



BEYOND  
跨越 2030

# TRANSPORT INFRASTRUCTURE FOR OUR FUTURE

STRATEGIC STUDIES ON RAILWAYS AND  
MAJOR ROADS BEYOND 2030

PUBLIC CONSULTATION



## We Welcome Your Views

Railways and major roads that connect the urban areas and new development areas are closely related to our economy and livelihood. To support the future developments and to meet the transport and logistics demand, the Government is conducting the “Strategic Studies on Railways and Major Roads beyond 2030” to formulate a major transport infrastructure development blueprint for Hong Kong. You are welcome to share your views on the preliminary proposals.

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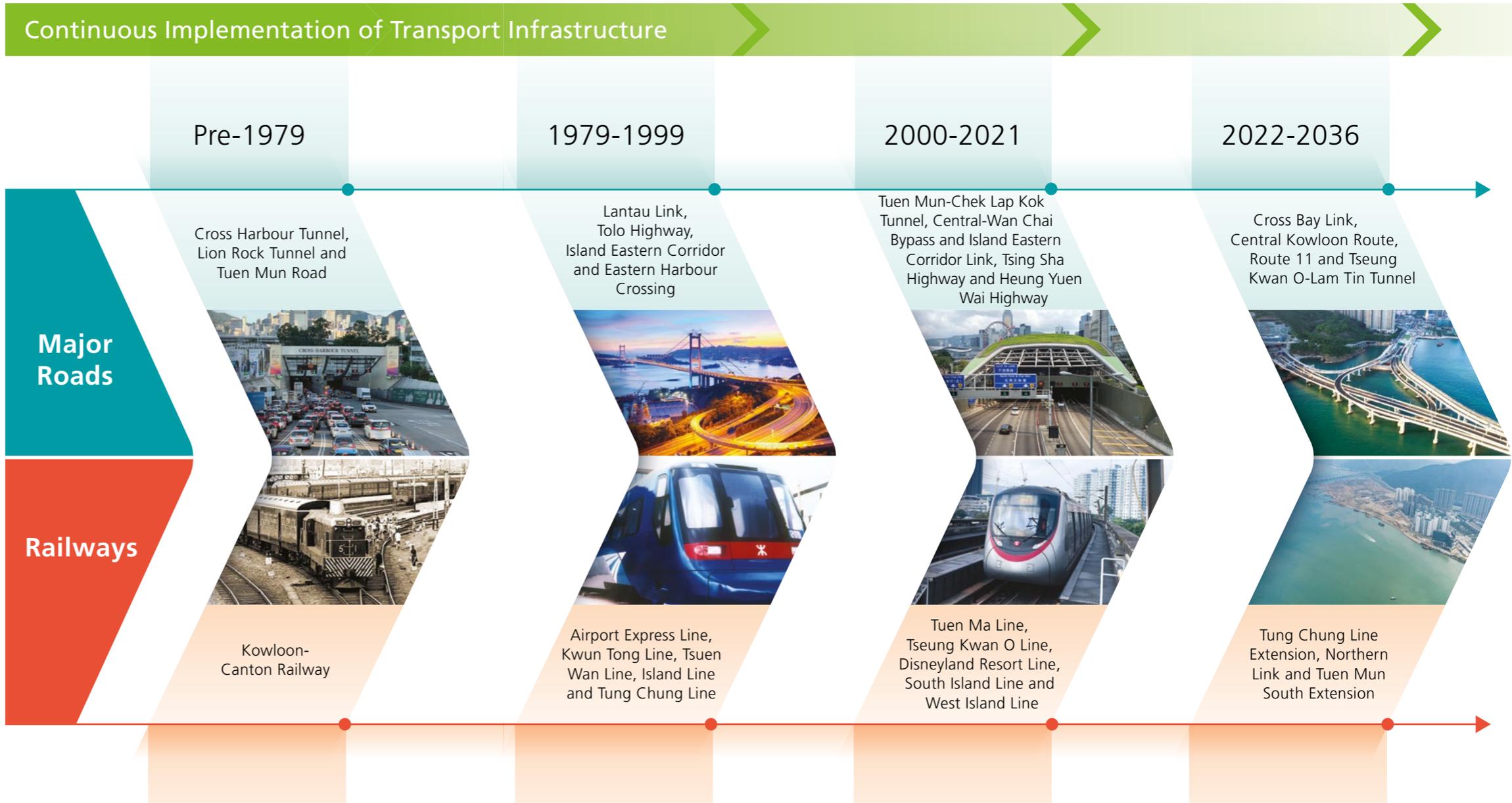
# Chapter 1

# Foreword



# 1.1 Strategy to Take Forward Transport Infrastructure

Transport infrastructure projects involve huge investment of public funds and have significant socio-economic impacts, and hence demand detailed and careful planning. The Government has been advocating the “infrastructure-led” and “capacity-creating” planning principles in taking forward transport infrastructure projects with a view to unleashing the development potential of nearby areas along the major transport corridors and meeting the long-term transport and logistics demand in a forward-looking manner while fostering better integration with other cities in the Guangdong-Hong Kong-Macao Greater Bay Area (Greater Bay Area). At the same time, the Government targets to alleviate the traffic bottlenecks by improving the transport network to provide more transport options and shorten commuting time for the public.



## 1.2 Long-term Development Planning

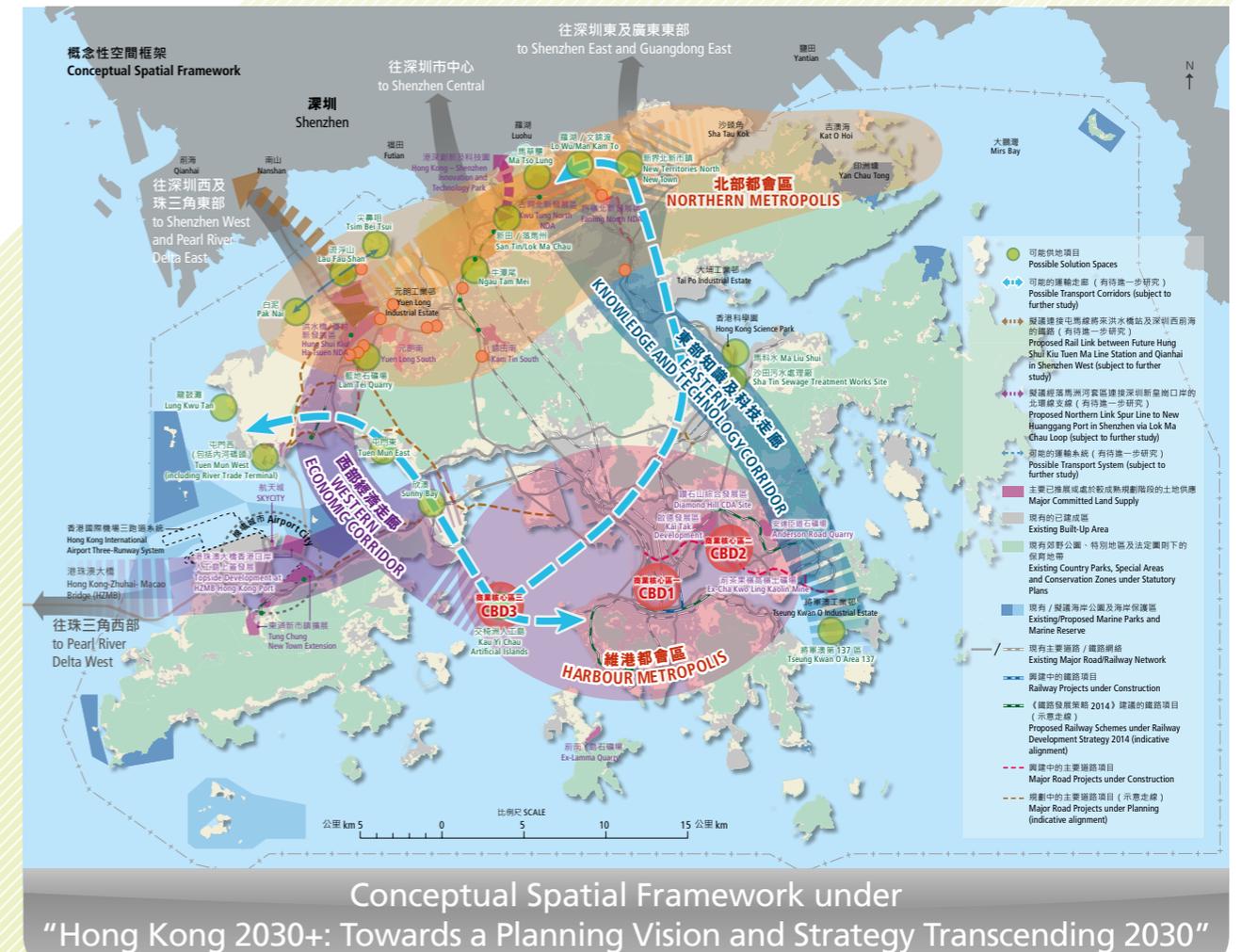
The Government promulgated the final report of the “Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030” (the Hong Kong 2030+) in October 2021. A conceptual spatial framework is set out to showcase two metropolises (i.e. Northern Metropolis and Harbour Metropolis), two development axes (i.e. Western Economic Corridor and Eastern Knowledge and Technology Corridor) alongside a close-knit network of transport links. This framework shows the Government’s macro view on Hong Kong’s long term spatial development by defining “possible solution spaces” to get the city prepared for the future developments in the years to come.

