For discussion on 16 December 2019

# LEGISLATIVE COUNCIL PANEL ON DEVELOPMENT

Feasibility Study on Environmentally Friendly Transport Services in Hung Shui Kiu / Ha Tsuen New Development Area and Adjacent Areas Stage 1 Public Consultation

#### **PURPOSE**

This paper briefs Members on the findings and recommendations of the Stage 1 of the Feasibility Study on the Environmentally Friendly Transport Services ("EFTS") in Hung Shui Kiu / Ha Tsuen ("HSK/HT") New Development Area ("NDA") and Adjacent Areas ("the Study").

#### **BACKGROUND**

2. HSK/HT NDA will be developed as a next generation new town with emphasis on green mobility amongst other planning concepts. Green mobility within the NDA is promoted through a Green Transit Corridor comprising an EFTS, pedestrian walkways and cycle tracks. A highly efficient and convenient EFTS will provide rapid transport services connecting different population centres, commercial nodes, employment zones, and key community facilities within the NDA. It will also facilitate convenient transfers to other public transport modes such as the West Rail and Light Rail, as well as connecting the NDA with the Yuen Long South ("YLS") Development. Apart from enhancing internal and external connectivity, the EFTS is also expected to bring about social and economic benefits including inducing employment, cultivating a greener and more pleasant environment, and promoting local economic development.

#### STAGE 1 STUDY FINDINGS

- 3. The Study is being conducted in two stages. Stage 1 of the Study aims at formulating a well-planned EFTS network in HSK/HT NDA, exploring possible connection to the YLS Development, as well as evaluating and shortlisting suitable green public transport modes to serve as EFTS.
- 4. Seven green public transport modes (i.e. cable car, extension of existing Light Rail, monorail, personal rapid transit, automated people mover ("APM"), green bus system ("GBS") and modern tram) have been identified and evaluated based on three basic criteria, i.e. capacity, efficiency and technical feasibility. Amongst them, APM, GBS and modern tram, as described in paragraphs 5 to 7 below, have been shortlisted for detailed evaluation.

#### <u>APM</u>

5. APM is a driverless transport system with vehicles running along dedicated track. Its corridor has to be fully segregated from road traffic, pedestrians and cyclists in order to achieve full automation. Hence, APM is proposed to be a fully elevated system. APM stations generally have two levels to house the platforms, concourses and associated plant rooms for the signalling, power supply, and other electrical and mechanical systems.

#### GBS

6. GBS operates a fleet of green energy buses (e.g. electric bus) along a dedicated bus corridor. Bus bays/passing lanes are provided at GBS stations to avoid bus queuing due to boarding/alighting of passengers, and to allow bypassing for provision of flexible express bus route services. Station facilities such as ticket gates and platform screen doors can be provided to enhance efficiency of boarding and alighting. When necessary, GBS can also operate on general public roads to serve a wider area. GBS generally runs at-grade and would be designed to be grade separated from the vehicle road system at busy road junctions as far as possible to enhance operation efficiency of the junctions. Moreover, the autonomous driving technology being developed in the market may be applied in GBS in the future.

#### Modern Tram

7. Modern tram is a tram system designed with dedicated track. It can adopt modern technology such as low-floor design for easy accessibility and without overhead catenary. These features distinguish modern tram from the existing Light Rail system. The dedicated corridor for modern tram can be grassed to provide a green track to enhance aesthetical value. Station facilities such as ticket gates and platform screen doors can be provided to enhance efficiency of boarding and alighting. Modern tram generally runs at-grade and would be designed to be grade separated from the vehicle road system at busy road junctions as far as possible to enhance operation efficiency of the junctions.

#### **Evaluation**

8. A summary of the evaluation is provided in paragraphs 9 to 13.

#### Journey Time

9. APM has the shortest on-vehicle journey time as the elevated transport system can fully leverage its automation, efficiency and speed. However, if the walking time between an at-grade walkway and platform of elevated station is also taken into account, the overall journey time would be comparable with the other two green public transport modes. When compared to modern tram, the average speed of GBS is lower as longer time is required for bus manoeuvring in/out of bus bays, as well as for boarding and alighting. Hence, the on-vehicle journey time for GBS is longer than APM and modern tram.

#### Station Accessibility

10. APM is planned as an elevated transport system with elevated station platforms and hence it is considered less convenient and having lower station accessibility. While both GBS and modern tram have more at-grade stations, GBS has comparatively lower station accessibility because at road sections of high frequency bus services, pedestrians may need to cross the roads

by using footbridges. As for modern tram stations, more at-grade pedestrian crossings can be allowed as adequate crossing time can generally be provided between the approaching trams at more or less fixed intervals<sup>1</sup>.

#### Visual Impact

11. APM running fully on viaducts with elevated stations requires longer and more bulky elevated structures. Hence, the visual impact of APM is higher compared to GBS and modern tram, both of which have fewer elevated sections and stations. GBS has higher visual impact than modern tram because footbridges may be required for pedestrians to cross the road sections with high bus frequency.

