, and in recent years, Hong Kong has initiated pilot programs to introduce these gardens in locations like Ho Man Tin and Fanling.

For this initiative to succeed, the Transport Department must work closely with the Highways Department, the Civil Engineering and Development Department, or the Development Bureau's landscape architects. Building upon the achievements of the "Greening Master Plan" for urban and New Territories, a fresh round of projects focusing on roadside tree planting and rain garden implementation should be launched while relevant opportunities around street transformation can be further explored.



"Rain garden" are one of practice of Sustainable Drainage System design, furthering land drainage capabilities while easing the burden on surface runoff and drainage systems ⁷¹

⁷¹ Susdrain <https://www.susdrain.org/delivering-suds/using-suds/suds-components/filtration/filtration.html>

Proposal 66

Make active use of roadside spaces for planting more trees and establishing "rain gardens." Additionally, explore opportunities for widening pedestrian walkways in suitable locations to combat and adapt to increasingly severe extreme weather conditions.

5.10. Providing more shaded seatings

Shaded seating in the urban realm creates a more comfortable urban environment, citizens can relax more, streets are more inclusive as they cater to the needs of the elderly and those with limited mobility, offering them convenient places to rest.

Shaded seating offers users respite from harsh sun and inclement weather, ensuring that people can enjoy a comfortable resting place regardless of weather conditions. They can also serve as social hubs for local residents, facilitating community interaction and boosting street vibrancy.

With Hong Kong's elderly population projected to reach 30% of the total by 2035, the government should proactively work towards creating an inclusive and dynamic street environment. This is essential to meet the needs of the elderly, allowing them to lead independent and fulfilling lives within their own communities.

Proposal 67

Introduce more shaded seating in suitable locations along the streets.

5.11. Tougher measures against modified vehicles that create excessive noise

Recent years have seen a concerning surge in vehicle-related noise issues. Irresponsible vehicle owners who modify their exhaust systems, causing excessive noise, have compounded the problem of road noise, particularly impacting residents living near major roadways and leading to sleep disturbances. In light of this, we propose that the government take a page from the UK's playbook by launching a trial of "noise cameras" on major roads to identify and penalise vehicles equipped with modified exhaust systems causing excessive noise. This proactive measure aims to mitigate the issue of vehicle-related noise pollution.

In the UK, the Department for Transport initiated trials of cutting-edge technology in five cities last year. They employed cameras equipped with audio recording capabilities to accurately detect excessively noisy vehicles. These cameras automatically identify vehicles whose drivers engage in unnecessary engine revving or employ illegal exhaust devices,

recording the noise levels and capturing licence plate information. Local law enforcement can then use this evidence to issue fines to the offending drivers.

A 2013 study by the UK government estimated that the long-term social costs of road noise, including productivity losses due to sleep disruptions and health-related expenses, amounted to a staggering £10 billion annually in England alone. In a 2021 Danish study, it was suggested that out of nearly 8,500 dementia cases in Denmark in 2017, over 1,200 might be attributed to exposure to traffic noise. This underscores the importance of reducing traffic noise in averting cognitive, memory, and behavioural issues.

Proposal 68

Pilot the installation of "noise cameras" on major roads to identify and penalise vehicles with modified exhaust systems causing excessive noise, aiming to mitigate the issue of vehicle-related noise pollution.



6



**A strategic provision
for cycling**

6. A strategic provision for cycling

To promote cycling as the daily mode of transport for utility trips, making cycling an easy, intuitive mobility option and making the experience of cycling safer, more convenient, and comfortable will be one of the keys. There needs to be a comprehensive active travel policy to improve the planning and design of the existing cycle tracks as well as to establish a next-generation urban cycling network in the New Development Areas (NDAs) and urban areas. Below we list out the key strategic actions for enabling cycling.

6.1. Initiate studies and public consultation for expanding cycling network in Kowloon and Hong Kong Island

The Transport and Logistics Bureau (TLB) should collaborate with the Development Bureau and other bureaux to commence a study on the expansion of the cycling network in the urban areas of Kowloon and Hong Kong Island. There should be public consultation in various stages so that the community can be fully engaged throughout the study process, thereby building consensus in the community.

Currently, segregated cycle tracks or shared-use paths for cyclists and pedestrians are being progressively built in some areas in Kowloon and on Hong Kong Island. This study should be taken as an opportunity to extend and prioritise the provision of backbone routes for cycling as a pilot scheme, so that the urban networks can basically be interconnected with each other and linked to the existing networks in the New Territories, thus realising a safe and convenient cross-district network. The built-up areas should take advantage of the urban renewal process to gradually improve the cycling environment, in line with the relevant policies in the future. Reference can be made to Singapore's "Park Connector Network" project, using open space as the backbone, and exploring ways to connect with each other.

In view of the Government's forthcoming Lion Rock Tunnel improvement project, we have earlier proposed to the Government to convert the unused northbound tube into a cycling and walking tunnel to link up the active travel routes between Tai Wai and Kowloon City across the terrain acting as the severance. This project can serve as a pilot scheme to extend the cycling network to Kowloon and provide the foundation to gradually introduce relevant network facilities into the urban areas. (Please refer to the next suggestion for details)

The authorities should also study relaxing the use of shared bikes in urban areas in phases when the shared-use path in Kai Tak and the cycle track in the former Anderson Road Quarry Development Area come into use, as the initial step for wider distribution and provision of relevant ancillary facilities in the future urban network.

Cycle tracks or shared-use path projects that are currently operational or underway are listed below:

Opened	Under planning, design, or construction
• Tsuen Wan Waterfront Cycle Track • Cyberport Cycle Track • Shared-use path in West Kowloon Cultural District (WKCD) • Shared-use path between Central and Wan Chai (pilot)	• Boardwalk underneath the Island Eastern Corridor • Shared-use path in Kai Tak Development Area (including Kwun Tong) • Cycle track between Tuen Mun and Tsuen Wan • Shared-use path from Wan Chai to Causeway Bay

Proposal 69

Commence a study on the expansion of the cycling network in the urban areas of Kowloon and Hong Kong Island as a pilot in forming the backbone network and conduct public consultation in stages.

6.2. Implement the Lion Rock Tunnel conversion project for walking and cycling use to create conditions for the long-term development of active travel

The Government is now pursuing the improvement works of the Lion Rock Tunnel and plans to excavate a new three-lane northbound tube between the two existing tubes and then expand the southbound tube, while the old northbound tube will be left inactive. Instead of leaving the old northbound tube disused, we propose that the Government should take this opportunity to develop cycling and walking paths to connect the cycling routes between Tai Wai and Kowloon City, so that cycling can become a viable travel mode for the public to move between the New Territories and Kowloon. As the Highways Department has asked the consultant to study the feasibility of this proposal, we sincerely wish that the Government will implement this project, so as to create favourable conditions for long-term development of active travel in Hong Kong.

In December last year, we submitted to the Highways Department (HyD) and relevant departments the above proposal, together with a conceptual design of the infrastructure for the entire route between Hin Keng Estate in Tai Wai and Kowloon Tsai Park. The proposal includes the provision of a new access route attached to the *LRT Highway* widening project, and made reference to Singapore's Park Connector Network, to link up open spaces such as Lion Rock Park, Junction Road Park, and Kowloon Tsai Park, etc., with elevators and

elevated boardwalks across Lung Cheung Road, so as to provide a set of continuous and dedicated access routes for pedestrians and bicycles.

We understand the authorities' concern that the project may not be sufficiently utilised and may not be cost-effective. However, the number of users is, after all, directly related to the availability of cycling infrastructure. The route from Hin Keng Estate in Tai Wai to Kowloon Tsai Park is about 6.5 km in length and can be completed in about half an hour at an average speed of 15 km/h for a cyclist. We believe that if adequate connectivity (such as our proposed park connectors and uphill elevator system) can be built at both ends of the tunnel to allow users to easily overcome the height difference, then this route will possess a unique attractiveness for both commuting and recreational purposes.

At present, the main reason why bicycle commuting cannot be popular in Hong Kong is the lack of a safe and convenient dedicated route between the New Territories and Kowloon. If the Lion Rock Tunnel is successfully converted into a cycling and walking path, it will connect the two places across severances and become a commuting option for the public. Cyclists will no longer have to risk travelling alongside heavy vehicles on Tai Po Road.

For recreational purposes, the cross-district cycling journey will also be able to begin in Kowloon City and continue to the New Territories East with pedestrians and cyclists segregated throughout the journey. On the premise of not obstructing fire escape arrangements, fire services installations and maintenance of the water mains below, the tunnel can be made accessible to pedestrians and cyclists, and exhibitions and multi-media effects can be introduced into the tunnel to enhance route attractiveness. Apart from information on the history of water supply and cavern development, the displays can also be extended to cultural aspects, such as the shooting process of the movie "The Midnight After" at the Lion Rock Tunnel, so that the tunnel space can be turned into an informative and attractive sightseeing tunnel and a distinctive landmark.

The uphill elevator and pedestrian link system is definitely not a difficult technology for Hong Kong's engineering, and similar facilities have already been built in many old districts. The cost of the system is absolutely negligible compared to the widening of the entire Lion Rock Tunnel and the related highways, but the benefits it will bring to Hong Kong's urban planning and development are absolutely invaluable. If the Bureau can grasp this opportunity, it will make an important contribution to Hong Kong's urban development and make a very progressive and courageous decision for the promotion of active travel in Hong Kong.



Conceptual drawing of the connection section of the Kowloon portal



Conceptual drawing of the connection section of the Sha Tin portal

Proposal 70

Implement the Lion Rock Tunnel cycling and walking path project and link up the active travel routes between Tai Wai and Kowloon City, so as to create favourable conditions for the long-term development of active travel in Hong Kong.

6.3. Widely collect data on bicycle usage and build data models to estimate future bicycle travel demand

The estimation of travel demand and benefits will help to accurately review the performance of the existing cycling network and map out the future development of the cycling network. In order to properly estimate the future demand for cycling trips, as well as the potential demand and benefits of related infrastructure projects, the Department should start routine travel data collection for building a cycling potential model with reference to overseas practices. This will provide the evidence base for the implementation of cycling infrastructure projects and facilitate effective planning, design, management, and improvement of the cycling network to ensure optimal utilisation of resources.

The above data modelling needs to be based on the existing situation, and therefore requires the use of regular, extensive, and systematic data collection methods, such as more routine travel characteristics surveys, cycle flow counts (i.e., extensive coverage of cycle flow meters), etc. The data collected can then be analysed to capture existing modal splits and baseline cycle flow, distribution of popular routes, peak usage periods, locations of important starting and ending points, etc. of the existing cycle routes (including major streets, backbone sections mentioned in proposal 70, etc.).

In conducting the above analysis, it is worth paying attention to the public's cycling travel behaviour, including the purpose of travel, travelling time, distance travelled, preferred routes, level of repetition, etc. In addition to commuting to work and school, cycling trips for everyday life (e.g., going to the market for groceries, taking a break in the park) and for

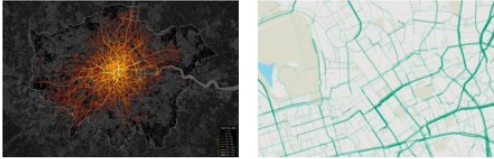
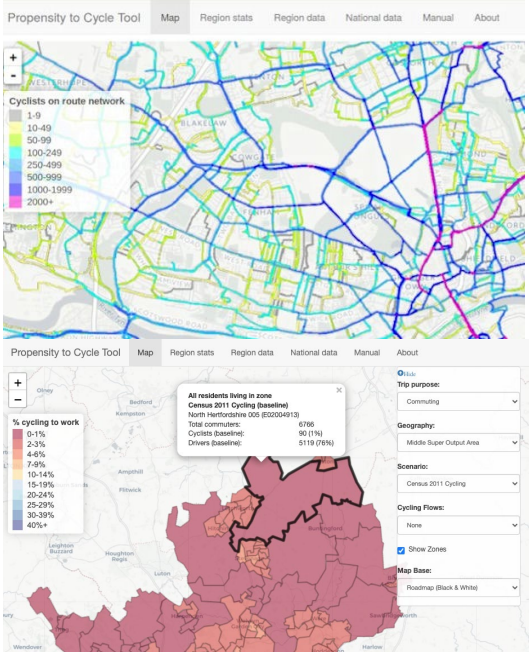
holidays and recreation should also be included in the estimation. Cycling desire lines are identified and then converted into future bicycle traffic distribution maps to establish an outline of popular cycling routes.