The Northern Metropolis generally covers two district administration areas including Yuen Long District and North District, spanning approximately 30 000 hectares of land covering new towns in Tin Shui Wai, Yuen Long and Fanling/Sheung Shui, six New Development Areas (NDA) and development nodes in different planning and construction stages (Kwu Tung North/Fanling North NDA, Hung Shui Kiu/Ha Tuen NDA, Yuen Long South Development Area, San Tin/Lok Ma Chau Development Node (ST/LMC DN), Lo Wu/Man Kam To Comprehensive Development Node (LW/MKT CDN) and New Territories North (NTN) New Town) as well as their neighbouring rural areas. The Northern Metropolis is expected to house a population of about 2.5 million with the provision of about 650 000 jobs, and will be the foothold for Hong Kong’s strategic development as well as the new engine for Hong Kong to scale new heights. Upon completion, the Northern Metropolis will emerge as a “new international I&T city”, integrating quality life, new economies, and culture and leisure. Innovative urban design will help promote home-job balance, green living and the co-existence of development and conservation.

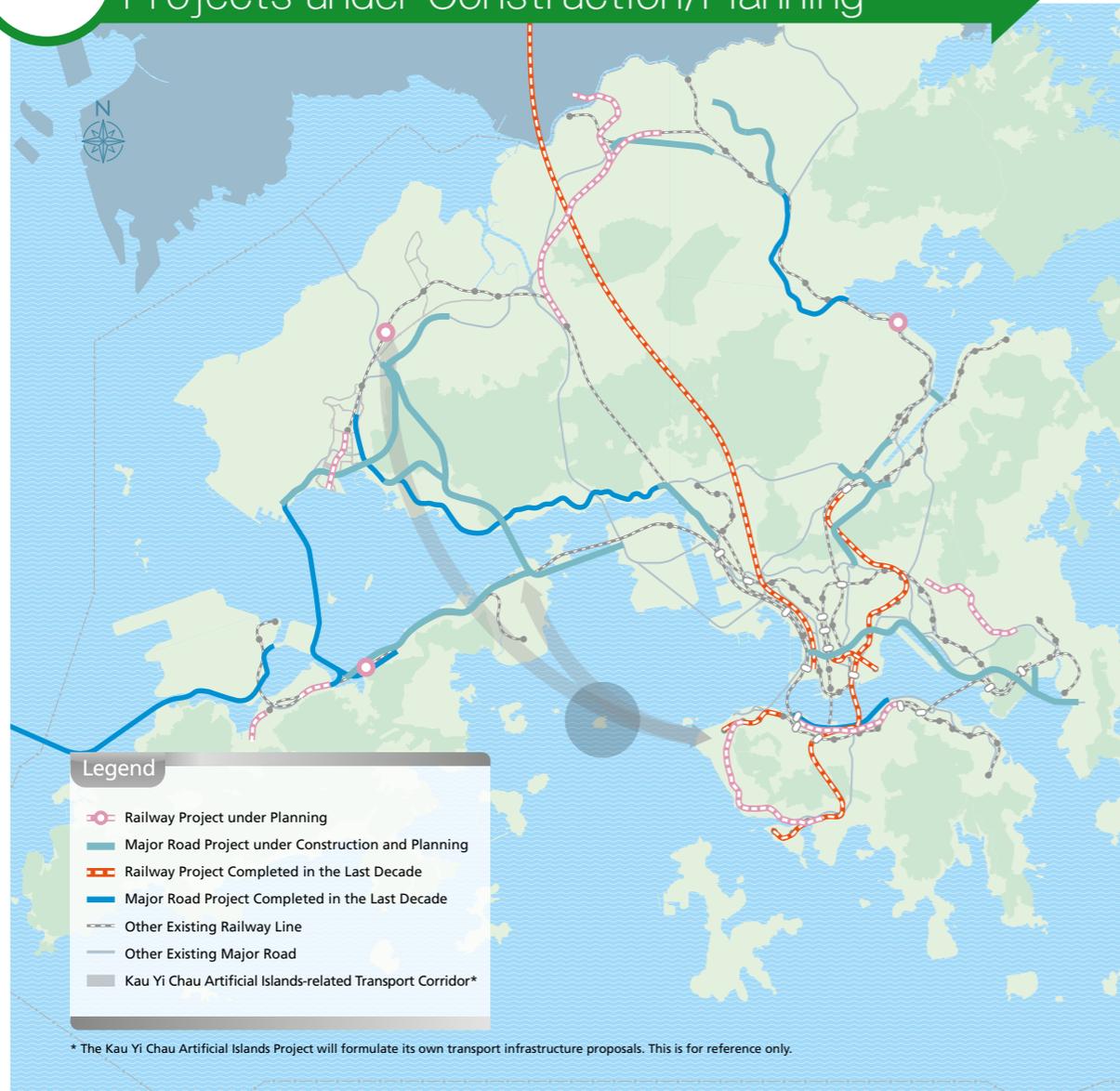
We will fully leverage the advantages of the Northern Metropolis’s proximity to the hinterland to promote the comprehensive development of control point areas. On its west, the Hung Shui Kiu/Ha Tuen NDA will be the focus. With its geographical proximity to Qianhai, it will become a central business district with a catchment reaching Shenzhen and even other cities of the Greater Bay Area. The central part, with the San Tin Technopole as its core, will pool I&T enterprises and create synergy with Shenzhen’s I&T cluster just across the river, becoming a diversified test bed for innovation. Modern industries in the NTN New Town can also benefit from collaboration with Shenzhen. Endowed with rich natural and tourism resources, the east side is best placed for recreation and tourism development for Hong Kong and Shenzhen.

On the other hand, the Harbour Metropolis, covering the existing Metro Area at the two sides of the Victoria Harbour and the proposed Kau Yi Chau Artificial Islands, is a metropolis with competitive edges in finance and business. It is anticipated that the Harbour Metropolis can provide more than 3 million employment opportunities. The Kau Yi Chau Artificial Islands will expand the scope and capacity of Hong Kong’s development and greatly enhance Hong Kong’s competitiveness as a financial, commercial and trade centre. Given their close proximity to Lantau Island, the 1 000-hectare Artificial Islands have good linkage with the Hong Kong International Airport and the Hong Kong-Zhuhai-Macao Bridge, and are well-positioned to tap economic opportunities from overseas and the Greater Bay Area. To optimise Hong Kong’s overall transport network, new rail links and a road transport network will be constructed to connect Hong Kong Island West, Lantau Island and Northwest New Territories; a fourth cross-harbour tunnel will also be built.

The Government commenced the “Strategic Studies on Railways and Major Roads beyond 2030” (the Study) in December 2020. Based on the final recommendations of the Hong Kong 2030+, the Study explores the future layout of Hong Kong’s railway and major road infrastructure to ensure the planning of major transport infrastructure will drive or even reserve capacity to meet the overall long-term development needs of Hong Kong, including those suggested in the Northern Metropolis Development Strategy, with a target of formulating the Major Transport Infrastructure Development Blueprint in the fourth quarter of 2023.