#### **Routing Flexibility**

12. APM and modern tram have to operate on dedicated tracks. The flexibility of extending the tracks to other areas is limited unless land has been reserved for such purpose. On the other hand, GBS has higher routing flexibility as it can be operated as an open system which may allow the green energy buses to access the adjacent areas through the existing road networks. It can also offer flexible or express bus route services. Moreover, it has higher flexibility for phased implementation of EFTS.

#### Capital Cost

13. APM has a higher capital cost than the other two shortlisted green public transport modes as it requires longer elevated viaducts and more bulky station structures, as well as more complex signalling and control system. In comparison between GBS and modern tram, the capital cost for GBS is lower

Owing to the lower passenger carrying capacity of bus, GBS needs to run at higher frequency than modern tram in order to provide the same service level. The road sections near GBS stations are hence expected to be far busier, with buses moving into and out of the stations for passenger boarding/alighting. Adequate at-grade crossing time for pedestrians may only be made available at the expense of lengthening GBS's on-vehicle journey. In such cases, it would make more sense for pedestrian crossings to be provided by footbridges yet this will have the drawback of making the stations less easy to access. On the other hand, modern tram can operate with a lower frequency given its larger capacity. There is adequate crossing time between two approaching trams, hence at-grade pedestrian crossings can be provided making the stations more accessible.

because there is no need to provide trackworks and associated control system.

#### EXTENSION OPTION TO TIN SHUI WAI NORTH

14. To facilitate Tin Shui Wai ("TSW") North residents travelling to/from various employment zones, and community, leisure and retail facilities in HSK/HT NDA, and to improve TSW's connection with West Rail stations, we will explore the feasibility of extending EFTS to TSW North in Stage 2 of the Study.

#### STAGE 1 PUBLIC CONSULTATION

- 15. The Stage 1 public consultation commenced on 2 October 2019 to gauge public views on the Stage 1 findings and recommendations. Activities including a public forum, focus groups meetings, roving exhibitions and mobile exhibitions are being conducted. Details of the findings and activities, as well as the Stage 1 public consultation digest (**Enclosure 1**) are available on the Study website (<u>www.hskefts.hk</u>). Relevant Rural Committees, District Councils and Transport Advisory Committee were also consulted in September and October 2019.
- 16. The public views collected under Stage 1 public consultation will be duly considered in Stage 2 of the Study with further assessment for determination of a recommended EFTS scheme. Stage 2 public consultation will then be conducted in 2021 tentatively to present the overall findings of the Study and the way forward.

#### **ADVICE SOUGHT**

17. Members are invited to offer views on the findings and recommendations of the Stage 1 of the Study.

Development Bureau Civil Engineering and Development Department December 2019





洪水橋/厦村新發展區與鄰近地區環保運輸服務可行性研究

Feasibility Study on Environmentally Friendly Transport Services in Hung Shui Kiu/Ha Tsuen New Development Area and Adjacent Areas



# 你的意見非常重要!

# Your Views are Important!

我們已完成第一階段可行性研究的工作,並已選出了幾種較適合作為洪水橋/厦村新發展區與鄰近地區環保運輸服務的環保公共運輸模式。

你對這些選出的環保公共運輸模式有什麼意見?

歡迎你於2019年11月30日或之前,就第一階段研究結果及建議表達意見,讓我們能夠於下一階段的研究工作中考慮你的意見。

The first stage of the Feasibility Study has been completed. Suitable green public transport modes as Environmentally Friendly Transport Services (EFTS) for Hung Shui Kiu/Ha Tsuen (HSK/HT) New Development Area (NDA) and adjacent areas are shortlisted.

What are your views on these shortlisted green public transport modes?

Please express your views on the findings and recommendations of the first stage study by 30 November 2019 for our consideration in the next stage of the Study.

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# **THE STREET OF STREET OF**