It is considered that journeys made by bicycle can generally be divided into two categories based on length and function, which should be taken into account in the analysis:

1. " end-to-end" short-to-medium-distance trips (within 10 kilometres)
2. " First and last mile" trips (usually within 3 kilometres)

In estimating future demand, the Government has been keeping track of the current spatial conditions and forecasts in various aspects, including travelling habits, road and public transport flows, population distribution and mobility, distribution of commercial and community facilities, land use planning and development patterns, etc. If such information can be compared with the above data models and analysed, it should be possible to further estimate the number of trips, their origins, and destinations, as well as their transport modes, and hence the number of potential new cycling trips in the future (including the number of trips converted from other modes of transport). The above information can help to summarise the ideal design conditions for bicycle routes and also help to establish the detailed design requirements and assessment criteria attached to the "Cycle Friendly Core Design Principles".

In addition, the Department may collaborate with bike-sharing operators and sports data companies such as Strava to obtain data on cycling trips for calibrating the data model to produce more reliable estimation results.

Cynemon by Transport for London ⁷²	Propensity to Cycle (PCT) tool endorsed by Department for Transport, UK ⁷³
Cycle Flow  Cycle Journey Times  Routing  Monetary Benefit	

Proposal 71

Start collecting travel data and building a cycling potential model. Make use of regular, extensive, and systematic data collection methods, such as regular traffic behaviour surveys, trip count records, etc. to estimate future demand.

6.4. Halt mandatory cycle helmet legislative process to allow for thorough assessment of its implications on new cycling policies

We've taken note of the Transport and Logistics Bureau's submission to the Legislative Council last July, proposing an amendment to make it compulsory for cyclists to wear helmets in 2023, with a 2,000 yuan fine for violations. While wearing helmets while cycling contributes to personal safety, mandating helmets for cyclists will have significant and far-reaching adverse effects on utility cycle use. Therefore, we strongly urge the authorities to reconsider this matter and temporarily halt the legislative process for mandatory helmets until the "Transportation and Transport Strategic Study" is completed. This will allow the

⁷² Davies, A. (2017) Cynemon - Cycling Network Model for London, TfL Planning. Available at: https://www.ucl.ac.uk/transport/sites/transport/files/Davies_slides.pdf

⁷³ Propensity to Cycle Tool <https://www.pct.bike/>

research team to thoroughly assess the impact of legislation on the new bicycle policy and subsequently reevaluate the feasibility of implementing mandatory measures.

Those with a practical understanding of a layman's daily lives would be aware that it is difficult for them to carry helmets around which are bulky. Many residents in new towns use bicycles as a convenient mode of connecting to public transportation, and shared bicycles offer a flexible short-distance travel option. TTSS preliminary focus also emphasises the promotion of active travel modes as a means of fostering a healthy lifestyle, with the TTSS website further supports the idea that bicycles are regarded as vital tools for connecting the first and last mile of public transportation, and measures will be proposed to encourage their use.

Mandatory helmet legislation, while having a minor impact on recreational and sports cycling, will severely affect the convenience and flexibility of bicycles for daily short-distance utility travel. For citizens who use shared bicycles regularly, it will cause significant inconvenience and potentially diminish the prospects of shared bicycles. **If shared bicycles were to disappear in Hong Kong, no matter what new policies the authorities introduce to promote bicycle usage for transfers, citizens would no longer experience the practical benefits of bicycles for connecting to public transportation. Thus, the legislative move contradicts the objectives of this "study," which could hinder the widespread adoption and success of this new bicycle policy.**

In fact, mandatory helmet laws have led to a decrease in daily bicycle usage overseas:

- After implementing mandatory helmet laws in Melbourne, Australia in 1990, bicycle usage dropped by 36% within a year.
- New South Wales, also in Australia, saw a similar decline within two years after introducing similar laws in 1992.
- Perth recorded a 21% drop in bicycle traffic at two entry points after the law was implemented in 1992, and three years later, it remained nearly 35% lower than before the legislation.
- After following Australia's lead and legislating helmet use in 1994, New Zealand initially saw a 40% drop in bicycle usage, which continued to decrease by 51% compared to pre-legislation levels in 2006.

University of Sydney, Australia has conducted research into the public impact of mandatory helmet laws in 2011. Over a quarter of respondents said they would be willing to cycle more if they don't have to wear one. This suggests that even though mandatory helmet law has been in place for 30 years, it still hinders promotion of cycling as a viable mode of transport.

Street Reset fully appreciates the intention of mandatory helmet law to mitigate severe injuries with cycling collisions. Yet evidence above has all suggested that even though it might have negligible impact to leisure and recreational cycling, it has unintended yet profound impact hindering utility cycling, or cycling as daily modes of transport.

Foreign and local research has all suggested, the more people cycle, the lower risk of collisions for cyclists in general. Mandate for cycling with helmet reinforced the concept of

cycling not as a daily mode of transport, but more of a leisure interest, only for people who are very keen on cycling, making cycling a more specialised interest. With fewer people cycling, the risk of collision faced by the remaining keen cyclists is thus higher, forming a downward spiral.

We would like to reiterate that helmets only protect cyclists from certain kinds of head injury, and as a form of personal protective equipment (PPE), do not mitigate the risk and incidence of collisions. A better approach is to work from infrastructures for cycling, by providing more and improving existing ones up to prevailing standards, fundamentally removing the risk from the cycling environment, hence that people of all ages, abilities and trip purposes can cycle in an inclusive, safe, and overall cycle-friendly environment.

Apart from focusing on the number of cycle collisions, the more important question is what kind of mobility environment we want to create for the future. If the government were to embrace the “15-minutes city” concept in the new development areas, cycling would undoubtedly be part of the equation and the mandate would make cycling uptake very difficult. A one-size-fits-all mandate, requiring users to wear helmets on both bike paths and roads, is not a prudent course of action.

The surge in cycle collisions during the pandemic was primarily due to the overall increase in the number of people using bicycles for commuting or sports. Given that bicycle accident figures have now decreased and returned to pre-pandemic levels, we believe there is no immediate necessity for the implementation of this mandatory measure in Hong Kong. Consequently, Street Reset urges the government to withdraw the proposed amendment and reconsider the full implementation of mandatory measures after the completion of this study.

Proposal 72

Halt the legislative process regarding mandatory cycle helmet regulations in order to facilitate a thorough assessment by the TTSS research team to examine its potential impacts and implications on emerging cycling policies. Reevaluate the necessity of imposing mandatory measures in all settings and situations.

6.5. Enhance the quality, safety, and connectivity of the cycling network in the new town areas

Although most of the New Towns have planned for cycle tracks when they were developed, the existing cycle network is still not very coherent, with limited coverage and common design defects posing safety hazards. While expanding the cycling network, the Government should continue to improve the experience and safety of residents in cycling in their daily life in the districts.

We propose that the Government commission a consultancy study on the systematic improvement of the cycle track network in every New Town area and draw up an action plan and timetable for improving the existing network in each area. The studies should be based on the demand for cycling and the "Cycle Friendly Core Design Principles", and propose short-, medium- and long-term planning and design improvement options to systematically enhance the quality, safety, and connectivity of the existing facilities.

The specific areas of the study are as follows:

1. **Integration of existing conditions and cycling demand:** apart from making reference to the data on the demand for cycling, it is also necessary to collect information on the current situation, such as the locations where cycling accidents occur frequently, for comparison purposes.
2. **Quality check of existing cycle tracks:** Verify the quality of existing cycle tracks and surrounding roads against the latest cycling network design standards, with reference to the "Cycle Friendly Core Design Principles".
3. **Determining the future distribution of popular cycling routes:** Based on the demand for cycling, draw cycling desire lines and convert them into future bicycle traffic distribution maps to establish an outline of popular bicycle travel routes.
4. **Identification of cycle tracks that need improvement or addition:** Compile a list of sections (or junctions) to be improved or added according to evidence of popularity, quality checks of existing cycle routes, and locations of frequent collisions.
5. **Feasibility study:** Assess the urgency and explore feasible improvement measures for the above list of sites.
6. **Proposal of a phased improvement plan:** Propose short-, medium- and long-term planning and design improvement plans according to urgency and feasibility.

Depending on the results of the study, the Department should regularly evaluate and monitor the usage of cycle tracks and to see if the provisions are adequate. If the width is too narrow or not up to the current standard, the Department should consider widening the cycle track or diverting it. To address the problems of insufficient sight distance at the bottom of grade-separated crossings and over-sloping or sharp bends, the Department should consider installing rumble strips at suitable locations to remind users to slow down at high-risk sections. Consideration should also be given to remove protruding hard objects at the side of high-risk road sections. If this is not feasible, sports-grade cushions should be used to protect the road sections to minimise collision injuries. Rerouting should also be considered in the long run for road sections with poor visibility.

Proposal 73

Commission consultancy study on the improvement of the cycle track network in every New Town area. The studies should be based on the demand for bicycle travel and the "Cycle Friendly Core Design Principles", and propose short-, medium- and long-term planning and design improvement options.

6.6. Improve the design of cycle track intersections to allow users to cross the road on bicycles

Most existing cycle tracks terminate before junctions. This has a negative impact on the directness and continuity of users' journeys and can lead to either:

1. Cyclists not following the rules and travelling directly across the road, or
2. Cyclists choose to take the risk of cycling directly on the road because it is faster and more direct.

Even if the cycle track terminates before the crossing and there are signs requiring users to dismount across the road, the effectiveness is questionable.

Junction designs are prone to collisions as well. Some junctions have insufficient sight distance, yet vehicles exiting from minor roads to major roads have priority and are therefore prone to collision. There are also junctions where on-street parkings are designed adjacent to the crossing, which may easily block the sightline of cyclists and motorists. Junctions adjacent to cycle tracks are usually designed to be so wide that there is little tendency for vehicles to slow down when turning, making them prone to accidents.

To rationalise the relationship between pedestrians, cyclist and vehicles, and to make cycling more comfortable and convenient, the Government should reform the design of cycle track junctions and crossings, including the provision of traffic calming measures such as priority crossings with setback and vehicular yield lines, cycle signals, coloured road markings, speed tables and tightened corner radii, etc., so as to enable cyclists to cross the road visibly, safely and directly. When cyclists are able to cross the road safely, there is no need for excessive bollards at junctions or narrowing the width of the road to force them to dismount. This approach has been widely adopted overseas, including the United Kingdom, Singapore, and Australia.

例子：倫敦 West India Dock Road (Cycle Superhighway 3)



Dedicated signal for cycling and minimised number of bollards to allow for easy cycling across

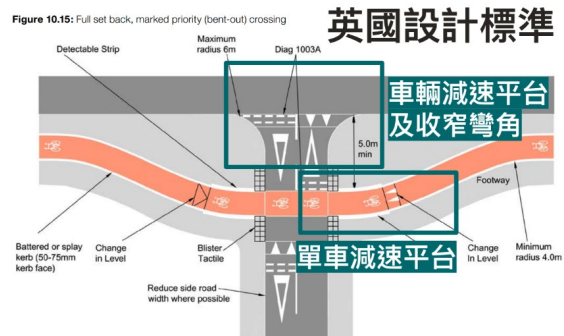
例子：倫敦 Lea Bridge Road (Cycleway 23)



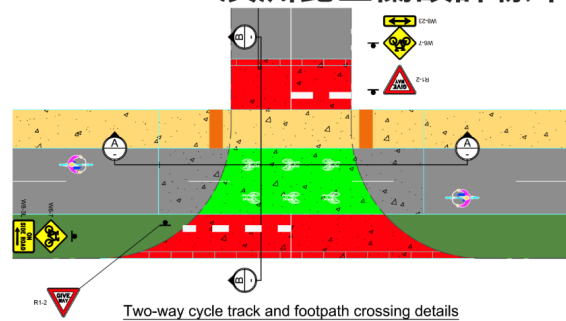
Vehicle to give way, with differential paving materials to distinct this as a priority give way crossing