### 1.3 Existing Major Transport Infrastructure and Projects under Construction/Planning



### Railway

Railway provides efficient and environmentally friendly public transportation service. At present, the total length of railway network is approximately 270 km, with 99 heavy rail stations and 68 light rail stations, serving areas inhabited by more than 70% of the local population, and accounting for over 40% of the local public transport trips. The railway projects completed in the past 10 years include the Hong Kong section of Guangzhou-Shenzhen-Hong Kong

Express Rail Link, Tai Wai to Hung Hom section of Tuen Ma Line, East Rail Line cross-harbour extension, West Island Line, South Island Line (East) and Kwun Tong Line Extension. To continue the development of a passenger transportation system centred on public transport with railway as the backbone, the Government is taking forward new railway projects in a proactive and orderly manner.



## Railway Projects Under Planning

Based on the Railway Development Strategy 2014 (RDS-2014), the Government and the MTR Corporation Limited (MTRCL) are currently carrying out detailed planning and design work for the Tung Chung Line Extension (TCLE), Tuen Mun South Extension (TME), Northern Link (NOL) (and Kwu Tung Station) and Hung Shui Kiu Station projects. The construction of TCLE, TME and Kwu Tung Station is planned to commence in 2023. The Kwu Tung Station is anticipated to be completed in 2027, while the other projects are anticipated to be completed between 2029 and 2034. At the same time, the Government is actively considering the project proposal for South Island Line (West) submitted by the MTRCL and will take into account the redevelopment timetable of Wah Fu Estate for construction of the railway station right after the necessary works sites are freed up. On the other hand, given the hilly topography along the East Kowloon Line, the implementation of underground

heavy rail would not be the most effective option. The Government is now exploring the construction of an elevated trackless rapid transit system as the alternative scheme, the technical feasibility study of which is expected to be completed in the first half of 2023 for announcement of the way forward. As for the North Island Line (NIL), as it involves complicated technical issues, particularly as the works would pass underneath the town centre and be in close proximity to existing buildings and infrastructure, the MTRCL is conducting further study on the feasible options for improving the project design, taking into account the Government's comments on the NIL. The Government is also proactively following up on the relevant work regarding the NOL Spur Line, which would run through the Hong Kong-Shenzhen Innovation and Technology Park in the Lok Ma Chau Loop to connect the new Huanggang Port in Shenzhen.

In addition to RDS-2014, the Government plans to construct Oyster Bay Station on the Tung Chung Line, to support the Siu Ho Wan Depot Site development project with the potential to provide about 20 000 housing units. The Government also plans to construct Science Park/Pak Shek Kok Station on the East Rail Line, to support the Hong Kong I&T Development Blueprint.



## Major Roads

The total length of roads in Hong Kong is currently about 2 190 km. Major roads completed in the past 10 years include the Hong Kong-Zhuhai-Macao Bridge, Tuen Mun-Chek Lap Kok Link, Central-Wan Chai Bypass and Island Eastern Corridor Link, Heung Yuen Wai Highway, Widening of Tolo Highway (Stage 2), Widening of Fanling Highway, Reconstruction and Improvement of Tuen Mun Road, Hiram's Highway Improvement Stage 1, etc.; and projects under construction include Fanling

Bypass Eastern Section, Widening of Tai Po Road (Shatin Section), Route 6 (including Tseung Kwan O-Lam Tin Tunnel, Central Kowloon Route, Trunk Road T2 and Cha Kwo Ling Tunnel), etc. Amongst all, Tseung Kwan O-Lam Tin Tunnel and Cross Bay Link, which connects the tunnel in the eastern end, would commission in December 2022, providing a more convenient route between Tseung Kwan O (TKO) and Kwun Tong, and to Eastern Harbour Crossing.



## Major Road Projects Under Planning

- To meet the needs of urban development, the Government has always been improving the road network and launching road infrastructure projects. In view of the traffic demand arising from the progressive developments in northwest New Territories, the Government is implementing a series of major road projects. For connection with urban areas, the Government is implementing road projects including Route 11 (section Yuen Long and North Lantau), Tsing Yi-Lantau Link, and Widening of Yuen Long Highway (section between Lam Tei and Tong Yan San Tsuen). With regard to connection to the Hong Kong International Airport and Lantau Island, Government has been implementing the Tuen Mun Bypass and Road P1 projects. On top of that, the Government has been implementing major road improvement projects such as the Widening of Tsuen Wan Road to cater for future traffic demand.
- To support the developments in New Territories East, Trunk Road T4 and Fanling Bypass Western Section are being implemented by the Government while existing and potential road congestion in the area will be alleviated through major road improvement works. The planned road improvement works include Widening of Fanling Highway, Widening of T6 Bridge of Tate's Cairn Highway, Hiram's Highway Improvement Stage 2, Improvement of Lion Rock Tunnel and more.



## Long-term Planning

- Generally speaking, after commissioning of the above-mentioned railway and major road projects, the traffic demand arising from the development projects to be completed as scheduled can be fulfilled.
- To ensure that the major transport infrastructure will meet the transport demand of overall long-term land development, we are conducting the "Strategic Studies on Railway and Major Roads beyond 2030". Full consideration will be given to the public's views on the preliminary findings and recommendations of the Study received during the public consultation period. The Government targets

to formulate Hong Kong's future Major Transport Infrastructure Development Blueprint (including more detailed alignment and information on the implementation priority of projects) in the fourth quarter of 2023, and implement the required transport infrastructure projects in a timely manner.



## Chapter 2

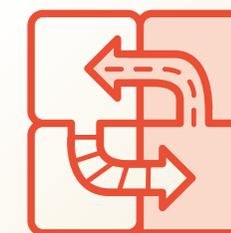
Study Objectives  
and Principles

## 2.1 Study Objectives

- The Major Transport Infrastructure Development Blueprint up to and beyond 2046 will be formulated in the Study for achieving the following:
  - (a) **Drive Development:** create development capacity, connect new development areas to the existing/future transport infrastructure network, and increase the coverage of railway and major road network;
  - (b) **Strengthen Connection:** enhance connections between districts, improve accessibility and resilience of the railway and major road network, and increase commuting options; and
  - (c) **Improve Efficiency:** divert traffic of the existing railways and major roads, and improve traffic conditions.



Drive  
Development



Strengthen  
Connection



Improve  
Efficiency

## 2.2 Study Principles



### Capacity-creating

The Study has adopted the “infrastructure-led” and “capacity-creating” principles to ensure the planning of major transport infrastructure could cater for or even reserve capacity to meet the transport demand of long-term land development in Hong Kong.

The “capacity-creating” principle has also been adopted for strategic transport infrastructure planning in the Study to appropriately create capacity for the long-term development of Hong Kong. In this regard, a longer planning horizon and a higher population projection scenario have been adopted to explore and formulate the preliminary proposals.

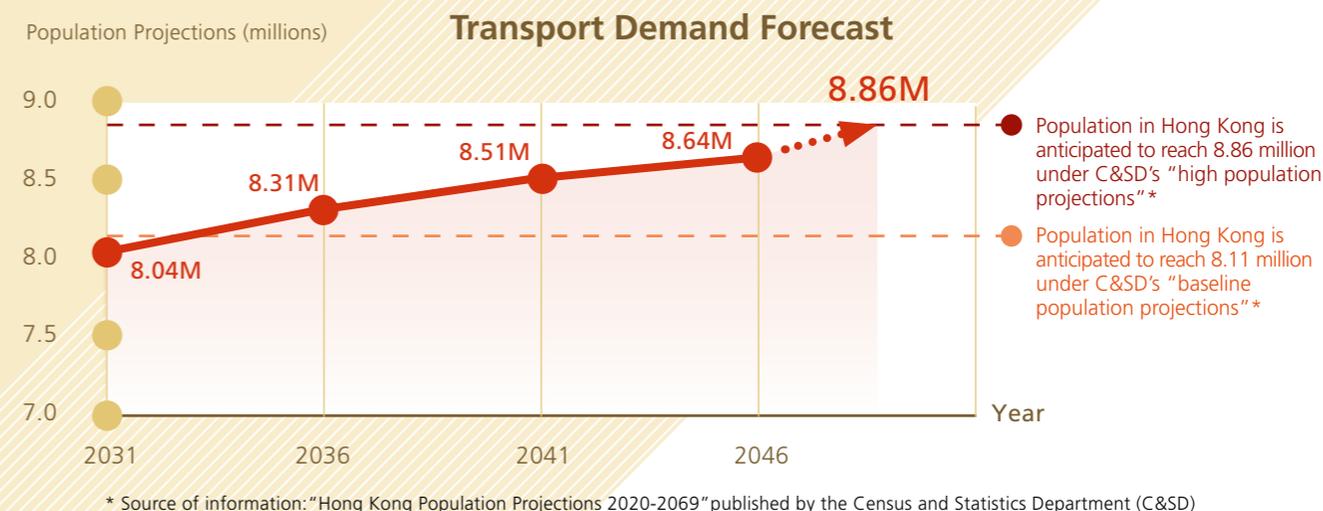


### Infrastructure-led

To meet the transport demand arising from the new development areas in a timely manner, the Study adopted “infrastructure-led” planning principle in taking forward transport infrastructure projects. We have been proactively reviewing the required major transport infrastructure based on the preliminary planning intents at the initial stage of various land development projects so that the strategic transport infrastructure could be commissioned in tandem with the major population intake of the new development areas.