洪水橋/厦村新發展區 -

新界西北的區域經濟及文娛樞紐

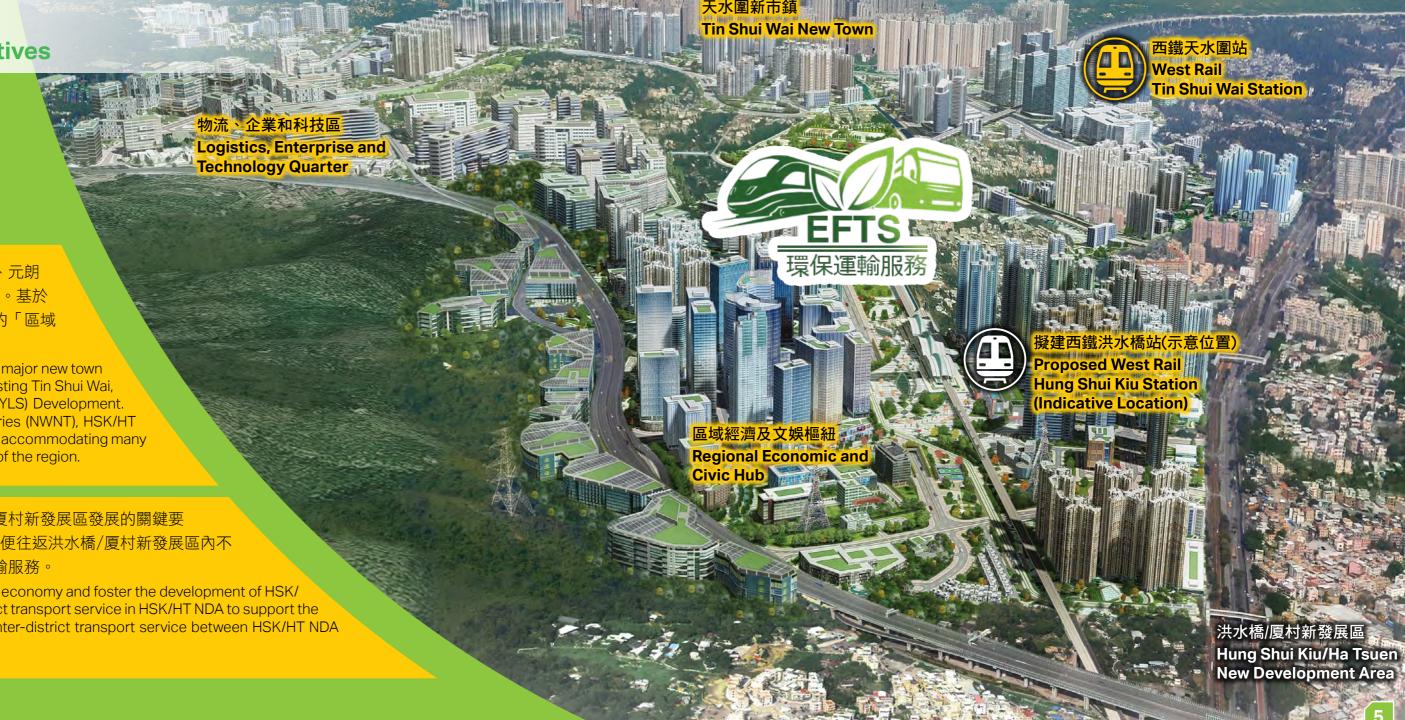
Hung Shui Kiu/Ha Tsuen New Development Area – Regional Economic and Civic Hub for the North West New Territories

洪水橋/厦村新發展區將成為香港的新一代新市鎮,並與現時的天水圍、元朗和屯門新市鎮及已規劃的元朗南發展形成本港西部的大型新市鎮發展羣。基於其在新界西北的策略性位置,洪水橋/厦村新發展區可望成為新界西北的「區域經濟及文娛樞紐」,提供大量多元的經濟活動以促進區域的經濟發展。

HSK/HT NDA will be a next generation new town of Hong Kong and will form a major new town development cluster in the western part of the territory, together with the existing Tin Shui Wai, Yuen Long and Tuen Mun New Towns, and the planned Yuen Long South (YLS) Development. Given the strategic location of HSK/HT NDA in the North West New Territories (NWNT), HSK/HT NDA is envisioned to serve as a "Regional Economic and Civic Hub" for NWNT, accommodating many diverse economic activities creating impetus to the economic development of the region.

提供高效和便捷的環保運輸服務是促進蓬勃的地區經濟及推動洪水橋/厦村新發展區發展的關鍵要素,以實現這遠大願景。環保運輸服務將為區內提供快速運輸服務,以便往返洪水橋/厦村新發展區內不同地區,亦將會為洪水橋/厦村新發展區與元朗南發展之間提供跨區運輸服務。

A highly efficient and convenient EFTS is essential to promote a thriving local economy and foster the development of HSK/HT NDA so as to turn this vision into reality. EFTS will provide rapid intra-district transport service in HSK/HT NDA to support the internal movement amongst the development clusters. It will also provide inter-district transport service between HSK/HT NDA and YLS Development.



# **TATE OF STREET OF STREET**

# 研究的目標 Objectives of the Study

第一階段研究

為洪水橋/厦村新發展區構思一套規劃周全的環保運輸服務

一階段研究 網路,

網路,以及探討連接至元朗南發展的可能性

(已完成) Stage 1 Study

(Completed)

Formulate a well-planned EFTS Network in HSK/HT NDA, and explore possible connection to YLS Development

評估及選出較適合作為環保運輸服務的環保公共運輸模式

Evaluate and shortlist suitable green public transport modes to serve as EFTS

考慮第一階段公眾諮詢收到的意見,建議適合洪水橋/厦村新發展區與鄰近

地區的環保公共運輸模式

Recommend a suitable green public transport mode for HSK/HT NDA and adjacent areas with consideration of comments received in Stage 1 Public Consultation