Relevant overseas design standards

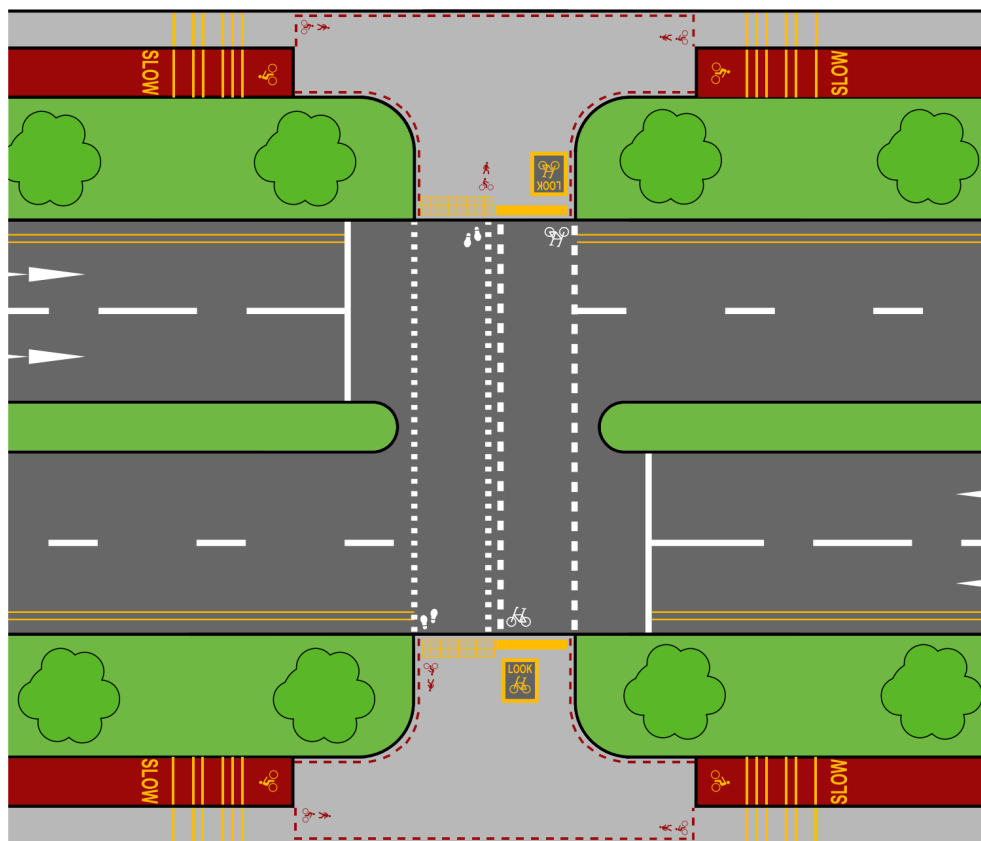
Figure 10.15: Full set back, marked priority (bent-out) crossing



Source: [UK LTN 1/20 Cycle Infrastructure Design Guidance](#)

澳洲昆士蘭設計標準

Source: [Queensland's Guideline Selection and design of cycle tracks](#)

Standard Pedestrian & Bicycle Crossing Design

Please refer to LTA's [Standard Details of Road Elements \(SDRE\)](#) for more details.

Source: [Singapore Walking and Cycling Design Guide](#)

Proposal 74

Reform the design of cycle track junctions and crossings, including the provision of traffic calming measures such as vehicular yield lines or cycle-only signals, coloured road markings, speed tables and tightened corner radii, etc., so as to enable cyclists to cross the road visibly, safely, and directly.

6.7. Provide low-speed zones and traffic calming devices on streets adjacent to the cycle track network

Cycle network needs to be expanded for wider coverage. To reach populated areas and urban centres, streets would inevitably be part of the cycle network apart from cycle tracks and dedicated paths. Even if users can choose to use cycle tracks as their main route, streets would often be the first/last-mile of the journey, yet a busy street environment is dangerous and not favourable to cycling. To properly protect cyclists, consideration should be given to establish 30 km/h speed limit zones and physical traffic calming devices such as speed bumps and speed tables on streets that connect to the cycle track network, so as to encourage motorists to drive at lower speeds and be courteous to cyclists.

Corner radii of junctions with cycle tracks should also be tightened to effectively reduce vehicle speed turning for the safety of cyclists and pedestrians. This will also shorten the crossing distance for pedestrians and lessen the deviation of pedestrian walking paths, thus making the streets more walkable.

Research has proven that 30 km/h is the maximum speed at which the human body can withstand a vehicle impact, beyond which the chance of fatality is much higher. Together with the provision of junction speed tables, speed bumps and other street designs that encourage slower speeds, 30 km/h effectively reduces the risk of crashes and injuries to cyclists (as well as pedestrians) and the level of injuries caused upon collisions.

Upon a proper street design framework, many streets in urban areas are suitable and appropriate to have speed limits tightened. (See **proposal 42** for details)

Proposal 75

Provide low speed limit zones of 30 km/h and physical traffic calming devices, so as to encourage motorists to drive at low speeds and be courteous to cyclists.

As mentioned in **proposal 56**, implementing Low Traffic Neighbourhoods on local streets can effectively prevent "through traffic" that is external to the area, from entering the area while still allowing vehicles in the neighbourhood to access it. This approach not only reduces traffic flows in the neighbourhood, but also enhances the overall liveability in the area. Moreover, it significantly improves the safety and comfort of cycling within local streets, creating a cycle-friendly street network.

According to the UK Department for Transport's latest 'LTN 1/20 Cycle Infrastructure Design' guidance, streets with a daily two-way traffic flow of fewer than 2500 vehicles (equivalent to fewer than 210 vehicles per hour when averaged over a 12-hour period) are generally considered safe and suitable for shared use between people cycling and motor vehicles. Despite we understand this may not be fully applicable to Hong Kong's local context with the higher make-up of beginner or holiday cyclists who may not feel safe to mix with traffic, Low Traffic Neighbourhoods can still be very effective in providing the safety and comfort benefits for utility and everyday cyclists who live and work in the district.

Therefore, we recommend that the TD consider implementing Low Traffic Neighbourhood measures on local streets adjacent to the existing cycling network, a cost-effective, quick-win solution to extend safe and comfortable cycling connections, significantly enhancing the appeal and coherence of the entire cycle network.

On a side note, it's worth noting that certain streets in the New Towns and more recent New Development Areas (such as Kai Tak and Hung Shui Kiu) have adopted cul-de-sac street layouts to redirect through traffic to peripheral main streets, which reduces traffic within local streets without hindering pedestrian and cyclist accessibility. While we appreciate this design concept, most of these locations currently lack dropped kerbs and are installed with large horizontal barriers, restricting cycle passage. We recommend these designs to be enhanced with dropped kerbs, and barriers replaced with bollards so as to ensure cycling passage through the point comfortably and directly. This will significantly improve cycle permeability within New Towns and New Development Areas.

Proposal 76

Consider extending safe and comfortable cycling connections by implementing Low Traffic Neighbourhoods on local streets adjacent to the existing cycling network, enhancing the overall appeal and coherence of the cycle network.

Proposal 77

Improve cul-de-sacs in New Towns and New Development Areas by installing dropped kerbs and replacing barriers with bollards, to ensure people cycling can access and exit the traffic closure point comfortably and directly.

6.8. Introduce Walking and Cycling Plan in the development planning process, and enable the provision of cycling facilities and infrastructure in new developments

New development areas and urban renewal projects are both great opportunities to provide step changes for the area with urban planning and design practices at human scale. Active travel provisions would be one of it to be included in the early stage of planning processes for both new development areas and renewal areas.

With that said, when considering provisions at new development/ redevelopment projects, cycling infrastructures and amenities are important to be included as part of the provision to kick start active travel. It is therefore recommended by the Hong Kong Planning Standards and Guidelines (HKPSG) to provide guidance to property developers on the quantity and quality of cycling infrastructure, parking spaces and showers to be provided (or space to be reserved for them).

The Bureau can also work with the Development Bureau to impose additional requirements in the procedures under the Town Planning Ordinance or the Buildings Ordinance, or in the lease conditions. Applicants for property development of a specific scale should be required to include a "Walking and Cycling Plan" as part of a Transport Assessment, moving away from the vehicular-focused Traffic Impact Assessment (TIA), which should be made available for public inspection and comment. The plan should cover ancillary facilities, connectivity to neighbouring networks and public transport hubs, as well as the rationalisation of routes between different modes of users, hence mitigating potential conflicts between modes at the design stage. The Government should also introduce the framework and supporting facilities for government buildings and facilities as examples.

The authorities should also explore opportunities with the Green Building Council (GBC) to enhance the scoring criteria of the BEAM Assessment for cycling facilities (e.g., parking spaces, access design, changing rooms, etc.) in new and existing public and private buildings, or even make it a "prerequisite" requirement. The number of bicycle parking spaces and their management requirements should also be enhanced.

The Bureau should be aware of the regional urban renewal studies and the relationship between future urban redevelopment projects and district cycle travel demand, and work with the Urban Renewal Authority (URA) to ensure that the "Walking and Cycling Plan" is developed and fully realised in the planning process. Large-scale urban redevelopment projects are extensive and often include regional centres, streets, and existing public facility sites, which tend to touch the cycling desire lines and are expected to have high levels of cycling use. Therefore, it is important to reserve space for cycle routes and facilities at the early planning stage through an effective process.

Proposal 78

To proactively bicycle travel provisions in the early stages of urban renewal projects and update the Hong Kong Planning Standards and Guidelines (HKPSG); require the applicant for development to submit and implement a "Walking and Cycling Plan"; enhance the scoring criteria of the BEAM Assessment; be aware of the regional urban renewal studies, and work with the Urban Renewal Authority.

6.9. Integrate cycling into public transport policy and provide safe parking spaces at major stations and transport interchanges

Cycling is cheaper, quicker than walking and personalised - means not having to wait for a connection - it therefore effectively expands the catchment area of public transports, fulfilling its strategic role as "first and last mile feeder" for public transport. We believe that the Government should adopt an intermodal approach, to formally include cycling as part of its public transport policy and achieve synergy between two through proper integrated planning.

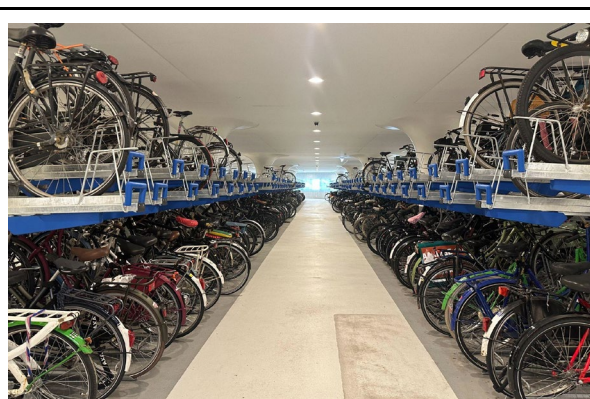
One of the keys for integrating cycling with public transport is the provision of cycle parking spaces in public transport stations and interchanges. To address the concern of safety of bikes being parking at public areas, the Government should provide safe cycle parking facilities at railway stations and Public Transport Interchanges (PTIs) to facilitate the public to use bicycles during the first and last part of their journeys, and to encourage the public to use bicycles to interchange with the railways. The Government should also cooperate with bike sharing operators to provide incentives to encourage the public to use rented bicycles to interchange with public transport.

A safe bicycle parking facility should be covered and equipped with 24-hour closed-circuit television (CCTV) surveillance to enhance security of bicycle parking. Obviously, the Transport Department needs to ensure safety of cycle parking at the aforementioned facilities before residents can have confidence to travel by bicycle.

In the long run, the Bureau should also put in place a regulatory mechanism for paid cycling facilities and services to regulate the proportion of paid and free facilities in private premises. The aim is to encourage the private sector to provide quality choices while ensuring that all citizens have equitable access to free facilities in key locations, so as to balance the distribution of facilities and maintain the attractiveness of cycling in the city as a whole.



The bicycle parking facilities set up next to Rail stations in the UK, that are covered and equipped with CCTV surveillance. Some also have access control systems and operate on a membership basis.⁷⁴



The indoor bicycle parking lot at Amsterdam Station in the Netherlands is equipped with 24-hour CCTV surveillance, security personnel and a bicycle repair shop.