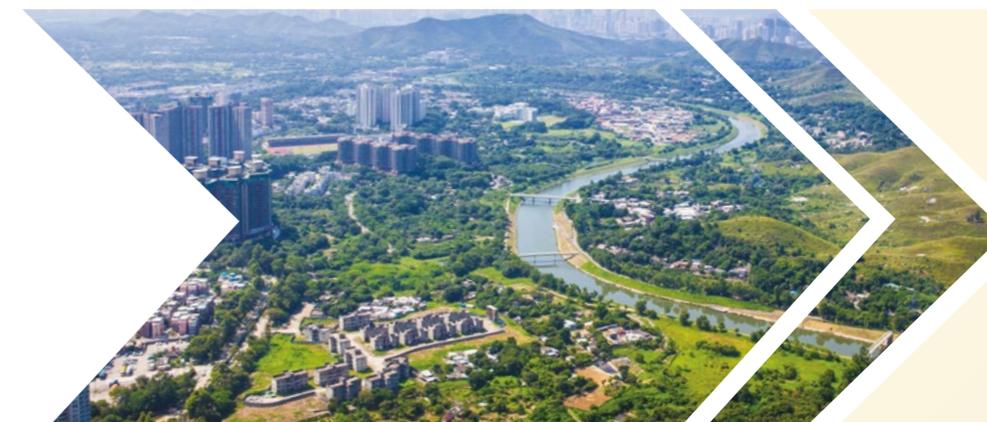
In terms of the planning horizon, the transport demand up to 2046 has been considered for the Study, which is more forward-looking as compared with the usual transport infrastructure planning horizon of about 16 years. In addition, the post-2046 scenario has been reviewed to allow flexibility in the preliminary transport infrastructure proposals to cater for the evolving and unanticipated potential development needs. For example, longer railway platforms or larger depots could be planned to facilitate future conversion or deployment of longer trains to further increase the carrying capacity; and when planning for new transport infrastructures, the possibilities of railway line extension, addition of intermediate stations, and widening of major roads are considered for reserving land space and infrastructure connections, etc.

Apart from the “baseline population projections” by the Census and Statistics Department (C&SD), the Study has also made reference to C&SD’s “high population projections” scenario of about 8.86 million beyond 2046. This approach is expected to generate sufficient capacity of transport infrastructure to drive the long-term development of Hong Kong.



## 2.3 Study Methodology

Throughout the study process, we have carefully reviewed the latest planning data and information (including the land use proposed in the Hong Kong 2030+ and the Northern Metropolis Development Strategy) with a view to meeting the transport demand on railways and major roads for the future new development areas.



○ The Study mainly comprises the following:

**Conduct Forecast of Transport Demand**

analyse the long-term domestic and cross-boundary transport demands using the “Comprehensive Transport Study Model” and “Railway Development Study Model” with reference to the latest planning data and land use development. Factors such as the population and employment distribution, trip purposes and trip-making behaviour, the planned completion of infrastructures, possible route choice, and the required travelling time, etc. are taken into account, with a view to forecasting the future traffic performance and change in transport demand up to and beyond 2046;

**Explore and Investigate New Railways and Major Roads**

explore the need for new railways and major roads based on the transport demand forecast; carry out preliminary engineering technical assessment and preliminary environmental review on the conceptual alignment for the new strategic railway and major road proposals taking into consideration the existing buildings, reservoirs, tunnels, and preliminary geological data, etc., to ascertain no known major technical difficulties for subsequent study and implementation; and based on the above, consolidate the preliminary recommended railway and major road proposals for public consultation; and

**Enhance and Consolidate Railway and Major Road Network**

after consolidating the opinions collected from the public during the public consultation, the conceptual alignment of major transport infrastructures will be enhanced taking into account the existing and planned transport infrastructure networks holistically, for making amendments on the proposals and formulating a more effective Major Transport Infrastructure Development Blueprint for Hong Kong.

