(Translated Version)

For information on **LanDAC Paper No. 01/2022**
11 June 2022

LANTAU DEVELOPMENT ADVISORY COMMITTEE

Study on Traffic, Transport and Capacity to Receive Visitors for Lantau

PURPOSE

This paper aims to brief the Lantau Development Advisory Committee (LanDAC) on the key findings and recommendations of the "Study on Traffic, Transport and Capacity to Receive Visitors for Lantau" (the Study).

BACKGROUND

2. The Civil Engineering and Development Department (CEDD) has been receiving quite an amount of views from the public concerning the impacts on the traffic and transport brought by Lantau development as well as the capacity to receive visitors for Lantau. The Sustainable Lantau Office (SLO) of CEDD has recently completed the Study to examine the traffic and transport infrastructure network and the capacity to receive visitors for Lantau, and to recommend practicable improvement measures.

STUDY FOCUS

3. The Study followed the overarching principle of "Development in the North; Conservation for the South" embraced by the Sustainable Lantau Blueprint. The scope of the Study mainly included the following items:

- Carrying out a desktop study to examine whether the existing and planned strategic traffic and transport infrastructure in Lantau could meet the long-term development needs of Lantau;

- Exploring initiatives on improving the internal traffic and transport connections in Lantau, such as the connections between Tung Chung and Tai O, and between North Lantau and Mui Wo, and conducting the

preliminary feasibility study;

- Assessing the visitors receiving capacity of tourist spots in Lantau, and suggesting proposals and related measures for the sustainable development of Lantau; and

- Exploring and recommending other practicable traffic and transport improvement initiatives, including promotion of green transport, etc.

KEY FINDINGS OF THE STUDY

Lantau's Strategic Traffic and Transport Infrastructure

4. SLO is undertaking the studies related to artificial islands in the Central Waters, covering the artificial islands of about 1 000 hectares around Kau Yi Chau and a set of priority transport corridor comprising road and rail links connecting Hong Kong Island, the artificial islands in the Central Waters, Northeast Lantau and the coastal areas of Tuen Mun. They help relieve the existing traffic pressure in the Northwest New Territories and enhance the resilience of Hong Kong's transport network.

5. In addition, SLO is taking forward the Road P1 [1] project of about 12 kilometres (km) long, with a view to relieving the traffic pressure of the North Lantau Highway, coupling with the housing and economic developments at North Lantau, and enhancing the resilience of the North Lantau transport network.

6. Besides, the Airport Authority Hong Kong (AAHK) is taking forward the Airport City Link project connecting the SKYCITY and the Hong Kong-Zhuhai-Macao Bridge (HZMB) Hong Kong Port by constructing a bridge system, applying an autonomous transportation system to strengthen the overall transportation network and capacity, thereby connecting the SKYCITY, the HZMB Hong Kong Port and the Hong Kong International Airport as one. As the next step, AAHK plans to extend the autonomous transportation system of the Airport City Link to the Tung Chung Town Centre and fully utilises the roads along the eastern coast of the Airport Island so as to provide a comprehensive and environmentally-friendly transport link connecting Tung Chung Town Centre, the Airport Island and the HZMB Hong Kong Port.

---

[1] The Road P1 comprises two sections, which are the Tung Chung to Tai Ho Section of about 2.5 km and the Tai Ho to Sunny Bay Section of about 9.5 km. Road P1 (Tung Chung - Tai Ho Section) is within the scope of the Tung Chung New Town Extension (TCNTE) and the relevant construction works have commenced in phases since June 2021; the Engineering Study on Road P1 (Tai Ho - Sunny Bay Section) is also in progress.

7. SLO is implementing the Tung Chung New Town Extension (TCNTE) project in phases, including the provision of external access for Tung Chung East (TCE) and the Tung Chung New Town, and the construction of roads, footpaths, subways, cycle tracks as well as other infrastructures within the area. The whole TCNTE project is expected to be completed in 2030.