Proposal 79

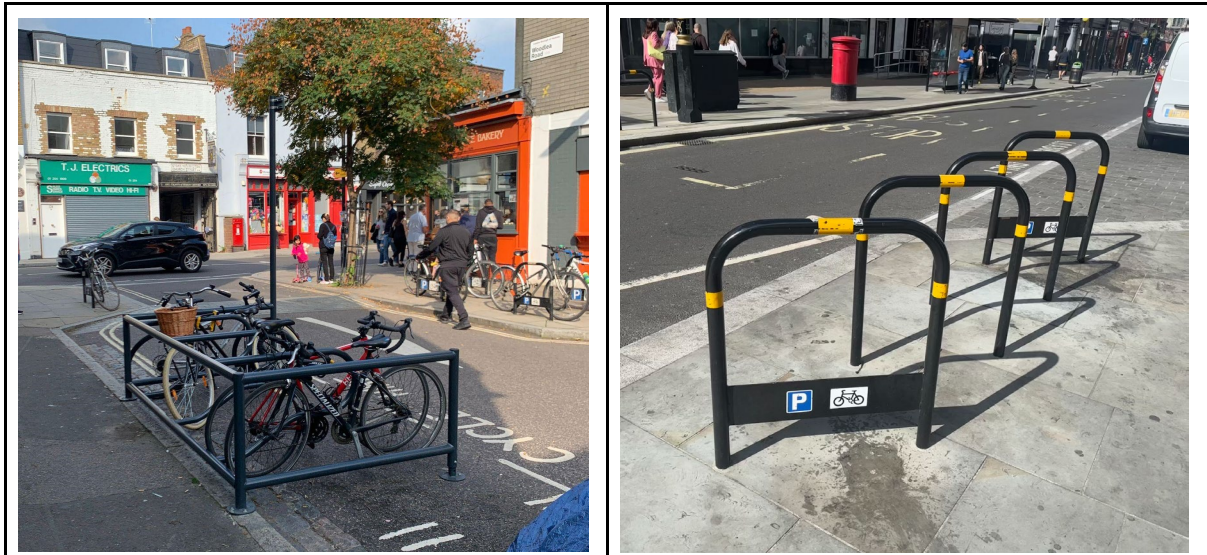
Formally include cycling as part of its public transport policy, to realise its strategic role as a "first and last mile feeder" for public transport. To achieve this, the Government should provide safe bicycle parking facilities at railway stations and Public Transport Interchanges (PTIs); cooperate with bicycle sharing operators to provide incentives to encourage the public to interchange with public transport; put in place a regulatory mechanism for paid cycling facilities and services.

6.10. Provide a small number of cycle parking spaces on more streets

In order to make cycling more convenient as a mode of travel in everyday life, the Government should provide cycle parking spaces scattered across town centres. Unlike motor vehicles, it is not appropriate to plan for cycle parking spaces to be provided in "large numbers at a few locations". Instead, a "small number at many locations" approach should be adopted.

The TD can utilise the distribution of cycle travel demand to estimate the demand and distribution of cycle parking spaces, which can be located at suitable places to enable users to park close to their final destinations. The TD may consult the local residents on the location and design of the cycle parking spaces as well as the regular renewal programme.

⁷⁴ 圖片來源：Stolen Ride - Cycle Hub <https://www.stolenride.co.uk/cycle-parking-solutions/cycle-hub/>



TD can create parking spaces by rezoning on-street parking spaces (shown on the left) or by utilizing "street furniture and green belts" along the footpaths (shown on the right).

Proposal 80

Provide a handful of cycle parking spaces on each street in town centres to enable users to park at locations close to their final destinations.

6.11. Open data for cycling facilities to facilitate smart mobility

Data on provisions of cycling facilities, including the variety and quantity of cycling facilities provided in existing public buildings and property developments should be open to the public. It should be easily accessible through government maps, such as the official 'HKeMobility' mobile app, but also incorporable to other third-party apps to assist the public with their journey planning.

Additionally, individual operating agencies, based on technical capabilities, should consider disclosing real-time availability data to manage demand effectively. The government should lead by example by making data about public facilities and buildings available to the public.

We anticipate that the authorities will consistently enhance the 'HKeMobility' app and introduce additional features to help the public plan their cycle journeys and transitions with public transport. This, combined with well-planned parking facilities and services, will make it simpler for the public to park and retrieve their cycles, reducing wait times and increasing the appeal, quality, and utilisation of various modes of transport.

Proposal 81

Types and quantities of cycle facilities should be treated as public data, accessible through government maps and other third-party applications to facilitate trip planning for the public. The continuous improvement of the 'HKeMobility' mobile app should support seamless transitions between cycles and public transport.

6.12. Stepping up efforts to tackle cycle thefts

Nowadays, due to the severity of cycle theft, many people dare not park their bicycles in public parking spaces, or only use cycles of poor quality or appearance for fear of being targeted by thieves.

According to police figures in June 2023, there were more than 3,500 bicycle thefts in Hong Kong in the past five years. The detection rate has been declining in recent years, from 35.7% in 2018 to 21.8% in 2022, meaning that only about two out of ten stolen bicycles are recovered. It is no wonder that the incentive for cycling has declined, and it has not helped to raise the image of cycling travel.

We therefore recommend that the Government should step up their efforts in tackling cycle thefts. The TD and the police should work closely together to address this issue. The police should allocate dedicated manpower to tackle cycle theft cases, and also need to adopt an 'intelligence-led' and 'black spot-based' investigation strategy to increase the detection rate of cycle theft cases so as to restore the public's confidence in parking cycles in public places.

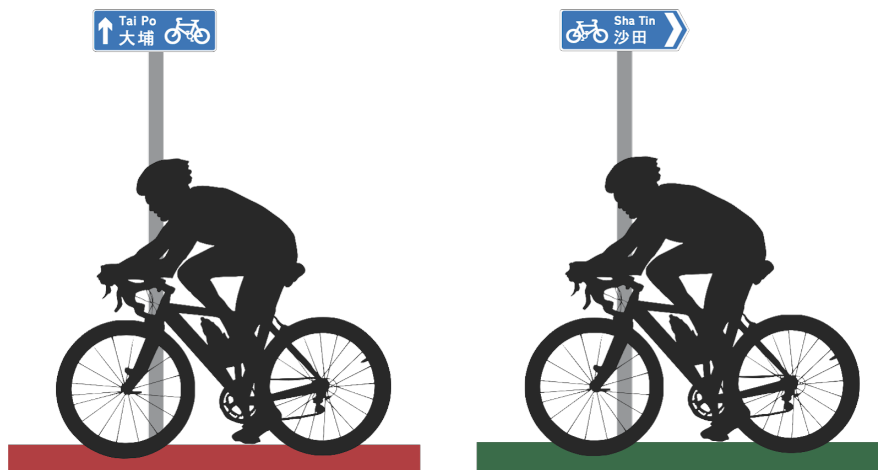
Proposal 82

The TD and the police should work closely together to tackle cycle thefts. The police should allocate dedicated manpower to tackle cycle theft cases and adopt an 'intelligence-led' and 'black spot-based' investigation strategy to increase the detection rate of bicycle theft cases so as to restore the public's confidence in parking bicycles in public places.

6.13. Establish a well-equipped directional labelling system, and assign numbers and even names

The Government should install comprehensive guide maps and directional signs along the cycle tracks so that tourists living outside the new towns will not get lost and the accessibility of cycling will be enhanced. Currently, the Government has installed directional signs at some of the major cycle track interchanges, but most of them only show a single destination and the font size being too small. Tai Po Transport, a group concerned with

transport planning in Tai Po, released a report on a survey on transport habits last year, which reflected that most residents considered that the signage was too small and unclear. First, most of the directional signs are located at road junctions without Advance Direction Signs (ADSs) to alert cyclists of the direction of their choice at earlier time, and many of them are set to the side rather than facing the users (as shown in the figure below). As a result, users who are not familiar with the routes often stop at the junctions and turn around to check the road signs or electronic maps, thus hindering the smooth flow of the cycle tracks.



A lot of directional signs are posted on the side not facing the users⁷⁵

Moreover, cycle track signs should display both major destinations within and outside the district to cater for the needs of both daily travellers and holiday makers. Taking Tai Po as an example, the signage tends to show farther destinations (e.g., Fanling, Sha Tin Park), while major destinations within the district (e.g., Tai Po Centre) are seldom shown on the signage. We suggest that the Government consider displaying both local and external destinations on the signage for the convenience of local residents as well as visiting cyclists from other districts.

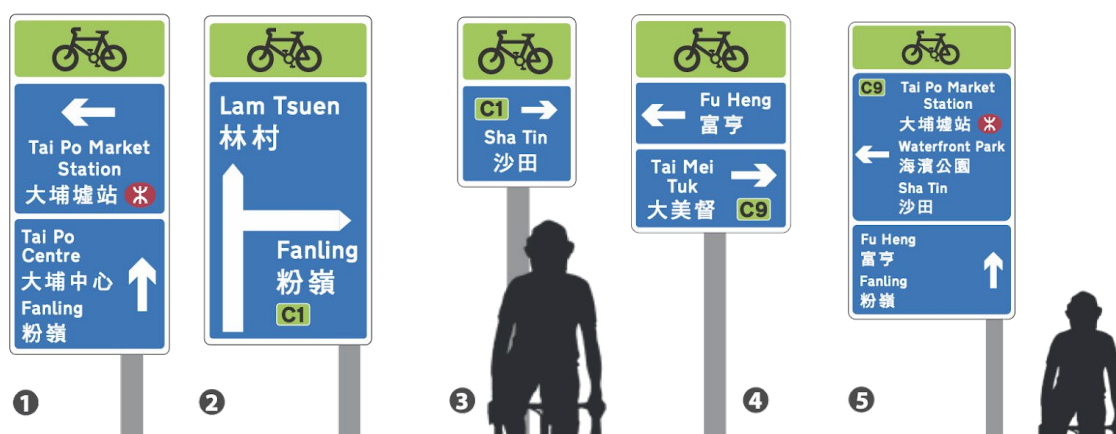
In addition, the font size of the cycle track signs should be increased considerably to make them more visible to users from a distance. After increasing the font size, it is recommended to use a narrower sign design rather than a horizontal one so as not to cause obstruction to the adjacent footpaths (if any). If the font size is too large to confuse motorists, a distinctive bicycle logo with a special background colour can be added at the top of the sign to facilitate identification.

⁷⁵ Image source: Tai Po Transport (2022)



In the long run, the authority should consider assigning numbers to cycle tracks, similar to the existing route numbers of highways, or even naming them, so as to facilitate identification by cross-district cyclists who are not familiar with street names. The Government is now working on the completion of the cycle track network in the New Territories. The numbering of cycle tracks, together with the improved signage, will greatly facilitate users in wayfinding.

Regarding the above suggestion, a non-government organisation, Tai Po Transport, proposed last year a number of feasible new designs of cycle track signage for the attention of the department by making reference to the road signage standards set out in the existing Transport Planning and Design Manual and the cycle track signage standards published by Transport for London of the United Kingdom.



Design Options for cycle track signage proposed by Tai Po Transport team

Proposal 83

Provide a comprehensive, legible wayfinding signage system on the cycle track network. In this regard, the Government should redesign a set of cycle track-specific signage standards to address the needs of cyclists. Features to be included include:

- Signage orientated towards the user rather than to the side
- Narrower signage to avoid obstruction to footpaths
- Combined display of destinations within and outside the district
- Advance Direction Signs available
- Fonts that are sized so that the information can be read clearly while cycling
- Addition of cycle signs with special background colours on top of the road signs to avoid confusion to motorists
- Assigning numbers and even names to cycle tracks to make it easier for users to find directions

6.14. Study and review the size limit of bicycles and re-define the specifications for passenger and goods bicycles

Currently, there are restrictions on the types of cycles and bikes permitted, and the definitions and applicable road sections were not clear as well, which are not favourable to the movement of passenger and goods bicycles. The Department should review the restrictions and improve the quality of sections of routes to meet the needs of different users, taking into account the size and weight standards of legal passenger and goods bicycles in overseas places, as well as assessing the compatibility of various sections of the existing and proposed cycle tracks.

The types and designs of human-powered or electrically powered vehicles are constantly evolving. For example, there are bicycles with front or rear child passenger seats or cargo racks, and two- and three-wheeled options. It is also not uncommon to find bicycles with rear loading "trailers" and large cargo multicycles all over the world. The above types of carriers are of different lengths and widths and cannot be simply categorised as bicycles and multicycles. The Bureau should conduct a detailed study to expand and list out appropriate dimensions and installation requirements and list out the sections of cycle tracks where their use is prohibited, and review, consult and update them in a timely manner. Meanwhile, the Bureau should make sure that at least all the backbone routes comply with the inclusive specifications along their entire lengths, allowing the use of the widest range of carriers, and progressively upgrading the quality of all the cycle tracks through construction works, e.g., by widening and improving the junctions, so as to widen the permissible range of use.

Proposal 84

Review the restrictions and improve the quality of sections of routes to meet the needs of different users, taking into account the size and weight standards of legal passenger and goods bicycles in overseas places, as well as assessing the compatibility of various sections of the existing and proposed cycle tracks.

6.15. Review the existing fare policy of the ferry companies on carriage of bicycles

Regarding ferry service support, the department should review the existing policy and require all ferry companies to provide bicycle support. Nowadays, if one wishes to carry a bicycle across the harbour, apart from taking the MTR, one can only take the ferry. Among the several existing ferry services between Hong Kong and Kowloon, the Tsim Sha Tsui to Central route is not one of the routes that allow bicycles to be brought on board. Coupled with the fact that the WKCD has not yet commenced regular ferry services, the current situation can probably be described as "an imbalance between the east and the west of the harbour".