下一階段研究 Next Stage Study

進行評估,以定出建議的環保運輸服務方案,亦會研究是否需要就營運環保運輸服務 進行相關立法工作

Carry out assessment to determine the recommended EFTS scheme, and review whether relevant legislative work is required for the operation of EFTS

開展第二階段公眾諮詢

Conduct Stage 2 Public Consultation

研究流程 Study Workflow 第一階段研究(已完成) Stage 1 Study (Completed)

下一階段研究

**Next Stage Study** 



第一階段公眾諮詢 Stage 1 Public Consultation



第二階段公眾諮詢 Stage 2 Public Consultation

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環保運輸服務於洪水橋/厦村新發展區與鄰近地區的功能 Function of EFTS in HSK/HT NDA and Adjacent Areas

### 洪水橋/厦村新發展區內的環保運輸走廊 **Green Transit Corridor in HSK/HT NDA**

《洪水橋及厦村分區計劃大綱圖》中預留了一條集環保運輸服務、行人道及 單車徑於一體的環保運輸走廊。環保運輸走廊將為區內提供快速及環保的運 輸服務,以連接新發展區內的住宅區、就業中心、主要社區設施及鐵路站。

A Green Transit Corridor (GTC), encompassing an EFTS, pedestrian walkways and cycle tracks, has been reserved in the Hung Shui Kiu and Ha Tsuen Outline Zoning Plan to provide rapid intra-district transport service and green mobility, for connecting residential areas, employment nodes, key community facilities and railway stations.

### 元朗南發展內的環保運輸服務預留土地 Land Reserved for EFTS in YLS Development

元朗南發展已預留環保運輸服務走廊,以改善與洪水橋/厦村新發展區和現 有西鐵天水圍站的運輸效率及連接性。

An EFTS corridor has been reserved in YLS Development to allow for enhancement of transport efficiency and connectivity with HSK/HT NDA and the existing West Rail Tin Shui Wai Station.

- 有關環保運輸服務在繁忙路口會盡量與行車道路分隔,以減少在交界路口出現衝突的情況。
- 2. 考慮到洪水橋/厦村新發展區與鄰近地區的交通需要,環保運輸服務可能分階段落實

#### Remarks:

- 1. The proposed EFTS is designed to be separated from the vehicular road system at busy road junctions as far as possible to minimise junction conflicts.
- 2. EFTS may be implemented in phases to cope with the transport demand of HSK/HT NDA and its adiacent areas







West Rail Tin Shui Wai Station Light Rail Nai Wai Stop

輕鐵泥圍站

環保運輸服務可將洪水橋/厦村新發展區及元朗南發展連 接至現有西鐵天水圍站、擬建洪水橋站及現有輕鐵站。

EFTS will link HSK/HT NDA and YLS Development to the existing West Rail Tin Shui Wai Station, proposed Hung Shui Kiu Station and existing Light Rail stops.

### 環保運輸服務的策略性效益 **Strategic Benefits of EFTS**



支持十地發展用涂 Support land use development Promote regional economic



促進地區經濟發展 development



構建更綠色和怡人的環境 Cultivate a greener and more pleasant environment



促進就業 Induce employment







技術可行性

## 吊車

#### Cable Car

吊車以架空纜索垂吊於半空中,運行速度慢,載客容量低,一般用作旅遊設施,而 非日常公共運輸用途。

Cable Car is pulled by overhead cables, which operates at a slow speed and has low carrying capacity. It is usually used for tourism transportation instead of serving as a daily public transport system.



<mark>載客容量不足</mark> Insufficient Capacity



速度太慢 Speed Too Slow



#### 延伸現有輕鐵

#### **Extension of Existing Light Rail**

現有輕鐵由人手操作,在專用與共用並存的走廊上運行。在部分交界路口,由於輕 鐵需與其他道路交通共用路面,服務水平亦因此受限。

The existing Light Rail is manually operated by a driver on sections of dedicated and shared corridors. Some of its sections share the road spaces with other road traffic at junctions and the service performance is therefore limited.



載客容量不足以滿足延伸至新發展區 Insufficient Capacity to Extend to the NDA



根據載客容量、效率和技術可行性的基本準則,吊車、延伸現有輕鐵、單軌鐵路和個人快速運輸系統都並非作為洪水橋/厦村新發展區及元朗南發展環保運輸服務的合 適選擇。 Based on the basic criteria, including capacity, efficiency and technical feasibility, Cable Car, Extension of Existing Light Rail, Monorail and PRT are considered not suitable modes as EFTS for HSK/HT NDA and YLS Development.

### 單軌鐵路 Monorail

單軌鐵路透過全自動操作,於高架專屬軌道上運行,不受行人和道路交通影響。雖 然單軌鐵路可以提供足夠的載客容量和高效的服務,但單軌系統的轉彎半徑較大, 未能符合洪水橋/厦村新發展區及元朗南發展內已規劃的環保運輸服務走線的要求。

Monorail is a fully automated system and operates on dedicated elevated rail-track without being affected by pedestrian and road traffic. While monorail can provide sufficient capacity and efficient service, the monorail system requires a relatively large turning radius which does not fit in the planned alignment of EFTS in HSK/HT NDA and YLS Development.