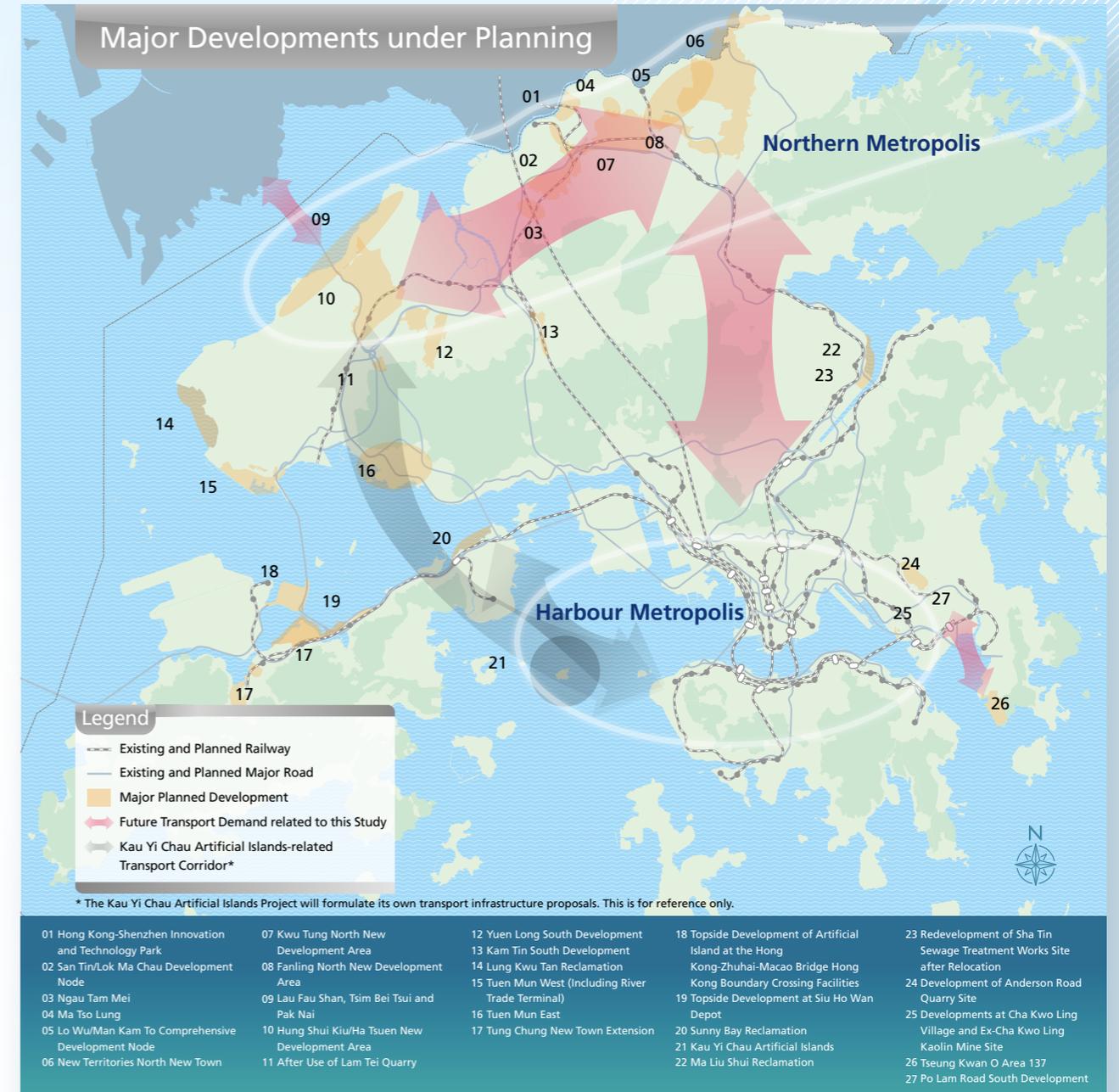
## Chapter 3

# Preliminary Study Findings

# 3.1 Transport Demand Forecast

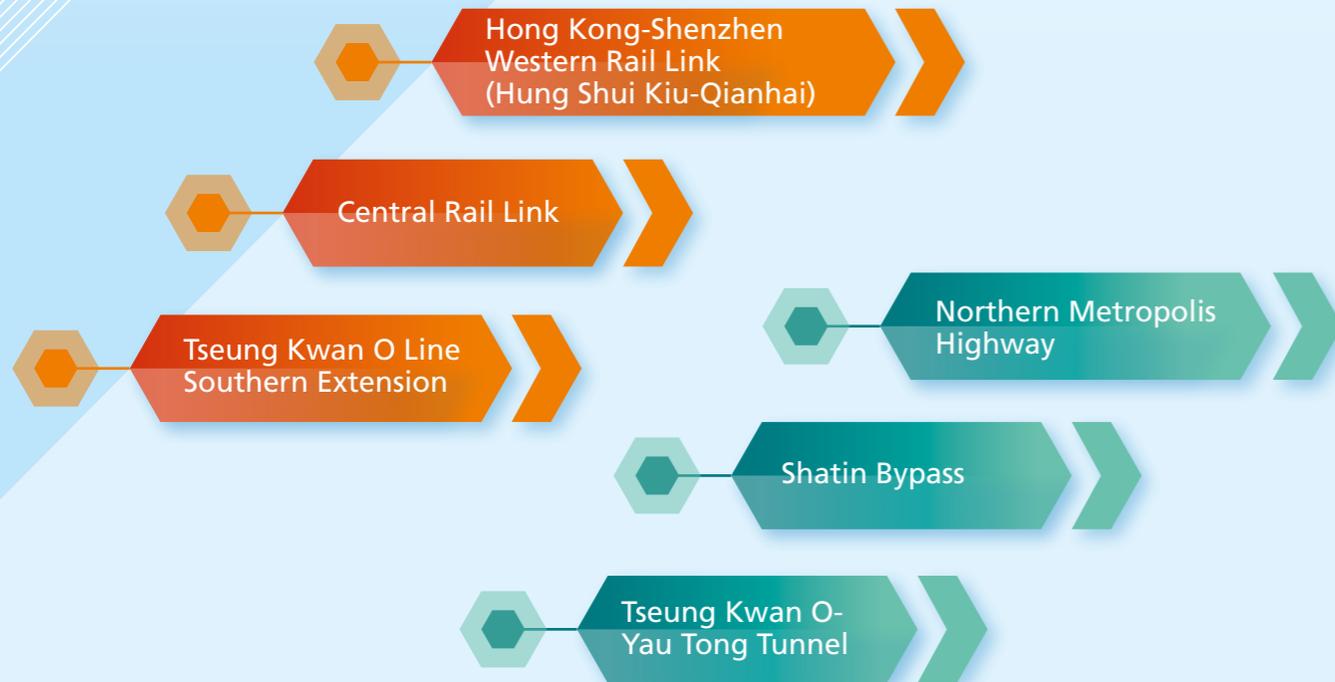
In addition to a number of developments that are already underway or at a more mature planning stage (including Kwu Tung North and Hung Shui Kiu/ Ha Tsuen NDAs, Kam Tin South Development, Tung Chung New Town Extension, etc.), the Hong Kong 2030+ proposes a list of possible solution spaces, including the Northern Metropolis, Kau Yi Chau Artificial Islands, TKO Area 137, etc., to address the medium to long-term land shortage. As such, the Study focuses on assessing the transport demand and traffic impacts arising from the population growth, employment and economic activities in the Northern Metropolis, Kau Yi Chau Artificial Islands and other major planned developments.

As revealed from the Study analysis, with the progressive commissioning of the railway and major road projects in the pipeline as well as utilisation of the existing railway network to its maximum carrying capacity through the purchase of trains and signalling system upgrade (for instance, the current frequency of East Rail Line and Tuen Ma Line of about 2.7 minutes during morning peak hours could be shortened to about 2.1 minutes, resulting in a significant increase in the carrying capacity of around 30%), the railway and major road network in Hong Kong will be largely adequate to meet the forecast transport demand in the short-to-medium term up to 2041, and most of the existing and anticipated bottlenecks will be alleviated. However, in the long-term, the transport demand for east-west connection within the Northern Metropolis, north-south connection between the Northern Metropolis and the Harbour Metropolis, as well as the external connection for TKO would remain large.



## 3.2 Preliminary Recommendations

- In response to the above-mentioned transport demand forecast, the Study preliminarily recommends taking forward three strategic railways and three major roads. The recommended strategic railways and major roads will not only enhance the connectivity amongst the new development areas, particularly those within the Northern Metropolis, but also strengthen the connection of these new development areas with the urban areas to promote the flows of people and goods.
- The three recommended strategic railways are Hong Kong-Shenzhen Western Rail Link (Hung Shui Kiu-Qianhai), Central Rail Link and Tseung Kwan O Line Southern Extension, whilst the three recommended major roads are Northern Metropolis Highway, Shatin Bypass and Tseung Kwan O-Yau Tong Tunnel.

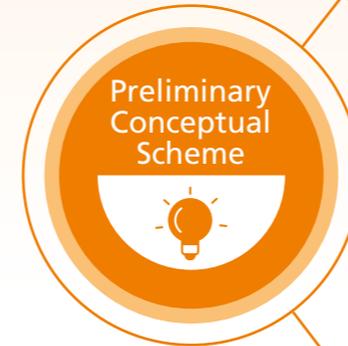


## Chapter 4

# Railway Proposals



# 4.1 Hong Kong-Shenzhen Western Rail Link (Hung Shui Kiu-Qianhai)



The Hong Kong-Shenzhen Western Rail Link (Hung Shui Kiu-Qianhai) (HSWRL) connecting Hung Shui Kiu and Qianhai is proposed to facilitate travel between Hong Kong and Shenzhen and promote integrated development and connectivity between Hong Kong and the Greater Bay Area. Having a length of about 8 km for the Hong Kong section, the proposed alignment would start from Hung Shui Kiu and connect to Qianhai of Shenzhen. Furthermore, stations (such as Ha Tsuen Station and Lau Fau Shan Station) could be added along the alignment within Hong Kong to optimise the development potential of areas along the railway alignment.

The Hung Shui Kiu Station may retain flexibility for expansion in the long term and connect to other parts of the city through existing and other railway projects under planning.

The governments of Hong Kong and Shenzhen jointly established the “Task Force for Hong Kong-Shenzhen Co-operation on Cross-Boundary Railway Infrastructure” to commence the study on the HSWRL. The First Stage Study is expected to be completed by 2022, followed by the Second Stage Study which will include the planning, preliminary engineering feasibility, benefits, environmental impact, construction and operation arrangements, etc. of the railway scheme, with a view to facilitating the speedy and effective implementation of the cross-boundary railway.



## Drive Development

Located on the opposite side of the Shenzhen Bay, the Hung Shui Kiu/Ha Tsuen NDA and the Qianhai Co-operation Zone in Shenzhen have considerable development potential of their own. On 6 September 2021, the Central Committee of the Communist Party of China and the State Council promulgated the Plan for Comprehensive Deepening Reform and Opening Up of the Qianhai Shenzhen-Hong Kong Modern Service Industry Cooperation Zone (Qianhai Plan). According to the plan, the area of the Qianhai Cooperation Zone will increase from 15 square km to 120 square km. The plan also emphasises the further promotion of institutional innovation, opening up, and development of modern service industries over the next decade or so. Leveraging the opportunity carried over from the Qianhai Plan, the Hung Shui Kiu/Ha Tsuen NDA could be upgraded as the New Territories North Central Business District, thereby promoting high-end economic cooperation and development in the areas of financial and professional services, modern logistics services and technology services. Moreover, Hong Kong can capitalise on the developments of the Shenzhen Houhai Headquarters Base, the Dasha River Innovation Corridor (including the Nanshan New and High-Tech Zone), etc. to provide an accelerated impetus or the growth of the New Territories North Central Business District. With more high-end enterprises interested in tapping the Shenzhen and the Greater Bay Area markets and attracted to establish businesses in the New Territories North Central Business District, a robust and integrated economy with significant scale can be achieved and more jobs of the new economy can be created.

The construction of HSWRL will connect the Hung Shui Kiu/Ha Tsuen NDA with the Qianhai Cooperation Zone in Shenzhen. Potential addition of stations at Ha Tsuen and Lau Fau Shan along the railway alignment within the Hong Kong territory will also increase the railway network coverage and unleash the development potential along the railway.