In this regard, the department should communicate with the ferry companies and encourage them to improve the design of piers and ferries, or even to encourage the use of bicycles through the fare mechanism. In addition, the authority should study how to select the most convenient locations for the addition of ferry piers and landing facilities, so as to facilitate the use by bicycles and pedestrians, and at the same time ensure the directness of the ferry routes, thereby raising the attractiveness of the service. The coast facing To Kwa Wan at the former Kai Tak runway area and the coast to the south of the West Kowloon Cultural District offer favourable geographical conditions for the provision of landing facilities.

Proposal 85

Review the existing policy and communicate with the ferry companies to require all of them to provide bicycle support. This includes encouraging them to improve the design of their entrances, exits and ferries, and even encouraging the use of bicycles through the fare mechanism.

6.16. Make good use of virtual and real media, and enhance publicity and education on cycling attitudes and habits

The skill threshold for bicycle travel is not high, and users should be able to travel safely as long as they know how to control their bicycles and have knowledge of individual traffic rules, etiquette, and attitude. The Bureau may consider reminding the public of the Road Users' Code in various aspects to raise public awareness. While publicity in traditional media, social media and the Internet should be intensified, the interfaces of official and private bicycle travelling apps should not be neglected, so that reminders can be issued from time to time, and users can have easy access to the information. In addition, regular updating of traffic safety teaching materials in schools can help students understand the precautions to be taken in bicycle travel at an early age, so as to cultivate good cycling habits.

In addition, special emphasis should be placed on on-site reminders on cycle routes, as repeated reminders are more effective than those in the major media when users repeatedly pass through the road section concerned. Apart from standard road signs (e.g., "Slow Down"), consideration should be given to installing special warning signs and slogans along the road to warn of hazards ahead as well as to remind users of certain important cycling skills. The Bureau could invite the public and consultants to design such warnings and slogans to provide diversified and attractive contents.

Although some of the followings are mentioned in the Road Users' Code, they are easily overlooked and deserve to be explored in depth and reminded:

1. Driving on the left, and keeping left when slowing down and stopping in Hong Kong
2. How to observe traffic at junctions
3. The concept that pedestrians have priority, but pedestrians should not abuse the cycle path
4. Checking the brakes and bike lights before travelling
5. Use of rear brakes and slowing down gradually to take account of the bicycles behind
6. Safe distance from the bicycle in the front
7. Speed limits and the concept that the higher the speed, the greater the responsibility
8. Points to consider when overtaking a vehicle and safe overtaking distance
9. Means of signals operated by one hand
10. Difference between using wide and narrow traffic lanes
11. How to be visible to other users in the dark and poor visibility
12. How to switch lanes and make a U-turn
13. How to give way (yield) and use the right of way correctly
14. Precautions to be taken in hot and inclement weather and ways to handle
15. Carrier specification requirements (Suggestion X)
16. Ways and channels to dispose of bicycles and accessories

17. Encouraging users to wear helmets

Proposal 86

Intensify the publicity in traditional media, social media, and the Internet, and utilise official and private bicycle travelling apps; regularly update traffic safety teaching materials in schools; put special emphasis on on-site reminders on cycle routes.



7



Delivering the vision

7. Delivering the vision

As part of delivering the holistic vision of future transport for Hong Kong, Street Reset considered that a suite of changes to the institution and sector landscape would be necessary to kickstart and enable such changes, and to build such capability and institution in place ready to adapt for future challenges in the transport system.

7.1. A Planning system for Transport

7.1.1. From a strategic vision to planning, design and delivery

Street Reset do consider the TTSS is a key opportunity in envisioning a step-change for a future world-class transport system in Hong Kong. With that said we think that there is a need for an overhaul in how transport systems offerings are delivered from planning, design to delivery and operation.

Similar to urban and spatial planning, transport, in providing links and connectivity spatially, needs a planning system in place in guiding and coordinating its provision and development. Despite CTS-3, PTSS, SRMR and various studies and working documents in place, the lack of consciousness recognising the need for an overarching strategy as the guiding principle has made transport planning and development in Hong Kong fragmented and piecemeal.

TTSS would be the document best placed in defining the strategic vision and objective for our future transport system to come. Street Reset thinks that TTSS will need to be formally adopted with clearly defined strategic vision and objectives, along with delivery plans of initiatives, dedicated funding allocations and metrics for measurement of success and adoption.

Despite many transport schemes and initiatives in Hong Kong nowadays undergoing feasibility study stages, the preceding strategy and planning provide the basis, coordination, and justifications as to why and how best schemes and initiatives are to be put forward. A robust linear hierarchical planning system for transport ensures strategic alignment to the future transport system, its compatibility with respect to travel demand and nearby environment, land use, realising the potential of mobility and its benefit that can be brought to people, community, economic and the wider society.

Proposal 87

With sufficient funding allocation, objectives and strategies outlined in the strategic transport planning document to be adopted and implemented accordingly.

7.1.2. Dedicated staffing for strategy delivery

To ensure the strategic vision and relevant strategies are delivered, we suggest that the Transport Department should make the ‘Strategic Studies Branch’ as a permanent establishment to formulate and deliver the strategy after the study is completed. They should continue with the research and strategic planning, promote policy and strategy innovation, and assist the Transport and Logistic Bureau in responding to future changes in transportation, formulating up-to-date transportation policies. This division will be the main driver and coordinator of the transportation strategy, working with various departments within the bureau to ensure that decisions align with the new strategy and monitor the achievement of specific goals and work progress.

To accomplish the above tasks, the “Strategic Studies Branch” also needs to have data analysis capabilities to better utilize data for planning (see Proposal 94). Therefore, we suggest that the establishment of the Strategic Research Division should include data analysts, geographic information analysts, and data science personnel to support research with data analysis, provide evidence base for planning, monitoring progress on goals and objectives, project effectiveness, and predict future trends.

Proposal 88

Make the ‘Strategic Studies Branch’ of the Transport Department, which is responsible for this ‘Strategic Study’, a permanent establishment. The establishment should include data analysts, geographic information analysts, and data science personnel to better utilize data for providing the evidence base for planning.

7.1.3. A planning deal for transport

Transport as public resources requires careful planning and provision for the best of public benefit. Similar to urban and spatial planning, transport presents the link element in spatial sense. Street Reset considers that a planning system for transport, similar to urban and spatial planning is necessary to underpin and guide the optimal and timely provision on transport, for the best interest of the public.

Historically seen as a branch of civil engineering, traditional transport planning focuses on highway design, developments, engineering, and modelling with a value proposition to prioritise movement without the consideration of wider spatial context. Yet emerging practice has been branching transport planning as a separate profession that go much further beyond to include policy, strategy, design, evaluation, assessment, appraisal and stakeholder engagement for plans and projects in the transport system.

We think that there’s a lack of consciousness throughout the sector recognizing the need for and importance of having an integrative planning system for transport in place, having the strategic visions in place to guide and coordinate among various policy, planning documents and delivery for transport in Hong Kong. Despite various transport planning documents currently exist, the lack of planning, its associated vision, strategy, and

coordination has made transport development in Hong Kong to remain fragmented and piecemeal.

A robust transport planning system ensures the use of resources and delivery of transport to people are best in place and in the best benefit of the general public. This includes:

Hierarchical planning for transport	A hierarchical planning policy encompasses strategic, spatial/ regional, and local planning. A top-down approach to set out strategic visions and objectives, directing regional and local transport plans to follow. This also establishes an institutional structure/ framework to ensure cross institutional cooperation.
Evidence-based planning	Policies and schemes are informed by the evidence base, justifying/ substantiating the implementation/ delivery of policies/ schemes. These can range from academic research, best practices, pilot schemes, developed auditing, analysis and appraisal toolkits or framework, including the development of business cases as part of appraisal.
Forward-thinking planning standards and design guidance	The existing standards in the “Transport Planning and Design Manual (TPDM)” stems from 60-70s highway standards from the UK. The narratives and principles of transport planning, however, have since changed drastically to embrace forward-thinking sustainable mobility including road safety and human-scale considerations. There is need for a reworked TPDM that enable and require designs to uptake modern design practices with respect to local movement and place character, with a greater emphasis of designs at human scale, placemaking, sustainability and resiliency in view of climate emergency.
Delivery plan & pipeline	A clearly defined objective with timescale in strategic planning provides a strong directive for the delivery pipeline of improvements to be brought in achieving the strategic vision. A clear delivery plan/ programme would ensure objectives are achieved in a set timescale.
Monitoring and evaluation	Evaluations are crucial in monitoring the success of a scheme, or performance of existing design/ operation. There needs to be a framework for evaluation in schemes to monitor its success (or failure), but also evaluation for existing infrastructure/ operations ensure its fit for strategy/ designed purpose/ level of service.
Public engagement and participation	Public as the end user of the transport system should be engaged throughout the planning process at all scales, whereas schemes and services need to be held accountable to the local community as well. There needs to be a framework to allow public participation in the

	making of transport plans and delivery of schemes and improvements, but also in the shaping of transport operation and services. This includes representation of passengers in the form of watchdog groups to bring accountability to transport operators, inclusion of special interest groups including disabled groups, underrepresented groups, local-interest transport groups, etc.
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A similar reference can be taken from the *Sustainable Urban Mobility Plan*⁷⁶, a recognised concept among its member states in the European Union to be adapted across national and local levels, encapsulating what an integrative planning framework would be for future transport planning and/or urban mobility, addressing the inherent complexity of mobility and transport in the urban realm.

Proposal 89

Adopt a planning system for transport, including development of the institution/ framework that encompasses the following:

- Hierarchical planning for transport
- Evidence-based planning
- Forward-thinking planning standards and design guidance
- Delivery plan & pipeline
- Monitoring and evaluation
- Public engagement and participation

The transport planning system will need to echo with the spatial planning system as well - especially to new developments where it will need to respond to the changes of value proposition towards the future transport planning model that is “Decide and provide”.

Proposal 90

Revisit transport planning elements in new developments’ planning application. This includes:

- Shift from Traffic Impact assessment to Transport Assessment capturing the multimodal impact of developments
- Consider options including developer contributions and travel plan commitments to encourage sustainable travel in new development areas.

7.1.4. The sector landscape for tomorrow

The existing sector for transport lacks the planning dimension and consideration at human-scale. With it being engineering-led, the value proposition around highway engineering fetishes vehicle movement, efficiency, and feasibility of capital infrastructures with little

⁷⁶ <https://www.eltis.org/mobility-plans/sump-concept>

emphasis on humans and place values, nor the strategic and planning perspective or charisma to coordinate changes in the institution.

Transport planner's role therefore has been evolving from the traditional highway focus, onto a polymath - a crucial part of the transport sector to provide the strategic and planning perspective of transport, to streamline the provision of transport with its expertise in policy, strategy, design, evaluation, assessment, appraisal and stakeholder engagement for plans and projects in the transport system, but taking into the breadth of knowledge in spatial planning, transport economics, travel behaviours, governance and policy,

Transport remains a contested subject intertwined with streetscapes, city, and communities, hence to professionals it needs to be multidisciplinary. While a transport planner would be the ideal fit for this multidisciplinary gap, transport professionals including transport planner and highway engineers will need to break their silos to work with professionals at other disciplines and built environments, including urban planner, urban designer, architect, landscape architect, engineers, academia.

There's also the need for a relevant platform/ institution framework to allow these professionals to work together, but also relevant training including education from undergraduate and postgraduate degree programmes and continued professional development (CPD) steered by professional organisations. There's a need for these institutions to catch-up with emerging transport planning practices that goes much beyond traditional highway engineering.

Proposal 91

Professional institutions and higher education institutions to advocate for transport planning as professions through education and professional development frameworks. Promote inter-disciplinary working and raise the profile for the transport planning sector.

7.2. The institution for the future

7.2.1. Allocations and revenue streams

With transport being the means of how people access opportunities and resources, its sustained provisions and improvements are necessary for functioning of the city to enable growth and development. Operating the transport infrastructure and service is fundamentally a public service as well which requires public subsidies.

Generous budgets are often given to big capital infrastructure projects which might serve strategic purposes, but little emphasis is given to initiate schemes improving, including retrofitting our existing environment. There needs to be conscious decision-making in place on how resources are allocated across the transport system. For which this is again informed by the vision in strategic planning.

To enable the smooth delivery of this strategic vision and its associated programmes, a stable source of funding, allocation or revenue stream is necessary.

Despite allocation from the central budget, Street Reset thinks that there should be a revenue stream ringfenced to sustain delivery of the visioned transport system. Transport related revenue stream includes but not limited to:

- Road pricing and tolling - including congestions charge, tolling use of strategic links, etc
- Penalty for contravention of traffic restrictions
- Parking charges
- User fees including annual registration tax and licence fee
- Revenue from transport service operation, including public transport fare

Our thinking is that revenue streams from lowering hierarchy of modes can be used to fund modes higher in hierarchy, including active travel but also less commercially viable public transport services, but also road safety improvements and other schemes where appropriate that aligns with the strategic vision set.