**○○○○** 不符合技術要求

Not Meeting Technical Requirement



### 個人快速運輸系統

#### Personal Rapid Transit (PRT)

個人快速運輸系統利用全自動操作的小型車廂,為個人或小羣體提供點對點的專線出行服務。因此,個人快速運輸系統僅能滿足較低的交通需求。

PRT is a system of small automated electric vehicles offering on demand travel from point to point for individuals and small groups, which can only meet relatively low transportation demand.



取各容量个足 Insufficient Capacity



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### 自動捷運系統

#### **Automated People Mover (APM)**

自動捷運系統採用全自動操作,於高架專屬軌道上運行,與行人及其他車輛完全分隔,不受道路交通的影響。

APM is a fully automated system and operates on fully dedicated elevated rail-track which is fully segregated from pedestrian and other vehicles without being affected by road traffic.



選出作進一步比較 Shortlisted for Further Comparison



#### 環保巴士系統

#### **Green Bus System (GBS)**

環保巴士系統在專屬巴士線上運行。為提升上落客效率,車站可配備有收費閘機和閘門。 在洪水橋/厦村新發展區及元朗南發展,環保巴士系統將採用環保能源巴士(如電動巴士) 提供服務。有需要時,環保巴士系統亦可在一般公共道路上運行以擴闊服務範圍。

GBS operates along a dedicated bus lane. To enhance the boarding and alighting efficiency, station can be provided with ticket gates and screen doors. The GBS in HSK/HT NDA and YLS Development would be served by green energy bus (e.g. electric bus). When necessary, GBS can also operate on general public roads to serve a wider area.



選出作進一步比較 Shortlisted for Further Comparison



### 現代化電車

#### **Modern Tram**

現代化電車由人手操作,可在專屬軌道上行駛。行人可於地面過路處橫過專屬軌道。現代化電車採用低地台車廂及車站設計,方便乘客上落。

Modern Tram is manually operated by a driver and can run on dedicated rail-track. It generally allows pedestrians to cross the dedicated rail-track at at-grade crossing. Its low-floor tram car and station design offer convenient boarding and alighting.



選出作進一步比較 Shortlisted for Further Comparison



自動捷運系統、環保巴士系統和現代化電車在載客容量、效率及技術可行性方面可基本滿足洪水橋/厦村新發展區及元朗南發展環保運輸服務的要求。這些模式已被選出, 作進一步比較。

The performance of APM, GBS and Modern Tram in terms of capacity, efficiency and technical feasibility in general could meet the requirements of EFTS for HSK/HT NDA and YLS Development. These modes are therefore shortlisted for further comparison.

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# 自動捷運系統 Automated People Mover (APM)

# 設計考慮 Design Considerations

全自動操作及無人駕駛 Driverless and fully automated

> 在高架專屬軌道上行駛,與行人及車輛完全分隔,可減少行車時間 Operating on dedicated elevated rail-track with full segregation from pedestrians and vehicles, with reduced journey time

建造成本較高 Higher capital cost

較多高架橋及車站造成較大視覺影響

Higher visual impact due to more elevated viaducts and station structures

較多高架車站,乘客上落較為不便 More elevated stations, less convenient for accessing

須設信號、機電及供電系統的大型機房
Requiring large plant rooms for signalling, mechanical and power supply systems





現有的自動捷運系統 Existing APM



全自動操作及無人駕駛 Driverless and Fully Automated



與行人及車輛完全分隔的高架路軌 Elevated Rail-track with Full Segregation from Pedestrians and Vehicles



設有大堂及月台的高架車站 Elevated Station with Concourse and Platform



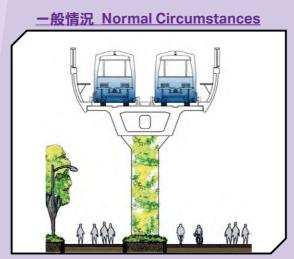
信號、機電及供電系統 Signalling, Mechanical and Power Supply Systems

### 自動捷運系統的視覺概念圖 Conceptual Views of APM



### 自動捷運系統概念走線 APM Conceptual Alignment





高架段 Elevated Section



洪水橋/厦村新發展區區域廣場處的車站

Station at Regional Plaza in HSK/HT NDA



洪水橋/厦村新發展區河畔長廊處的 車站

Station at Riverside Promenade in HSK/HT NDA



元朗南發展內的車站 Station in YLS Development



## 環保巴士系統 Green Bus System (GBS)

## 設計考慮 Design Considerations

由環保能源巴士 (如電動巴士) 提供服務 Served by green energy bus (e.g. electric bus)