## Strengthen Connection

At present, Hong Kong is connected to the extensive high-speed rail network in the Mainland through the Guangzhou-Shenzhen-Hong Kong Express Rail Link, which can directly reach many cities in the Mainland. However, the existing railway links between Hong Kong and Shenzhen concentrate at Luohu and Futian areas in Shenzhen. Transportation to the western part of Shenzhen mainly rely on the road-based systems (such as cross-boundary buses, franchised buses and minibuses, etc.), or by transferring to Shenzhen's domestic railways at Luohu or Futian areas. The proposed HSWRL is expected to connect to Shenzhen's railway network, strengthening the connection between Hong Kong and Shenzhen, thereby providing more convenient and efficient connectivity between the hinterlands of both sides. As a result, the radiate effect of the New Territories North Central Business District can certainly extend from Qianhai to Bao'an and Dongguan, and deep into the hinterland of the Greater Bay Area.

The HSWRL will complement with existing network and railways and roads under planning, making Hung Shui Kiu and Qianhai jointly a strategic hub of transport corridor on the east bank of the Pearl River in the Greater Bay Area.



Functional Positioning and Planning Considerations



## Improve Efficiency

The HSWRL will effectively improve the cross-boundary transportation network in Hong Kong. It will greatly strengthen the connection between the northwest of the New Territories and the west of Shenzhen, accelerate the interconnection of infrastructure in the Greater Bay Area and promote the efficient flow of people. Hong Kong's long-held advantages in high-end professional services will be fully utilized to elevate the function of the Qianhai Shenzhen-Hong Kong Modern Service Industry Cooperation Zone, which will also promote the long-term development for Hong Kong professional services.

Functional Positioning and Planning Considerations



Anticipated Challenges



Taking into account that the HSWRL is a cross-boundary railway project, it is necessary to conduct review and consultation with Shenzhen on the associated operational, legal and financial arrangements in view of the complexity of the project. The proposed railway alignment, stations, depots and associated facilities of HSWRL shall integrate with the overall planning of the Hung Shui Kiu/Ha Tsuen NDA and its extension. In particular, the proposed Hung Shui Kiu Station under the HSWRL will be built adjoining the Hung Shui Kiu Station of the Tuen Ma Line and the infrastructures under Hung Shui Kiu/Ha Tsuen NDA, careful planning and coordination during design and construction stages are required. The project team will maintain close communication and liaise with relevant stakeholders in a timely manner at the investigation and design stage.



# 4.2 Central Rail Link



## Preliminary Conceptual Scheme

The proposed Central Rail Link is about 16 km in length which will stretch from Kam Tin in Yuen Long, passing through the Northeast Tsuen Wan/Northeast Kwai Chung, and link to the existing Kowloon Tong Station for interchange with East Rail Line and Kwun Tong Line.

Technical considerations including reservoirs and tunnels, as well as preliminary geological information along the railway have been taken into account in the preliminary alignment, such that the railway will not pass underneath the Shek Lei Pui Reservoir and the Kowloon Reservoir.

## Functional Positioning and Planning Considerations

### Drive Development

The Central Rail Link will provide ample carrying capacity to drive the major development projects in the Northern Metropolis (including Hung Shui Kiu/Ha Tsuen NDA, Yuen Long South Development Area, ST/LMC DN, Kwu Tung North NDA, LW/MKT CDN, NTN New Town, etc.) and the associated population and employment growth. Furthermore, the preliminary alignment of the Central Rail Link will pass through Northeast Tsuen Wan/Northeast Kwai Chung, providing the opportunity of adding station(s) to provide railway services to around 100 000 residents (e.g. near Lei Muk Shue Estate, Shek Yam Estate, On Yam Estate and Shek Lei Estate) and the additional population of about 30 000 arising from the public housing developments under planning (including the public housing development projects near Cheung Shan Estate, Shek Pai Street and Shek Li Street) in the area.



### Strengthen Connection

After the completion of railway projects under planning, it is envisaged that Tuen Ma Line, East Rail Line and the railway related to the Kau Yi Chau Artificial Islands will be the three major railway lines for commuting between the New Territories and the urban areas. The Tuen Ma Line passes through the New Territories, Kowloon East and Kowloon West, as well as connects to other cross harbour railway lines; the East Rail Line enables the public in the Northeast New Territories to travel directly to the central Kowloon and the Central Business District on Hong Kong Island, as well as to Kowloon East and Hong Kong Island East via Kwun Tong Line and Tseung Kwan O Line; while the railway related to the Kau Yi Chau Artificial Islands is anticipated to connect the Northwest New Territories with the Hong Kong Island West. Although the above railway network is already well interconnected and highly accessible, some of the journeys may involve relatively circuitous routes with longer journey time. For example, passengers travelling between the Northwest New Territories and central Kowloon or New Territories South will need to pass through Kowloon West, or via the Northern Link with interchange to East Rail Line in the New Territories North, which will lower the efficiency and attractiveness of the journey, as well as increase the loading on the existing network.

In view of the above, we suggest introducing the Central Rail Link to connect the New Territories and the urban area, as a direct and fast alternative railway line in addition to the Tuen Ma Line, East Rail Line and the railway related to the Kau Yi Chau Artificial Islands, as well as to enhance the resilience to the railway network.

We anticipate that the Central Rail Link will effectively bring the passengers from the Northwest New Territories to central Kowloon, for onward travelling to different districts of Hong Kong Island, Kowloon and New Territories South via the East Rail Line and Kwun Tong Line, thereby enhancing the accessibility and robustness of the whole railway network. In addition to the existing Tuen Ma Line and East Rail Line, the Central Rail Link will provide a new commuting option for travelling between east and west as well as between north and south in Hong Kong.

#### Functional Positioning and Planning Considerations



#### Functional Positioning and Planning Considerations



#### Anticipated Challenges



### Improve Efficiency

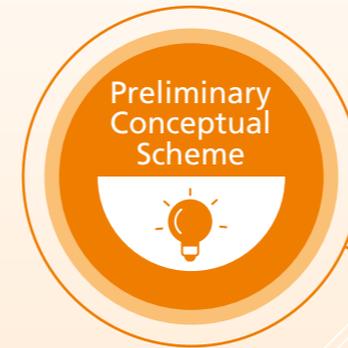
Upon commissioning of the NOL currently under planning, the East Rail Line and Tuen Ma Line will be connected and the utilisation of these two railway lines can be effectively distributed. Following the progressive completion of the development projects in the Northern Metropolis, the Study anticipates that, even after the commissioning of the railway related to the Kau Yi Chau Artificial Islands which can divert some passengers travelling from the New Territories to the urban areas, and with the enhancement of carrying capacities of the two existing railway lines by the purchase of additional trains, there is still a need to introduce the Central Rail Link for diverting passengers from New Territories West from using Tuen Ma Line, and passengers from New Territories North from using East Rail Line, so as to alleviate the pressure on the carrying capacity of these two railway lines.

Various alignment proposals, including options to connect Tsuen Wan Station, Lai King Station and Mei Foo Station, have been duly considered in the Study. The assessment of the Study shows that connecting the Central Rail Link to Kowloon Tong Station, as compared with other options, is more effective in diverting passengers from Tuen Ma Line. The connection to Kowloon Tong Station with interchange to the East Rail Line and Kwun Tong Line can also strengthen the east-west and north-south connectivity as well as the accessibility of the railway network. The preliminary assessment also shows that Kowloon Tong Station has adequate capacity for effectively diverting passengers travelling to various districts via East Rail Line and Kwun Tong Line.

Similar to other operating railway lines, a railway depot is required for train stabling and maintenance purposes for the Central Rail Link. The back-up facilities for operations will occupy a sizable area and may involve resumption of private lands. Subject to the detailed design and construction methods in the future, temporary traffic diversions of existing busy roads may be required. The project team will plan carefully and maintain communications with stakeholders.



# 4.3 Tseung Kwan O Line Southern Extension



The proposed Tseung Kwan O (TKO) Line Southern Extension will run southwards from the at-grade LOHAS Park Station to the proposed TKO Area 137 underground station, with a total length of about 3 km.



The main purpose of the proposal is to provide a convenient and fast mass transportation system to facilitate the residents of TKO Area 137 and employment population nearby to use the existing railway network. Subject to various factors such as technical feasibility, impact on the environment, cost effectiveness, required land, impact on the community, etc., we will prudently consider the most suitable mode (including railway, rapid transit system, etc.) for implementation of the relevant project.