8. The MTR Corporation Limited is implementing the Tung Chung Line (TCL) Extension project, which mainly comprises two parts: (a) Tung Chung East Section which involves the construction of the proposed TCE Station on the TCE reclamation area and the track modification works of the existing TCL of about 1.2 km long; and (b) Tung Chung West (TCW) Section which involves an extension of about 1.3 km long railway line westward from the existing Tung Chung Station and the construction of the proposed TCW Station at the west of Yat Tung Estate, which will be the future TCL's new terminal station. The TCL Extension project has been gazetted and is currently at detailed design stage, with construction works expected to commence in 2023 for completion in 2029.

9. The Study concluded that these strategic traffic and transport infrastructures could generally meet the long-term external transport needs of Lantau.

Internal Traffic and Transport Connections in Lantau

10. The traffic and transport infrastructures mentioned in paragraphs 4 to 8 above are located in North Lantau. In respect of the traffic in South Lantau, it is mainly connected to North Lantau via Tung Chung Road (TCR), South Lantau Road (SLR) and Keung Shan Road (KSR), etc., and further connects to other areas outside Lantau. Since all these roads are closed roads, the annual average daily traffic flow of these roads are only half of their design capacities or even less. Considering that these roads still have considerable spare capacities and overall planning of Lantau would align with the overarching principle of "Development in the North; Conservation for the South", the Study considered that there were not sufficient justifications in terms of traffic flow to support the construction of large-scale traffic and transport infrastructure for connecting the North and South Lantau.

11. However, TCR is currently the only vehicular access connecting North and South Lantau, in case of major incidents, the road traffic connecting South Lantau with external areas would be seriously affected. The Study suggested considering the provision of alternative access routes for South Lantau in order to enhance the resilience of the external transport network of South Lantau. In addition, in view of the steep gradients and sharp bends at some road sections of the KSR connecting Shek

Pik and Tai O Road, the Study suggested considering improving these road sections to enhance the connectivity of Tai O with other areas and road safety.

12. Based on a holistic consideration[2], the Study recommended that a feasibility study on the following road network enhancement options (**Figure 1**) could be conducted in the next stage to identify the feasible and most suitable arrangement:

Preliminary enhancement options for improving the resilience of the North-South Lantau's road network under emergency situations:

(a) Constructing a new road tunnel connecting Mui Wo and the existing road/tunnel in Discovery Bay[3] (DB); or

(b) Constructing a new road tunnel directly connecting Mui Wo and Siu Ho Wan; and/or

(c) Improvement of Old TCR[4].

Preliminary enhancement options for improving KSR / road connection between Tung Chung and Tai O:

(d) Constructing a new road tunnel connecting Shek Pik and Tai O Road; and/or

(e) Constructing some new bridges bypassing those road sections with sharp bends of KSR connecting Shek Pik and Tai O Road.

13. Regarding the preliminary enhancement options (a) and (b) above, apart from considering the environmental impacts, spare capacity of adjacent existing roads/tunnels, views of relevant stakeholders and cost-effectiveness, we will also study the suitable operation mode, such as whether to allow public transport uses only, in order to align with the Lantau's overarching principle of "Development in the North; Conservation for the South". SLO plans to take forward the relevant feasibility study in 2022/23.

---

[2] The factors considered include the overarching principle of "Development in the North; Conservation for the South", traffic needs, road safety, technical feasibility, residents' aspirations, capital costs, visitors receiving capacity and environmental factors (such as the impacts on the tranquil village character or areas with ecological value), the impact of related pedestrian and vehicular flows on the local residents and communities, the resilience of road network under emergency situations, etc.

[3] Considering the spare capacity of the existing DB Tunnel, vehicles could travel between Mui Wo and Siu Ho Wan via the DB Tunnel.

[4] Upon the completion of improvement works of new TCR, Old TCR has been closed since 2009. Since the Old TCR still needs to connect to a part of the new TCR for connecting the North and South Lantau, the option of improvement of Old TCR could only meet a part of the need for improving the resilience of the North-South Lantau's road network under emergency situations.