可行駛於專屬道路或一般公共道路,行車時間會因為需要在一般道路 與其他車輛共用路面而增加

Can run on dedicated roads or general public roads. Journey time will be increased due to shared use of road space with other vehicles

上落車時間較長

Longer time for boarding and alighting

車站可設閘門和收費閘機,以縮短上落車時間

Can provide screen doors and ticket gates at station, allowing shorter boarding and alighting time

可提供靈活的巴士路線服務

May provide flexible bus route services

允許行人於地面過路處橫過專屬道路。於巴士班次頻密的路段,行人 或需使用行人天橋橫過馬路

Allowing pedestrians to cross the dedicated road at at-grade crossings. At section of frequent bus services, pedestrians may need to cross the road by using footbridge





現有的電動巴士 Existing electric bus



環保巴士系統專屬道路
GBS Dedicated Road
車站設巴士停車處及於巴士班次頻
密的車站設行人天橋
Station with Bus Bays and
Footbridges at Station with
Frequent Bus Services



電動巴士及充電設施 Electric Buses with Charging Facilities



車站可設有閘門 Can have Sc<u>reen Doors at Station</u>

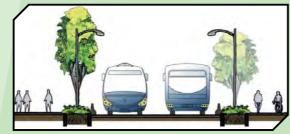


車站可設有收費閘機 Can have Ticket Gates at Station

### 環保巴士系統概念走線 GBS Conceptual Alignment



#### 一般情況 Normal Circumstances

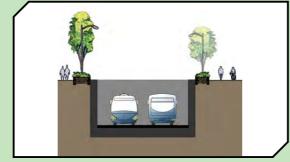


地面段 At-grade Section

#### 其他情況 Other Circumstances



高架段 Elevated Section



低於地面段 Depressed Section



洪水橋/厦村新發展區區域廣場處的車站

Station at Regional Plaza in HSK/HT NDA



洪水橋/厦村新發展區河畔長廊處的車站

Station at Riverside Promenade in HSK/HT NDA



元朗南發展內的車站 Station in YLS Development



# 設計考慮 Design Considerations

現代化電車設計
Modernised tram design

可採用無架空電纜設計及在專屬軌道進行綠化
Can be catenary free and have greening on the dedicated rail-track

低地台設計,方便乘客上落

Convenient for boarding and alighting with low-floor station

車站可設閘門和收費閘機,以縮短上落車時間

Can provide screen doors and ticket gates at stations, allowing shorter boarding and alighting time

允許行人於地面過路處橫過專屬軌道

Allowing pedestrians to cross the dedicated rail-track at at-grade crossings

若在路口與其他車輛共用路面,將增加行車時間

Shared use with other vehicles at junctions will increase journey time



現有的現代化電車 Existing Modern Tram



發展中的無軌電車 Trackless Tram under development



現代化電車設計 Modernised Tram Design



綠化路軌及無架空電纜 Green Rail-track and Catenary free



低地台車站及車廂設計 Low-floor Station and Tram Car Design



地面過路處 At-grade Crossing

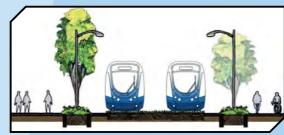
### 3 EFIS 環保運輸服務

# 環保公共運輸模式評估 Evaluation of Green Public Transport Modes

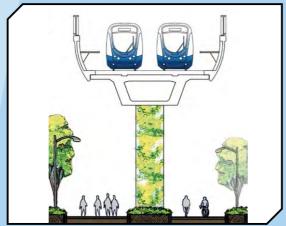
### 現代化電車概念走線 Modern Tram Conceptual Alignment



#### 一般情況 Normal Circumstances



地面段 At-grade Section 其他情況 Other Circumstances



高架段 Elevated Section



低於地面段 Depressed Section



洪水橋/厦村新發展區區域廣場處的車站

Station at Regional Plaza in HSK/HT NDA



洪水橋/厦村新發展區河畔長廊處的車站

Station at Riverside Promenade in HSK/HT NDA



元朗南發展內的車站 Station in YLS Development

選出的環保公共運輸模式 Shortlisted Green Public Transport Modes		初步預計行車時間 (如從泥圍站至流浮山站) Preliminary Estimate of Journey Time (On-vehicle) (Such as from Nai Wai Station to Lau Fau Shan Station)	車站可達性 Station Accessibility	視覺影響 Visual Impact	路線靈活性 Routing Flexibility	初步預算建造成本 (2018年9月價格計算) Preliminary Capital Cost Estimate (Sep 2018 prices)
	自動捷運系統	13分鐘 <mark>(1)</mark>	較低	較高	較低	約400-450億元
	Automated People Mover (APM)	13 minutes	Lower	Higher	Lower	About \$40-45 billion
	環保巴士系統	20分鐘	中等 <mark>(3)</mark>	中等 (3)	較高	約200-250億元
	Green Bus System (GBS)	20 minutes	Moderate	Moderate	Higher	About <b>\$20-25</b> billion
	現代化電車	17分鐘	較高	較低	較低	約250-300億元
	Modern Tram	17 minutes	Higher	Lower	Lower	About <b>\$25-30</b> billion