### Drive Development

The 2022 Policy Address announced that the Government will put forward the development proposal for TKO Area 137 in 2022, and provide 50 000 residential units to accommodate an anticipated population of about 135 000. The TKO Line Southern Extension is intended to complement the development of TKO Area 137 and to serve the new population and employment nearby with railway transport services.

### Strengthen Connection

The extension of the TKO railway network coverage allow residents in TKO Area 137 to access Hong Kong Island and Kowloon East conveniently by using railway services.

In the Study, we have duly considered adding a cross-harbour rail at TKO for connection to Hong Kong Island. Since the construction of cross-harbour transport infrastructure would require significant public resources, the Government has to study such proposals in a prudent manner, taking into account factors including the long-term development plan and transport demand, the improvement to be brought about to the entire transport infrastructure network, the associated transport infrastructure at TKO and Hong Kong Island, technical feasibility, and the implication to the local communities, etc.



Functional Positioning and Planning Considerations



### Improve Efficiency

Being an environmentally friendly and efficient mass public transportation, railway could save travel time, effectively meet the commuting needs arising from the development of TKO Area 137 and relieve the pressure on the roads in TKO district.



Anticipated Challenges



Railway alignment of the TKO Line Southern Extension will connect various land development projects in TKO Area 137. The project team will communicate with various stakeholders to commence project coordination work in a timely manner.

Extending the existing TKO Line with a subsea section involves the construction of railway tunnel along the seabed and the associated marine works. The project team will plan carefully and maintain communications with stakeholders.

## 4.4

### Other Possible Railway Proposals

#### New Railway Line to Complement New Territories North Development

The LW/MKT CDN and the NTN New Town (covering Heung Yuen Wai, Ping Che, Ta Kwu Ling, Hung Lung Hang and Queen’s Hill, etc.) are two major developments amongst others in the Northern Metropolis. The related “Remaining Phase Development of the New Territories North (NTN) – Planning and Engineering Study for NTN New Town and Man Kam To”, which will formulate the land use for the two development projects is being conducted. According to the preliminary estimate of the above study, the development of LW/MKT CDN and NTN New Town could accommodate not less than 400 000 population and create a large amount of employment opportunities. As such, a preliminary idea of the eastern extension of the NOL was suggested in the Northern Metropolis Development Strategy to expand land resources and unleash development potential in the area.

Subject to the preliminary findings of the above-mentioned planning and engineering study, we will explore a railway alignment which would link the major development nodes of the LW/MKT CDN and the NTN New Town as well as connect to the East Rail Line and the NOL so as to facilitate passengers travelling between the Northern Metropolis and urban areas via the NOL, Central Rail Link and East Rail Line. As the planning and engineering study of related developments projects is still on-going, we need to review and refine the above conceptual railway scheme based on the proposed land use planning with a view to providing the most suitable, convenient, and accessible railway services. We will announce the planning details of the concerned railway line in due course.

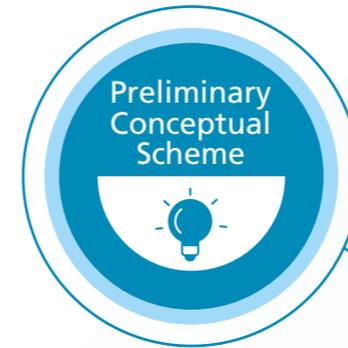


# Chapter 5

# Major Road Proposals



# 5.1 Northern Metropolis Highway



The proposed Northern Metropolis Highway is about 18 km in length, starting from Tin Shui Wai in the west, passing by ST/LMC DN, Kwu Tung North and connect Lo Wu South in the east. The Northern Metropolis Highway will pass through wetlands, fish ponds and mountains in the form of tunnels, while other sections will be constructed in the form of viaducts.

The alignment will meet the transport demand with minimal impact on the environment. Upon commissioning, the Northern Metropolis Highway will become a new east-west corridor connecting key development areas across the Northern Metropolis in support of its long-term development.



### Drive Development

As a new major road running through the Northern Metropolis, the Northern Metropolis Highway will improve the accessibility of new development areas and development nodes including Ngau Tam Mei, Ma Tso Lung, Kwu Tung North/Fanling NDA, ST/LMC DN and LW/MKT CDN. The enhanced accessibility will expedite residential and industrial developments in the area and help realising the development potential of various new development areas.

### Strengthen Connection

As the Northern Metropolis Highway will link up the New Territories East and West, it will improve the strategic road network of the region. At the same time, by providing interchanges along existing major roads such as Fanling Highway and San Tin Highway of Route 9, it will further link up the Northern Metropolis with the urban areas. Utilising the local road network, road users will have access to NTN New Town to the east and Hung Shui Kiu/Ha Tsuen NDA to the west.

### Improve Efficiency

The existing Fanling Highway, San Tin Highway and Yuen Long Highway of Route 9 are the major roads connecting the New Territories East and West. It is expected that the Northern Metropolis Highway will be the new east-west corridor connecting the development areas in the Northern Metropolis. It will not only improve the strategic road network in the northern part of New Territories but also effectively relieve the traffic pressure on Fanling Highway and San Tin Highway in the long run. Also, the western connection of the Northern Metropolis Highway at Tin Shui Wai and Hung Shui Kiu will help divert the traffic flow of Yuen Long Highway and improve the traffic condition.

The preliminary alignment of the Northern Metropolis Highway (Tin Shui Wai Section) is close to the Wetland Conservation Area, the Wetland Buffer Area and the Deep Bay Wetland outside Ramsar Site. Avoiding at-grade road or viaduct design within the wetland area, we will adopt tunnel design using tunnel boring machines in deeper formation so as to minimise the impact on the wetland and its ecology. A strategic environmental assessment will be carried out in consideration of the proposed alignment with a view to minimising the environmental impact. Also, the project team will liaise with relevant stakeholders in a timely manner at the detailed planning and design stage.

Functional Positioning and Planning Considerations

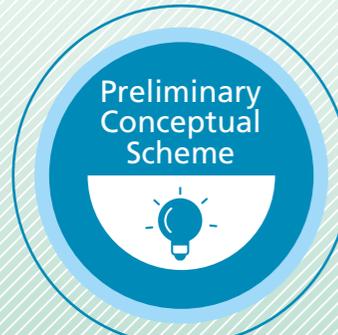


Anticipated Challenges



## 5.2 Shatin Bypass





**Preliminary Conceptual Scheme**

The proposed Shatin Bypass is about 15 km in length, connecting Fanling Highway in Tai Po to the north and the existing strategic road network near Cheung Sha Wan in West Kowloon to the south, such as Ching Cheung Road of Route 7 and Tsing Sha Highway of Route 8. Shatin Bypass will mainly consist of tunnel sections passing through Tai Mo Shan and Kam Shan. Upon commissioning, the Shatin Bypass would become a new north-south corridor, enhancing the north-south road network and relieving traffic pressure of the existing major roads.

**Drive Development**



The Shatin Bypass connects Tai Po and West Kowloon, it could serve not only the densely populated North District and Tai Po but also drive the developments such as Ma Tso Lung, Kwu Tung North/Fanling North NDA, LW/MKT CDN, NTN New Town. Furthermore, as an alternative route to Tolo Highway, Shatin Bypass will further unleash the development potential along Tolo Highway like Ma Liu Shui area.



**Functional Positioning and Planning Considerations**

**Strengthen Connection**



The Shatin Bypass will stretch from the southern end of Fanling Highway of Route 9 in Tai Po to the strategic road network near West Kowloon and provides a direct route from New Territories East to West Kowloon, and Kwai Tsing Container Terminals, and even Hong Kong Island West via Western Harbour Crossing. On top of that, with the support of the existing road network, the connectivity between northeast New Territories, the Hong Kong International Airport and the Hong Kong-Zhuhai-Macao Bridge will be strengthened.



**Functional Positioning and Planning Considerations**

**Improve Efficiency**

Currently, the north-south traffic between New Territories East and urban Kowloon mainly relies on the existing Route 9, including Fanling Highway, Tolo Highway and Tai Po Road, as well as the three highways/tunnels (Lion Rock Tunnel, Tate's Cairn Tunnel and Tsing Sha Highway) connecting Shatin to the urban areas. These major roads connect the North District, Tai Po, Shatin to the urban areas.