Proposal 92

Develop funding allocation and business plans within the transport system, including ring-fencing funds from pricing of the use of transport systems being reinvested back to the development of more preferred transport modes including active travel and public transport.

7.2.2. Technology as enabler

Innovation and technology have been and will always be at the heart of transport across all modes. They act as key enablers and instruments in furthering causes for a future transport system that is more efficient, safe, sustainable, and resilient. Technology could've been applied to every part of the transport system - below we illustrate some examples of applications of technology in the transport sector:

- Urban Traffic Control and operations
 - Crossing & Signal optimisations
 - Highway and transport operation - including:
 - Traffic control, variable message signs
 - Traffic managements & enforcement
 - Predictive highway maintenance
- Transport demand management
 - Road Pricing/ tolling
 - Parking - including occupancy, metering
 - Logistics - consolidation, coordination of use of loading bays
- Informed choice and travel experience

- Journey planning & nudges - incorporating real-time journey information including traffic conditions, loading levels, etc.
- Wayfinding
- Fare system
- Future mobility options, including:
 - Mobility-as-a-Services (MaaS)
 - Alternative fuel vehicles, including electric vehicles (EVs)
 - Autonomous Vehicle for people and goods

As suggested in the vision chapter, uptake of technology should be outcome-led, seen as an instrument that aligns and furthers the vision and modal hierarchy that is to be embraced, instead of technology-led for technology's sake applying the innovation to the realm of transport.

Street Reset considers that the government will need to further its Smart City Blueprint to develop the institution to engage with sectors to keep abreast with emerging technology, an enabling institution and framework to work with emerging practices and business models, and the talent pool that cultivate and operate with technology and innovations.

We will need clear institutions including governance, regulations, support, data and people for responsive support, moderation and adoption of innovations and technologies. This includes uprising transport modes including micro-mobility options like E-bikes and scooters, Autonomous vehicles (AVs), future mobility options and service models that integrate with existing modes including private-hire, carpooling, car-sharing, car clubs, demand-responsive transportation, etc.

Use of technology also relates to data which we discussed in the coming section around its use and need for data protection upon privacy. The institution and framework should have ensured data protection to be in place, but it is also more about building trust and confidence of people into the system as well.

Digital divide and technology-illiteracy also remains a crucial issue for the access of technology while we popularise it. Considerations at human-scales, including user experiences and human-touch remain important for future mobility options and experiences.

Proposal 93

Develop a framework and necessary institution enabling use of technology in the transport sector, ensuring upkeep of emerging technology with the sector, human touch for catering for digital illiteracy.

7.2.3. Data is king

As the saying goes "If you don't measure it, you can't manage it". Planning requires a strong evidence base to inform throughout the planning process. The data allows for

building a strong case for any improvements necessary, design specifications, monitoring and evaluation.

Data available/ relevant in the transport realm is intrinsically diverse. There needs to be a framework in governing the provision and upkeep of these data being available for diligent transport planning purposes. These data can include, but not limited to:

- Demographic data from census
- A more frequent (or rolling) Travel Characteristic Survey (TCS) to inform travel pattern, behaviour, characteristics, and altitudinal surveys in finer details
- Traffic counts & surveys for traffic of various modes, parking, and kerbside utilisations - automatic/ routine, or ad-hoc
 - Tolling/ Thoroughfare of strategic road links
 - Walking and cycling flow
- Patronage and public transport travel data from on-board loading or fare collections
- Traffic contraventions including speeding and illegal parking

Data for active travel, being marginalised at the moment, often have little to no data available; meanwhile as public transport constitute the largest part of mode share as well, it is paramount that data for these more preferred modes be readily available to further the cases of improvements.

With the adoption of smart city initiatives there will also be more data, including big data being available for transport sectors. There needs to be the framework in place to ensure the right kind of data being available for planning purposes, as well as its collection, retention, accuracy, upkeep, processing, and dissemination is fit for purposes, fair and just in line with privacy protections.

In terms of dissemination, it is important for data to be open and available to the public in accessible format. Despite this help with public governance with transparency and allowing the public to monitor money being well spent, transport service being on par; more importantly it allows for businesses and communities to make use of open data for civic/ civil research and initiatives, ultimately informing better transport development and wider socioeconomic and environmental benefits.

Sometimes data around public transport loading levels and patronages might be deemed commercially sensitive for operators to disclose; nevertheless, this relates to the balance between the business/ operation model for public transport, government as moderator to mediate and coordinate public transport service provisions, and fostering transparency as public services, civic research, and initiatives. This also relates to governance structure and business/ operation model discussed in earlier chapters.

Amalgamation of technology with data enabled by technological advancement like artificial intelligence, machine learning as well as data science will be becoming more important in the future and how it can be integrated in the transport sector to assist decision-making and transport operation would be interesting as well.

Proposal 94

Develop a data strategy for working with data around the transport sector. This includes collection, retention, accuracy, upkeep, processing, and dissemination of data. This includes a framework ensuring availability of the right kind of data is being collected, open data, addressing data privacy issues and actualising its potential processed by technology in assisting transport planning and operation.

7.2.4. We the people

Enforcement vs Design

Humans are born to be different, therefore will have different behaviours and are prone to error. We discussed in earlier chapters that our streetscape should be more “forgiving” in driving, yet when it comes to traffic restrictions and contraventions, enforcement is an inevitable and crucial part of an efficient transport system.

Enforcement, nevertheless, is resource-intensive where it requires manpower. Our view is that while enforcement is crucial and necessary, the best case in transport planning is that undesirable behaviour, i.e., traffic contraventions are designed out in the system/ environment in a way that the environment would’ve made the undesirable behaviour very unlikely to happen.

One of the examples would be illegal parking - instead of relying on enforcement to mitigate illegal parking issues at hotspots, a more cost-effective way is to design it out - including footway expansion/ buildout to make the road width sufficiently narrow and design out the false perception that illegal parking would not obstruct traffic.

Proposal 95

Schemes to adopt a diligent design approach designing out undesirable behaviours where necessary and appropriate.

Public’s part in Transport

People as the end user of the transport system should have a say in the shaping of their transport system; similarly, communities should have a say in how their local built environment, including transport infrastructure is to be. By engagement the public and communities are empowered to make good decisions for their local built environment and mobility options.

Engagement practices should not be a tick-box exercise, instead it should be at the heart and at every stage of planning where technical expertise is matched with local tacit knowledge, coming up with a scheme/ service that is fit for the strategic vision and local needs at the same time. Empowering public and community mean enabling the community

the capability to participate and negotiate in the plan making process, not merely being informed, or consulted. This also relates to the channel and platform of engagement and whether reaching those that are less articulate.

Ethnic minorities, disabled groups including people with hidden disability are examples of user groups that are often marginalised and underrepresented in normal engagement processes. Ensuring their voices heard and needs addressed for accessibility and inclusivity is important throughout transport planning.

Proposal 96

Engagement framework applied in transport initiatives empowering public and communities to participate and negotiate instead of the traditional statutory consultation and information. Ensure engagement is accessible and inclusive to marginalised and underrepresented groups.

Proposal 97

Establish a stakeholder participation mechanism so that disabilities and various special needs groups such as the elderly can continue to follow up on particular projects, especially regarding the implementation of barrier-free travel chain and community-friendly elements.

Engagement should not be just about a particular scheme or new services - it should also be about hearing and improving the existing services and infrastructures. There needs to be an institution in place to actively hear from end users for improving the existing offerings - this can be some sort of watchdog groups or passenger/ user panel.

Proposal 98

Mechanisms for public transport operators to be held accountable to the public as end users, include incentives for upkeep of service performance and requirement to follow-up with comments, under an establishment of public transport watchdog groups.

Similarly recent emergence of civil groups around transports, including transport planning and street designs like us, but also those with a particular focus on specific transport modes/ local transport areas - has all suggested the diligence and initiative at the civil society to improve transport landscape in Hong Kong. We are happy to have been seeing more efforts of groups like ours are recognised by the public, and we are also starting to get into exchanges with officials and relevant stakeholders. We would very welcome if there can be institutions that can be developed to facilitate these exchanges, in cooperation for better future transport landscapes in Hong Kong.

Proposal 99

Mechanisms for exchanges with interested transport groups in transport planning processes.

Political ambition and keen leadership

Last but not least, political will remains the foremost factor in delivering the transport system for the future of Hong Kong. Changes are difficult and at times unwelcomed. Yet it is about envisioning what's needed for a transport system in the future Hong Kong, having the strategic vision and the dedication to deliver the vision. Ultimately transport (and mobility) are how people access opportunities, and are fundamental for our well-being, enabling the functioning of our society and backbone of economic growth.

In preparation for a future transport system that is efficient, sustainable, safe and resilient for all, there has to be a conscious fundamental shift of our value proposition in transport planning, away from our existing thinking to decide and provide, as well as to prioritise considerations at human-scale. Adopting a planning system for transport that calls for evidence-base, and developing the institutions that enable transport planners, working in close collaboration with other professionals - all combined will truly allow the sector to deliver the future transport system.



Appendix: List of proposals

Appendix: List of proposals

Proposal ID	Content	Relevant B/D	Section reference
Vision and Strategy			
1	The new transport strategy should embed the following four proposed strategic goals along with the current four preliminary key directions in the TTSS. They include: - Enabling modes other than driving - "Vision Zero" for road safety - Streets at the Human Scale - A strategic provision for cycling	TLB, TD	2
2	To develop a hierarchy of transport modes that dictates our strategic vision and preference of transport mode. The hierarchy shall act as the fundamental principle in all decision-making processes, and direct our resources and investment, including the establishment of funding sources and streams amongst promoting, protecting, or deterring the use of relevant modes accordingly.	TLB, TD	2.1.1
3	Ensure technology uptake are vision-led, aligning with the strategic vision and goals for a human-centric transport system. Introduction of autonomous vehicle technology should be geared towards sustainable modes of shared nature including public transport and shared demand-responsive transport, avoiding the unwanted consequences of inducing further private travel demand.	TLB, TD	2.1.2
4	Move away from the 'Predict and Provide' model to 'Decide and Provide' and focus on measures to restrain road traffic demand. This includes: - Formulation of vision and value proposition as integral part of TTSS with reference to our proposals - Development of evidence bases for cases for change, options including relevant interventions, infrastructure, or instruments to achieve the set vision and its objectives - Mechanism of adopting and implementing TTSS, including a delivery plan on its initiatives	TLB, TD	2.1.3

5	We propose the integration of "Vision Zero," aiming for zero road fatalities and severe injuries, as a pivotal component within the future transportation strategy vision. Furthermore, the establishment of progressive mid-term targets and ultimate goals to curtail the number of road fatalities and severe injuries (KSI) is strongly advised. By the year 2030: Strive for a 30% reduction in road fatalities or severe injuries compared to the average figures from 2015-2019. By 2040: Aspire to achieve a substantial 65% decrease in road fatalities or severe injuries, contrasting with the average statistics from 2025-2030. Ultimate Objective: Aim to realise zero road fatalities or severe injuries on our roads by 2050 or even earlier.	TLB, TD	2.2.1
6	To systemically ensure pedestrian safety, we urge the Transport and Logistics Bureau (TLB), Transport Department (TD), Highways Department (HyD), the Road Safety Council (RSC) and the Police to jointly adopt the Safe System Approach as the overarching principle of the government's road safety strategy. By doing such, it means to create a 'forgiving street environment' that is designed around vulnerable road users.	TLB, TD, HyD, RSC & Police	2.2.1
7	Transport department to formulate a Vision Zero Action Plan and develop specific safety improvement measures tailored to each type of vulnerable road users (including pedestrians and cyclists). These policies and measures should be regularly updated.	TD	2.2.2
8	Establish a policy direction that embraces "human-oriented streets," gradually reforming the allocation of road space and design patterns to enhance the city's overall liveability.	TLB, TD	2.3.1
9	Enact pedestrian-centric street design measures to cultivate an inviting street environment, revitalise urban vibrancy, and repopulate the walking economy. For specific strategies, please refer to Chapter 5.	TD	2.3.2
10	Revise the "Pedestrian Planning Framework" and rebrand it as the "Street Planning Framework." Develop specialized "Street Design Guidelines" for Hong Kong's general street network (excluding strategic routes). Detailed measures can be found in Chapter 5, Recommendations 58 and 59.	TD	2.3.3