- (1) 由地面行人道來回高架車站月台的初步預計步行時間約為3至4分鐘 The preliminary estimate of walking time to and fro at-grade walkway and platform of elevated station is about 3 to 4 minutes
- (2) 大部分為建造高架橋及高架車站成本 Mainly the cost of viaducts and elevated stations construction
- (3) 於巴士班次頻密的路段,行人或需使用行人天橋橫過馬路 At section of frequent bus services, pedestrians may need to cross the road by using footbridge

附註: 環保運輸服務的設計,包括上述初步預計行車時間及初步預算建造成本,將於下一階段研究再作檢討。

Remarks: The design of EFTS, including the above preliminary estimate of journey time and preliminary capital cost estimate, will be subject to review in next stage of the Study.

可能的天水圍北延線方案 Possible Extension Option to Tin Shui Wai North

> 為方便天水圍北的居民前往洪水橋/厦村新發展區的各就 業區、社區、消閒和零售設施,以及接駁至西鐵站,我 們將探討伸延環保運輸服務至天水圍北的可行性。

In order to facilitate Tin Shui Wai North residents travelling to/from various employment zones, community, leisure and retail facilities in HSK/HT NDA, as well as connection with West Rail stations, we will explore the feasibility of extending EFTS to Tin Shui Wai North.



## 公眾諮詢活動 **Public Consultation Activities**

我們誠意邀請你參與公眾諮詢活動,歡迎於**2019年11月30日**或之前,透過郵寄、傳真、電郵或電話方式表達意見。請註明 「洪水橋/厦村新發展區與鄰近地區環保運輸服務可行性研究」。

We sincerely invite you to participate in the public consultation activities and express your views by 30 November 2019 by post, fax, email or phone. Please specify "Feasibility Study on Environmentally Friendly Transport Services in Hung Shui Kiu/Ha Tsuen New Development Area and Adjacent Areas".



#### 地點 Venue:

天耀社區中心 Tin Yiu Community Centre

#### 地址 Address:

新界元朗天水圍天耀邨 Tin Yiu Estate, Tin Shui Wai, Yuen Long, **New Territories** 

#### 日期 Date:

19/10/2019 (星期六 Saturday)

#### 時間 Time:

14:00 - 17:00

公眾論壇時間表可能會有所更改,請參閱研究網頁留意最 新安排。

The schedule for the public forum may be changed. Please visit the Study website for the latest arrangement.

請於 2019年10月16日 或之前,致電本研究顧問艾奕康有限公司電話 3922 8136(星期一至五 09:00 - 17:00)或在研究網頁(www.hskefts.hk)填 妥登記表格推行預約。

Please make reservation by 16 October 2019 by contacting the Study Consultant AECOM Asia Co. Ltd. via phone at 3922 8136 (Monday to Friday 09:00 - 17:00) or by completing the registration form on the Study website (www.hskefts.hk).

聲明:凡在「洪水橋/厦村新發展區與鄰近地區環保運輸服務可行性研究」過程中向土木工程拓展署提供意見和建議的個人或團體,將被視作同意土木工程拓展署可將部分或 全部的內容(包括個人姓名及團體名稱)公布,但聯絡資料如電話及電郵地址等則會保密。如你不同意這個安排,請於提供意見和建議時作出聲明

Disclaimer: A person or an organisation providing any comments and suggestions to the Civil Engineering and Development Department on the "Feasibility Study on Environmentally Friendly Transport Services in Hung Shui Kiu/Ha Tsuen New Development Area and Adjacent Areas" shall be deemed to have given consent to the Civil Engineering and Development Department to partially or wholly publish the comments and suggestions (including the names of the individuals and organisations), while contact information such as telephone numbers or email addresses will be kept confidential. If you do not agree to this arrangement, please state so when providing comments and suggestions.





洪水橋/厦村新發展區與鄰近地區環保運輸 服務可行性研究的第一階段公眾諮詢經已 展開。我們誠意邀請你於2019年11月30日 或之前,就研究結果及建議,透過郵寄 傳真、電郵或電話方式表達意見。

(星期一至五 09:00 - 17:00)

郵寄:

土木工程拓展署

雷話: 2158 5680

傳真: 2693 2918

新界沙田上禾輋路一號

沙田政府合署九樓西拓展處

電郵: enquiry@hskefts.hk

#### Post:

Civil Engineering and Development Department West Development Office,

The Stage 1 Public Consultation of the "Feasibility Study

on Environmentally Friendly Transport Services in Hung

Shui Kiu/Ha Tsuen New Development Area and Adjacent

Areas – Stage 1 Public Consultation" has been launched.

findings and recommendations by 30 November 2019 by

We sincerely invite you to express your views on the

post, fax, email or phone.