As an express link, the Shatin Bypass will effectively alleviate the anticipated traffic pressure on the existing north-south corridor in the future. Its more direct route will attract vehicles plying between northeast New Territories and Kowloon, diverting traffic flow on existing major roads as well as enhancing the robustness of the road-based transport network in northeast New Territories and urban areas in Kowloon.



**Anticipated Challenges**

Given that the Shatin Bypass mainly comprises sections of tunnels, various engineering challenges will be expected during the design and construction stages, including complex geological conditions, location of ventilation buildings and tunnel entrances, etc.

Since the Shatin Bypass mainly runs through Tai Mo Shan and Kam Shan by tunnels, we will carefully study the possibility of providing additional entrances/exits or interchanges at suitable locations.





The proposed Tseung Kwan O-Yau Tong Tunnel is about 2 km in length and would be the third road tunnel at TKO. After deliberated consideration of possible connecting points nearby, the proposed alignment would be constructed in the form of a tunnel connecting TKO town centre and Yau Tong area.

### Drive Development

As of 2021, there were around 420,000 residents<sup>1</sup> in TKO. With the estimate of around 50,000 additional housing units in the planned development of TKO Area 137, which are capable of accommodating a population of 135,000 together with other developments in TKO, including the subsidised housing developments near Po Lam Road South, the population in TKO as well as its demand for external transport links will further increase. Tseung Kwan O-Yau Tong Tunnel will be able to meet the relevant traffic demand and release development potential in the area.



### Strengthen Connection

The existing TKO Tunnel connects TKO with the Kwun Tong District, while the Tseung Kwan O-Lam Tin Tunnel connects TKO with major roads such as the Eastern Harbour Crossing and the Kwun Tong Bypass. The Tseung Kwan O-Yau Tong Tunnel will provide the third external connection to the existing road network, strengthening the connectivity between TKO and Kowloon East as well as east Hong Kong Island via the Eastern Harbour Crossing. The Tseung Kwan O-Yau Tong Tunnel will also benefit the residents by providing another route choice for residents of TKO to Yau Tong and the urban area.

<sup>1</sup> According to the 2021 Population Census conducted by the C&SD.

### Improve Efficiency

#### Functional Positioning and Planning Considerations



Currently, the TKO Tunnel is located in the northern part of TKO, close to Po Lam and Hang Hau; while the Tseung Kwan O-Lam Tin Tunnel and the Cross Bay Link are located at the south of TKO connecting LOHAS Park. The Tseung Kwan O-Yau Tong Tunnel will provide an additional external passage at the central part of TKO near Tiu Keng Leng, and it is expected to effectively divert the traffic of TKO Tunnel and the Tseung Kwan O-Lam Tin Tunnel. In addition to improving the traffic performance of the two existing tunnels, it can also relieve the pressure of the existing roads in TKO area, increase the overall traffic capacity of the TKO area and further enhance the resilience of the road network.

#### Anticipated Challenges

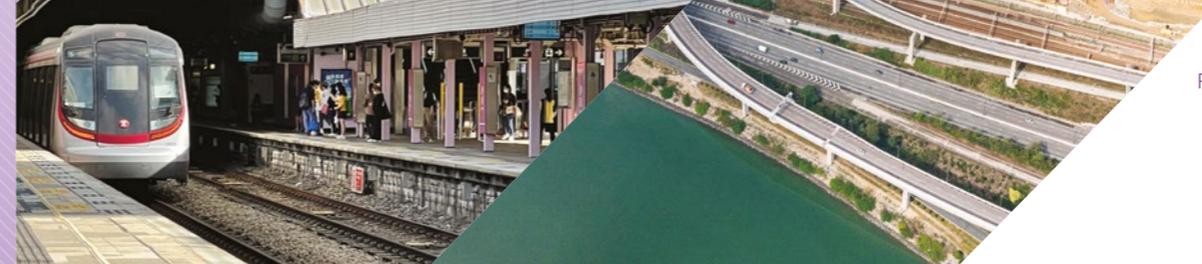


The preliminary conceptual alignment of Tseung Kwan O-Yau Tong Tunnel would be relatively close to existing developed area, residential buildings and schools. We will maintain close communication with relevant stakeholders and propose environmental mitigation measures at the detailed design and planning stage to minimise the impacts.

## 5.4 Other Possible Major Road Proposals

LW/MKT CDN and the NTN New Town are the two major developments in the Northern Metropolis. The relevant study “Remaining Phase Development of the New Territories North - Planning and Engineering Study for NTN New Town and Man Kam To - Investigation” is currently in progress and will formulate the land use. When the preliminary results of the above study are available, we will explore the need of extending the Northern Metropolis Highway eastwards connecting Heung Yuen Wai Highway and providing a north-south passage connecting Heung Yuen Wai Highway to Science Park and Tai Po Industrial Estate. On the other hand, “Land Use Review Study for Lau Fau Shan, Tsim Bei Tsui and Pak Nai Areas” is also ongoing. After the preliminary results of the above study are available, we will explore the need of extending Northern Metropolis Highway to the west connecting Hong Kong-Shenzhen Western Highway.





## Chapter 6

# Public Consultation

Three strategic railway and three major road proposals are recommended in the Study to complement Hong Kong's future overall land development strategy, to strengthen the connection between the new development areas and the metropolises, and to enhance the transport network. We look forward to listening to your views on the Study's findings at this stage and the recommended strategic railway and major road proposals.

### Consultation Highlights



The effectiveness of major transport infrastructure mainly depends on its alignment. A direct alignment is better in transport performance; while a winding alignment can cover more areas along the route, but will increase the journey time and also the construction cost. What are your opinions on the alignment of the three strategic railway and three major road proposals recommended in the Study? How can the alignment of these proposals be enhanced to drive the development of Hong Kong, strengthen connection and bring long-term economic benefit to Hong Kong?

Although some districts will not benefit directly from the recommended major transport infrastructure projects, the travel time of the public using the existing railways and major roads can be reduced by the diversion of the traffic from existing railways and major roads. Do you have any views on the diversion effects provided by some of the recommended proposals?

As for the strategic railways, adding intermediate stations along the alignment can increase the coverage of the railway network, but at the same time will increase the journey time, reduce the efficiency and attractiveness of the railway scheme as an alternative route. How should the locations and number of stations of the recommended railway proposals be enhanced to strike a balance between the coverage of the railway network and attractiveness of the railway route?

## Consultation Highlights



As for the major roads, addition of entrances/exits and interchanges will provide direct connection to more areas yet the interchanges will require a large area of land and additional entrances/exits will affect the driving speed along the major roads. At the same time, we have to consider the capacity of the connecting road network in term of traffic flow, noise and air quality impact on surrounding area. What is your opinion on optimising the location and quantity of the entrances/exits and interchanges of the three recommended major road proposals in the Study?

Major transport infrastructure projects involve huge public resources and take time to build. By adopting the “infrastructure-led” and “capacity-creating” principles, we can take forward the required transport infrastructure for Hong Kong’s future more proactively. However, more land resources and higher construction expenditure will be involved inevitably, and the utilisation rate may not be high initially after commissioning. Do you have any opinions on the scale and implementation programme of the proposed projects in the Study?

Major transport infrastructure may require the resumption of large areas of private land, and extensive temporary traffic diversions may be required during the construction period. Taking into consideration the impacts mentioned above, do you have any concerns about the recommended proposals in the Study?

Railway projects, especially those that mainly act as alternative routes, may not be self-sustainable during the operation phase. Do you have any opinions on the financing methods of the projects?

# Contact us

Please share your views on or before 31 March 2023 through the following channels.

Website : [www.RMR2030plus.hk](http://www.RMR2030plus.hk)

Email : [enquiry@RMR2030plus.hk](mailto:enquiry@RMR2030plus.hk)

## Railway proposals:

By post : Railway Development Office,  
Highways Department,  
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88 Chung Hau Street,  
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Tel : + 852 2926 4111\*

Fax : + 852 2194 0147\*

## Major road proposals:

Transport Planning Division,  
Transport Department,  
12/F, South Tower, West Kowloon Government Offices,  
11 Hoi Ting Road,  
Yau Ma Tei, Kowloon

+ 852 2804 2600\*

+ 852 2804 2652\*

Please mark "Strategic Studies on Railways and Major Roads beyond 2030" on the envelope.

\* The above telephone hotline and fax hotline are handled by "1823" and the comments or information received will be referred to the relevant departments for follow-up.



**Transport and  
Logistics Bureau**

The Government of the  
Hong Kong Special Administrative Region  
of the People's Republic of China



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