11	Allocate resources and personnel to promote street transformation projects. Specific directions include: - Allocating dedicated funding for the promotion of human-centred street transformation projects and setting specific goals or timetables. - Increasing the number of permanent positions in the Transport Department's Pedestrian City Planning Group to address the long-term staffing needs. - Introducing professionals from cross-disciplinary backgrounds, such as urban designers, transportation planners, or city planners, into the department's structure. Additionally, provide training in human-centred street design for engineering staff to genuinely integrate human-centric design thinking and incorporate expertise in public space design and placemaking (see proposal 91).	TLB, TD	2.3.4
12	Set up an "Active Travel Coordination Office" (ATCO) led by a new "Commissioner for Walking and Cycling" position under Transport and Logistics Bureau (TLB) to coordinate, advocate and promote bicycle travel and pedestrian-friendly policies, as well as the related infrastructural projects. With the objective to enhance the experience and safety of active travel, the Office should explore how to encourage more people to cycle or walk in their daily life.	TLB, TD	2.4.3
13	The Government should make reference to the latest overseas design standards and update the design standards for cycling infrastructure and roads in the Transport Planning and Design Manual (TPDM) accordingly. The new standard should include "Cycling Friendly Core Design Principles", to make the cycle network and paths coherent, direct, safe, comfortable, and attractive, as well as being inclusive - compatible to the needs of all ages and abilities, and different purposes behind cycling.	TLB, TD	2.4.4
14	Formulate the "Strategic Plan for Active Travel in Hong Kong" and draw on collective wisdom in the process, so as to establish a policy foundation for promoting cycling in Hong Kong in the long run. The new plan should also set out specific strategic measures and delivery timeframe, so as to progressively expand and improve the existing cycling network and ancillary facilities.	TLB, TD	2.4.5

Enables travel modes other than driving - Travel demand management			
15	Review existing charge levels for first-time registration tax (FRT) and annual licence fee (ALF) at a proportionate level as with inflation and changes in purchasing power, curbing the growth of private vehicle ownership. In the long term, develop an adjustment mechanism for reviewing the charge level of the above fee/ tax, ensuring that they remain prevalent.	TLB, TD	3.1.1
16	Review existing charge level for fuel tax at a proportionate level as with inflation and changes in purchasing power, curbing the use of fuel-propelled private vehicles. In the long term, develop an adjustment mechanism for reviewing the charge level of the fuel tax, ensuring that it remains prevalent.	TLB, TD	3.1.2
17	Implement road pricing by extending the use of HKeToll to toll the use of private cars. Pricing should be proportionate upon the marginal social cost, for an additional car trip but also the distance travelled. Actual pricing models can be subject to further studies, including but not limited to strategic cordon/ congestion-based charging within and/or across areas, and tolling for use of strategic routes across regions. Pricing should be varied depending on typical demand patterns and portfolio, and not in the absence of traffic displacement onto the local road network. The ultimate goal is to lower the overall use of private vehicles.	TLB, TD	3.1.2
18	Further existing inventory of parking and kerbside control measures, including: - Review or dynamic pricing of public parking to moderate its use upon demand, especially for the fee for kerbside parking which has yet been adjusted since 1994 - Introduction of controlled parking zones (CPZ) for permit holders, usually for local residents/ businesses need - Rationalise on-street provisions of parking, where appropriate to convert as loading bays to prioritise commercial vehicle operation, or introduce parking control - Rationalise "no parking" prohibition. Designation of no parking but allowing loading/ unloading make enforcement difficult upon prolonged waiting, loading, and unloading.	TLB, TD	3.1.3
19	Further enforcement against traffic and parking contraventions, especially those along pedestrian desire lines or in proximity to crossings, to protect pedestrian safety.	Police	3.1.3
20	Review existing level of penalty to pay, and relevant mechanisms to deter parking contraventions.	TLB, TD	3.1.3

21	Review existing parking provision and where appropriate upon an evidence base, rationalise a moderated, adequate provision of on street parking, possibly converted from single yellow dashed lines for better road safety and traffic circulation. Places like illegal parking hotspots can justify adequate provision, with physical barriers to deter further illegal parking. For certain roads with wide carriageways, parking can be rationalised to achieve a traffic calming effect.	TD	3.1.3
22	Develop a commercial vehicle strategy in reviewing its needs and identify relevant instruments to streamline their operation thus overall traffic circulations, where it would also fit the future transport system that is efficient, sustainable, safe, and resilient. Some key action includes: 1. Rationalise provision of (timed) loading bays, possibly converted from existing on-street parking 2. Identify opportunities for consolidated logistics facilities at a local level, allow dissemination in at more sustainable mode with fewer footprints, i.e., on foot, by cargo bikes or electric vehicles 3. Initiative to encourage retiming of service and delivery at off-peak periods 4. Couple loading/ unloading facilities with technology streamlining its use and utilisation 5. Ensuring safety of medium and heavy good vehicle, including more stringent safety standards to vehicles, and training for good vehicle drivers 6. Provide more parking facilities for commercial vehicles	TLB, TD	3.1.3
23	Develop a parking, loading and kerbside management strategy, a systematic yet local context-driven approach to the provision of parking, evaluation, and prioritisation of kerbside needs, as well as local service and delivery facilities.	TD	3.1.3
24	Embed technology with parking provision to allow drivers locate available parking spaces, reduce traffic at street level cruising for parking spots.	TD	3.1.3
25	Revert and tighten parking standards in HKPSG, uses public transport accessibility as a metric to dictate level of parking provisions. If a new residential and commercial development is situated in an area with high public transport accessibility, no parking for private cars should be provided to uphold the threshold for ownership and usage of cars by limiting parking supply.	TD, PlanD	3.1.4

26	Explore opportunities for further vehicle ownership restraint, including introduction ceiling/ caps on vehicle registration and importation.	TLB, TD	3.1.5
27	Introduce car clubs/ car sharing schemes, including establishing relevant policy and institution framework, identify possible areas.	TD	3.1.6
28	Explore the opportunities for developer's contributions and commitments on new development sites, including the preparation of travel plans to promote sustainable mobility in new development sites.	TD	3.1.6
29	Establish within the administration and encourage corporates to adopt flexible and hybrid working practices, including flexi-hours, and options to work from home.	B/Ds	3.1.6
Enables travel modes other than driving - Delivering a "World-class" public transportation system			
30	Revalidate the strategic, integrated and step-change provisions for the future world-class public transport system in the upcoming TTSS. This includes regional/ district evidenced-based strategic review on the baseline provision, and to develop the role, positioning and future provision of each of the public transport modes with local context.	TD	3.2.1
31	Development of journey planning protocol including development of relevant route planning APIs, open data unifying data feeds from transport operators and traffic conditions. It should take into account real-time data including traffic, public transport headways, loading, availability of infrastructures and assets across different modes of transport, physical attributes like terrain, and costs of travel like fares.	TD	3.2.2
32	Revalidate the strategic, integrated and step-change provisions for the future world-class public transport system in the upcoming TTSS. This includes regional/ district evidenced-based strategic review on the baseline provision, and to develop the role, positioning and future provision of each of the public transport modes with local context.	TD	3.2.2
33	Provide more inclusive facilities, for example children and elderly friendly facilities, toilets, benches at long subway sections and public transport interchanges (PTI), facilities for baby care - including breastfeeding rooms and baby change rooms.	TD	3.2.2
34	To widely adopt road design that prioritises public transport and take on a design-led approach to mitigate bottlenecks and pinch points along public transport routes, to mitigate impact of traffic conditions on public transport, ensuring reliable	TD	3.2.2

	services.		
35	Capitalise loading data, surveys to understand load factor of services and develop the evidence base for service/ headway optimisation. Set up an optimal loading factor with consideration of passenger comfort and crowding level on board. Optimise service provision by providing short-working trips or express services that is responsive to demand changes.	TD	3.2.2
36	Review transfer arrangements at buses including timetabling and/or operational optimisation to allow for seamless transfer. Enhance transfer experience by considering the provision of better interchange facilities for passenger comfort, including air-conditioning, amenities like toilets, nursing facilities, etc.	TD	3.2.2
37	Provide quality intermodal connections, especially active travel connections to public transport services by the provision of relevant facilities like secure cycle parking and storage; and mobility hubs at larger public transport interchange.	TD	3.2.2
38	Reform existing franchise model to a service agreement model to allow for more public control and autonomy for the Transport Department as the transport operator and ensure public transport operators are accountable to provide quality services. It should entail: - A reworked model of revenue stream shared between TD and operators to strive for diligence in governance and operation excellence - Quality assurance framework providing commercial incentive for operators to uphold service quality with relevant KPIs - Further public control in the level of service, including routes, frequency, fare etc. Planning of services to be driven publicly with input from operators. - Partnership framework between TD and operators for initiatives to drive up service quality, provision of services and passenger experience These changes are enabled by a favourable regulatory and planning landscape for public transport, including commitment and investment in public transport infrastructure including priority measures.	TLB, TD	3.2.3

39	With further public control over public transport in place, develop a framework to develop local and regional public transport strategy, with a public and evidence-based approach with respect to patronage, demographic and spatial demand, coordinating public transport services to complement one another, ensuring local travel demand and service quality are met.	TD	3.2.3
40	Develop a framework in public transport operation to incorporate representation of passenger interest, overseeing service level and quality. Ensure public engagement in local public transport planning processes.	TD	3.2.3
41	Develop an institutional framework, including relevant legislation for various MaaS solutions to operate and thrive with the vision of them being part of the future transport system alongside existing transport options.	TLB, TD	3.2.4
“Vision Zero” for road safety			
42	Drawing inspiration from the "Inner and Outer Grid" street types outlined in the latest Proposed Strategy and Conceptual Pedestrian Plans, we propose the implementation of corresponding lower speed limits and traffic calming measures in areas with heightened safety risks: - 30 km/h on any 'inner grid' streets, or 'outer grid' streets with high place function and/or footfall, as well as those in proximity to sensitive land uses (such as healthcare facilities, schools, and elderly/community centres, etc.) - 40 km/h on 'outer grid' streets in densely populated areas	TD	4.1
43	Consider lowering the speed limit on some sections of roads that are historically considered as "Rural trunk road", but no longer are so as to reduce the risk of serious injuries to pedestrians and cyclists in traffic collisions. Examples include Castle Peak Road and certain sections of Ting Kok Road.	TD	4.1
44	Conforming to the current policy for the expansion of lower speed zones, we recommend updating the section in Chapter 6, Volume 6 of the "Transport Planning and Design Manual" regarding speed limits to facilitate the streamlined establishment of additional lower speed zones.	TD	4.1

45	Swiftly tighten visibility standards for medium and heavy-duty trucks to reduce the risk of avoidable road injuries. Specific measures include: - Consulting with relevant government departments to introduce clauses in outsourced service contracts or government engineering tenders, stipulating that outsourced contractors or companies involved in government projects must utilise trucks that comply with the new visibility equipment requirements, allowing drivers to have direct visibility of all blind spots on the vehicle. This requirement should also be extended to the procurement process for all government vehicles. - Amending regulations and engaging in effective dialogue with the industry to raise visibility standards for newly registered medium and heavy-duty trucks. - The new regulations should include sunset clauses for existing older-style trucks, requiring vehicle owners to install front blind spot visual aids, side cameras, detectors, and compliant wide-angle mirrors before the specified deadline. Vehicles should also be equipped with audible alerts for left turns and rear warning markings to signal pedestrians, cyclists, and motorcyclists to maintain a safe distance. - The authorities should establish industry-specific subsidy programs for this purpose. Given the Environmental Protection Department's ongoing program to phase out Euro IV diesel commercial vehicles, the authorities can collaborate with the Environmental Protection Department and enhance the subsidy limits, also to encourage adoption of fleets with direct vision design, or fleets equipped with relevant sensors/ safety equipment. These requirements should be implemented promptly to factor into vehicle owners' considerations when replacing their vehicles, thereby minimising any adverse impact on the industry.	TLB, TD	4.2
46	Target intersections and road sections with poor safety track record in Hong Kong, allocate resources to implement safety improvement programs to redesign the typology, alignment, priorities, and methods of control at these locations, aiming to reduce the safety risks to vulnerable road users.	TD	4.3
47	For the effective management of vehicle speeds, the authorities should consider the following actions: - Implement widespread installation of traffic calming devices on secondary roads to promote self-regulation of vehicle speeds by drivers. - Install additional speed detection equipment on major roads passing through heavily populated areas to address the growing problem of habitual speeding.	TD	4.4