**Tel.:** 2158 5680 (Monday to Friday 09:00 - 17:00)

Email: enquiry@hskefts.hk

9/F. Sha Tin Government Offices. 1 Sheung Wo Che Road, Sha Tin, New Territories

姓名 Name:	機構 Organisation:
電話 Telephone:	電郵 Email:



聲明:凡在「洪水橋/厦村新發展區與鄰近地區環保運輸服務可行性研究」過程中向土木工程拓展署提供意見和建議的個人或團體,將被視作同意土木工程拓展署可將部分或全部的內容 (包括個人姓名及團體名稱)公布,但聯絡資料如電話及電郵地址等則會保密。如你不同意這個安排,請於提供意見和建議時作出聲明。

Disclaimer: A person or an organisation providing any comments and suggestions to the Civil Engineering and Development Department on the "Feasibility Study on Environmentally Friendly Transport Services in Hung Shui Kiu/Ha Tsuen New Development Area and Adjacent Areas" shall be deemed to have given consent to the Civil Engineering and Development Department to partially or wholly publish the comments and suggestions (including the names of the individuals and organisations), while contact information such as telephone numbers or email addresses will be kept confidential. If you do not agree to this arrangement, please state so when providing comments and suggestions.



	地點 Venue	日期 Date
	元朗民政事務處大廈 Yuen Long District Office Building	02 - 31/10/2019
	天恩商場(地下) Tin Yan Shopping Centre (Ground Floor)	11 - 17/10/2019
	屯門政府合署 Tuen Mun Government Offices	21 - 30/10/2019
	屏山天水圍公共圖書館(三樓) Ping Shan Tin Shui Wai Public Library (3rd Floor)	08 - 22/11/2019



ı		地點 Venue	日期 Date
	<b> </b>	天澤邨(近澤星樓) Tin Chak Estate (Near Chak Sing House)	02/10/2019 (10:00-16:00)
		唐人新村路停車場(近逸翠軒) Tong Yan San Tsuen Road Parking Lot (Near Greenville Residence)	11/10/2019 (10:00-16:00)
		洪福邨(近洪喜樓/洪樂樓) Hung Fuk Estate (Near Hung Hei House and Hung Lok House)	12/10/2019 (10:00-16:00)
,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	7 N ZI D FF-1 DD + NI A / ZZ 1	\± 4\ 55 == +

巡迴及流動展覽時間表可能會有所更改,請參閱研究 網頁留意最新安排。

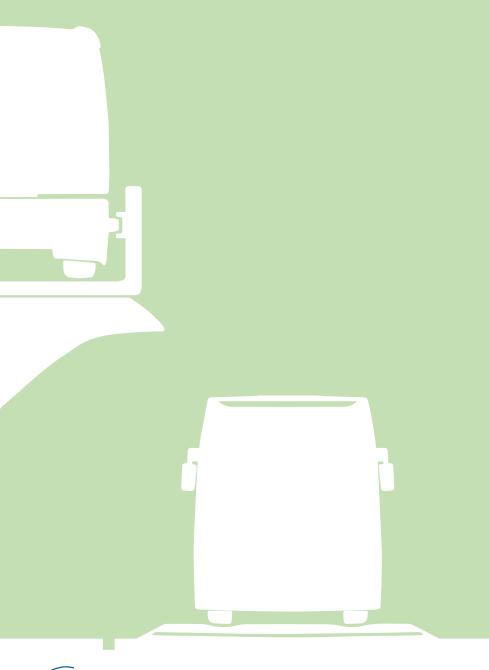
The schedule for the roving and mobile exhibitions may be changed. Please visit the Study website for the latest arrangement.

#### 關於本研究更詳盡資料,可瀏覽研究網頁:

More information of this Study is available at the Study website:

www.hskefts.hk







**AECOM** 

公眾諮詢期現延長至 **2020 年 1 月 14 日**。歡迎於諮詢期內透過郵寄、 傳真、電郵或電話方式提供意見。

公眾論壇將於 2020 年 1 月 4 日 (星期六)上午 10 時 30 分至下午 1 時在元朗天水園天耀邨天耀社區中心舉行,請於 2020 年 1 月 2 日或之前,在研究網頁(www.hskefts.hk)填妥登記表格或致電本研究顧問艾奕康有限公司(電話:3922 8136,星期一至五上午 9 時至下午 5 時,公眾假期除外)進行預約。

The public consultation period is extended to **14 January 2020**. Please provide your views within the consultation period by post, fax, email or phone.

The public forum will be held from 10:30am to 1pm at Tin Yiu Community Centre, Tin Yiu Estate, Tin Shui Wai, Yuen Long on 4 January 2020 (Saturday). Please make reservation by 2 January 2020 by completing the registration form on the Study website (www.hskefts.hk) or by contacting the Study Consultant AECOM Asia Co. Ltd. (Tel. 3922 8136, Monday to Friday, 9am to 5pm, except public holidays).