48	Consider expanding pedestrian walkways in the vicinity of additional intersections, pedestrian crossings, or near auxiliary lanes, ensuring that the visibility of pedestrians and drivers remains unobstructed to enhance road safety.	TD	4.5
49	Provide more at-grade crossing points that cater for prevailing pedestrian desire lines where possible.	TD	4.6
50	Amend the existing legislation to escalate speeding fines across all tiers and tether the fine amounts to the incomes of the offenders, ensuring that fines deliver a deterrent effect on all drivers.	TLB, TD	4.7
51	Enforce the mandatory installation of Intelligent Speed Assistance systems for all newly registered public service vehicles and trucks.	TLB, TD	4.8
52	Revise the procedural guidelines regarding road safety audits, stipulating that auditors must not be employed by the project's consulting firm or any of its subsidiaries. Auditors should be sourced from a different consulting company or should be independent professionals, thus ensuring the independence and impartiality of the audit process. Establish a continuous review process in collaboration with the Highways Department, focusing on various project evaluation reports. The objective is to assess the quality of these reports, identify issues, encourage a culture of learning, and set up mechanisms for the ongoing enhancement of standards and safety design practices within the industry.	TD, HyD	4.9
53	Replace the current traffic accident hotspot analysis with the hotzone analysis approach. Collaborate with the University of Hong Kong to establish an up-to-date system for identifying high-risk segments, ensuring more precise identification and improved resource allocation for enhancing road safety.	TD	4.1

54	Revamp the Road Safety Council to facilitate broader participation of diverse groups and sectors and enhance the development of comprehensive road safety strategies. The groups and professions to be incorporated are: - Representatives advocating for the rights of the elderly, persons with disabilities, pedestrians, and cyclists. - Representatives from the road safety engineering consultancy, urban planning, road and traffic engineering, and public transportation sectors.	RSC	4.11
55	Establish an official map-based collision database for public access and ensure regular updates to enhance transparency in data reporting.	TD	4.12
Streets at the Human Scale			
56	Implement Low Traffic Neighbourhood measures on suitable local streets, limiting access to traffic unrelated to the neighbourhood, to reduce automobile access on local streets and prioritise pedestrians.	TD	5.1
57	Seizing the opportunity of the Central Kowloon Route to transform parallel surface streets, this involves reallocating road space on Boundary Street, Prince Edward Road West, and Argyle Street, to create a people-friendly, liveable streetscape.	TD	5.2
58	Fully adopt the 'Movement and Place Matrix' to identify street types in existing built-up areas, allowing for context-specific space and priority allocations and providing a basis for future planning decisions.	TD	5.3
59	The newly established 'Street Design Guidelines' should comprehensively update and integrate relevant standards for street design, offering guiding principles, transformation strategies, and design measures to promote people-centric street designs and help designers make flexible decisions according to local conditions.	TD	5.4
60	Restructure the composition of the "Transport Planning and Design Manual" by splitting its content into the "Street Design Guidelines" and "Strategic Route Design Standards."	TD	5.4
61	Review the revision mechanism of the "Transport Planning and Design Manual". Set up a committee with external experts, term of reference to ensure TPDM being kept abreast with latest thinking on transport planning, roads, and street design with regard to latest research and innovation.	TD	5.4

62	Implement the following measures to comprehensively enhance the convenience and safety of at-grade pedestrian crossings: - Install more ground-level crossings to align with pedestrian routes and habits (see Proposal 49) - Implement ground-level pedestrian crossings in all directions at signalised intersections - Upgrade high-risk cautionary crossings to signal-controlled or zebra crossings - Relocate the stop lines at pedestrian crossings - Reduce waiting times for pedestrian signals - Review pedestrian green phase timing - Implement pedestrian-exclusive phases at more intersections and allow diagonal crossings - Convert central medians in suitable locations into informal pedestrian crossing strips	TD	5.5
63	Conduct a comprehensive assessment to determine the necessity of PGR at all pedestrian crossings and on streets within established communities. PGR should be removed in more appropriate locations or replaced with bollards where feasible, illustrating the benefit of adequate railing removal to the public. If street speed limits can be lowered to 30 or 40 km/h, TD should consider the full removal of pedestrian railings in those areas, which will create a more comfortable and accessible urban environment.	TD	5.6
64	Explore the idea of repurposing kerbside lanes or parking spaces into 'parklets' or outdoor dining spaces, with the aim of creating spaces where people can leisurely enjoy and stimulating pedestrian-oriented economic activities.	TD	5.7
65	Begin street redesign projects with low-cost, temporary road space reconfigurations and introduce the concept of "participatory design" to involve the community in the design process. This approach will provide multiple benefits by allowing for flexibility and building public support while promoting real innovation in our city's development.	TD	5.8
66	Make active use of roadside spaces for planting more trees and establishing "rain gardens." Additionally, explore opportunities for widening pedestrian walkways in suitable locations to combat and adapt to increasingly severe extreme weather conditions.	TD	5.9

67	Introduce more shaded seating in suitable locations along the streets.	TD	5.1
68	Pilot the installation of "noise cameras" on major roads to identify and penalise vehicles with modified exhaust systems causing excessive noise, aiming to mitigate the issue of vehicle-related noise pollution.	TLB, TD	5.11
A strategic provision for cycling			
69	Commence a study on the expansion of the cycling network in the urban areas of Kowloon and Hong Kong Island as a pilot in forming the backbone network and conduct public consultation in stages.	TLB, TD	6.1
70	Implement the Lion Rock Tunnel cycling and walking path project and link up the active travel routes between Tai Wai and Kowloon City, so as to create favourable conditions for the long-term development of active travel in Hong Kong.	TLB, HyD, TD	6.2
71	Start collecting travel data and building a cycling potential model. Make use of regular, extensive, and systematic data collection methods, such as regular traffic behaviour surveys, trip count records, etc. to estimate future demand.	TD	6.3
72	Halt the legislative process regarding mandatory cycle helmet regulations in order to facilitate a thorough assessment by the TTSS research team to examine its potential impacts and implications on emerging cycling policies. Reevaluate the necessity of imposing mandatory measures in all settings and situations.	TLB, TD	6.4
73	Commission consultancy study on the improvement of the cycle track network in every New Town area. The studies should be based on the demand for bicycle travel and the "Cycle Friendly Core Design Principles", and propose short-, medium- and long-term planning and design improvement options.	TD	6.5
74	Reform the design of cycle track junctions and crossings, including the provision of traffic calming measures such as vehicular yield lines or cycle-only signals, coloured road markings, speed tables and tightened corner radii, etc., so as to enable cyclists to cross the road visibly, safely, and directly.	TD	6.6
75	Provide low speed limit zones of 30 km/h and physical traffic calming devices, so as to encourage motorists to drive at low speeds and be courteous to cyclists.	TD	6.7

76	Consider extending safe and comfortable cycling connections by implementing Low Traffic Neighbourhoods on local streets adjacent to the existing cycling network, enhancing the overall appeal and coherence of the cycle network.	TD	6.8
77	Improve cul-de-sacs in New Towns and New Development Areas by installing dropped kerbs and replacing barriers with bollards, to ensure people cycling can access and exit the traffic closure point comfortably and directly.	TD	6.8
78	To actively introduce bicycle travel provisions in the early stages of urban renewal projects and update the Hong Kong Planning Standards and Guidelines (HKPSG); require the applicant for development to submit and implement a "Walking and Cycling Plan"; enhance the scoring criteria of the BEAM Assessment; be aware of the regional urban renewal studies, and work with the Urban Renewal Authority.	TLB, DevB, TD & PlanD	6.9
79	Formally include cycling as part of its public transport policy, to realise its strategic role as a "first and last mile feeder" for public transport. To achieve this, the Government should provide safe bicycle parking facilities at railway stations and Public Transport Interchanges (PTIs); cooperate with bicycle sharing operators to provide incentives to encourage the public to interchange with public transport; put in place a regulatory mechanism for paid cycling facilities and services.	TLB, TD	6.1
80	Provide a handful of cycle parking spaces on each street in town centres to enable users to park at locations close to their final destinations.	TD	6.11
81	Types and quantities of cycle facilities should be treated as public data, accessible through government maps and other third-party applications to facilitate trip planning for the public. The continuous improvement of the 'HKeMobility' mobile app should support seamless transitions between cycles and public transport.	TD	6.12
82	The TD and the police should work closely together to tackle cycle thefts. The police should allocate dedicated manpower to tackle cycle theft cases, and adopt an 'intelligence-led' and 'black spot-based investigation strategy to increase the detection rate of bicycle theft cases so as to restore the public's confidence in parking bicycles in public places.	TD, Police	6.13

83	Provide a comprehensive, legible wayfinding signage system on the cycle track network. In this regard, the Government should redesign a set of cycle track-specific signage standards to address the needs of cyclists. Features to be included include: - Signage orientated towards the user rather than to the side - Narrower signage to avoid obstruction to footpaths - Combined display of destinations within and outside the district - Advance Direction Signs available - Fonts that are sized so that the information can be read clearly while cycling - Addition of cycle signs with special background colours on top of the road signs to avoid confusion to motorists - Assigning numbers and even names to cycle tracks to make it easier for users to find directions	TD	6.14
84	Review the restrictions and improve the quality of sections of routes to meet the needs of different users, taking into account the size and weight standards of legal passenger and goods bicycles in overseas places, as well as assessing the compatibility of various sections of the existing and proposed cycle tracks.	TLB, TD	6.15
85	Review the existing policy and communicate with the ferry companies to require all of them to provide bicycle support. This includes encouraging them to improve the design of their entrances, exits and ferries, and even encouraging the use of bicycles through the fare mechanism.	TD	6.16
86	Intensify the publicity in traditional media, social media, and the Internet, and utilise official and private bicycle travelling apps; regularly update traffic safety teaching materials in schools; put special emphasis on on-site reminders on cycle routes.	TD, RSC	6.17
Delivering the vision			
87	With sufficient funding allocation, objectives and strategies outlined in the strategic transport planning document to be adopted and implemented accordingly.	TD	7.1.1
88	Make the 'Strategic Studies Branch' of the Transport Department, which is responsible for this 'Strategic Study', a permanent establishment. The establishment should include data analysts, geographic information analysts, and data science personnel to better utilize data for providing the evidence base for planning.	TLB, TD	7.1.2

89	Adopt a planning system for transport, including development of the institution/ framework that encompasses the following: - Hierarchical planning for transport - Evidence-based planning - Forward-thinking planning standards and design guidance - Delivery plan & pipeline - Monitoring and evaluation - Public engagement and participation	TLB, TD	7.1.3
90	Revisit transport planning elements in new developments' planning application. This includes: - Shift from Traffic Impact assessment to Transport Assessment capturing the multimodal impact of developments - Consider options including developer contributions and travel plan commitments to encourage sustainable travel in new development areas.	TLB, DevB, TD & PlanD	7.1.3
91	Professional institutions and higher education institutions to advocate for transport planning as professions through education and professional development frameworks. Promote inter-disciplinary working and raise the profile for the transport planning sector.	Professional institutions & higher educations	7.1.4
92	Develop funding allocation and business plans within the transport system, including ring-fencing funds from pricing of the use of transport systems being reinvested back to the development of more preferred transport modes including active travel and public transport.	TLB, TD	7.2.1
93	Develop a framework and necessary institution enabling use of technology in the transport sector, ensuring upkeep of emerging technology with the sector, human touch for catering for digital illiteracy.	TLB, TD	7.2.2
94	Develop a data strategy for working with data around the transport sector. This includes collection, retention, accuracy, upkeep, processing, and dissemination of data. This includes a framework ensuring availability of the right kind of data is being collected, open data, addressing data privacy issues and actualising its potential processed by technology in assisting transport planning and operation.	TLB, TD	7.2.3
95	Schemes to adopt a diligent design approach designing out undesirable behaviours where necessary and appropriate.	TD	7.3.1

96	Engagement framework applied in transport initiatives empowering public and communities to participate and negotiate instead of the traditional statutory consultation and information. Ensure engagement is accessible and inclusive to marginalised and underrepresented groups.	TLB, TD	7.3.2
97	Establish a stakeholder participation mechanism so that disabilities and various special needs groups such as the elderly can continue to follow up on particular projects, especially regarding the implementation of barrier-free travel chain and community-friendly elements.	TLB, TD	7.3.2
98	Mechanisms for public transport operators to be held accountable to the public as end users, include incentives for upkeep of service performance and requirement to follow-up with comments, under an establishment of public transport watchdog groups.	TLB, TD	7.3.2
99	Mechanisms for exchanges with interested transport groups in transport planning processes.	TLB, TD	7.3.2

B/Ds All bureaux and departments
 DevB Development Bureau
 HyD Highways Department
 PlanD Planning Department
 Police Hong Kong Police Force
 RSC Road Safety Council
 TD Transport Department
 TLB Transport and Logistics Bureau