Local Road Improvement Works in South Lantau

14. At present, most of the main roads in South Lantau are located within Lantau's country parks, and there are slopes, trees, underground utilities or private lands along both sides of the roads. It is necessary to prudently consider the environmental and ecological impacts arising from the construction works, when studying the local road improvement proposals for these roads. The Study initially suggested improvements on road sections of SLR, KSR and Tai O Road, including road widening and bend improvement. SLO is liaising with the relevant departments on the follow-up work of these preliminary road improvement proposals (**Figure 2**).

Water Transport

15. The Study proposed improving water transport services with a view to complementing land-based transport, including improving existing Man Kok Tsui Pier and exploring the provision of new pier facilities in South Lantau waterfront, such as around Tong Fuk, Cheung Sha and Pui O. The Man Kok Tsui pier improvement works have been included in Phase 2 of CEDD's Pier Improvement Programme. The relevant feasibility study commenced in May 2021 and is scheduled for completion by end 2022. On the other hand, SLO commenced the study "Initiatives for South Lantau Eco-recreation Corridor – Investigation Study" in November 2021, which will further review the need of building new pier facilities in South Lantau waterfront and recommend the location(s) as well as conduct relevant feasibility study. The study is expected to be completed by end 2023.

Green Transportation and Others

16. In March 2021, the Government announced the first "Hong Kong Roadmap on Popularisation of Electric Vehicles" (Roadmap), which includes the continued promotion of trials with the industry in the coming few years to test the technical and commercial viabilities of different types of e-commercial vehicles (such as taxis and franchised buses) for use in the local environment. The Study recommended providing and enhancing the electric vehicle (EV) charging infrastructure and relevant supporting facilities, such as EV charging stations in Lantau. SLO completed the construction of EV charging facilities in Mui Wo in mid-2021, and the EV charging facilities in Tai O will be completed in the third quarter of 2022. The TCNTE currently underway will also provide relevant EV charging facilities, and other relevant departments will duly follow up and enhance the EV charging facilities in other areas pursuant to the Roadmap.

17. Regarding the expansion of cycle track/mountain bike trail (MBT) networks in Lantau, the Study proposed to examine the feasibility of further extending the cycle track from Tai Ho to Sunny Bay. The Study also proposed to review the utilisation of existing and new MBT and practicing facilities under the Expansion of Mountain Bike Trail Networks in South Lantau (Remaining Phase) project and consider the need to further expand the MBT network[5].

Capacity to Receive Visitors for Lantau

18. The Study made reference to international practices and examples and devised a framework and a set of indicators for assessing the visitors receiving capacity. The assessment indicators included the capacity of infrastructure facilities such as traffic and transport, water supply and utilities, the visitors' satisfaction, and the impacts of visitor activities on the environment, economy, social and livelihood of the community, etc. The Study reviewed the current conditions of the relevant facilities in Lantau's tourist destinations from various aspects, as well as the satisfaction of visitors, local residents and businesses, and made proposals or recommended mitigation measures based on the study findings, with a view to balancing the impacts of the tourism on economic development, social and people's livelihood.

19. The Study conducted an opinion survey during the third and fourth quarters of 2019 and interviewed more than 2 000 [6] local residents, visitors, local businesses and the general public on the current situation of Lantau and their views on sustainable leisure and recreational activities. The study findings indicated that Lantau's tourist destinations and the transport infrastructure were generally able to cope with the need of visitors and the satisfaction of visitors was also high. However, individual locations (such as Tai O and Tung Chung Town Centre) were overcrowded with visitors at peak hours at weekends and holidays as most of them visited these places during the peak hours. The main findings of the opinion survey are as follows:

(a) About 80% - 90% of the interviewed visitors were satisfied in overall with the hotspots[7] (including tourist attractions and facilities, etc.) they visited;

(b) About 70% and 80% of the interviewed Tung Chung and Tai O residents respectively considered that there were too many tourists at weekends,

---

[5] The detailed design of expansion of MBT networks in South Lantau (remaining phase) is in progress.

[6] The street interviewees included 1 008 local residents, 1 031 visitors and 100 local businesses. The telephone interviewees included 336 citizens.

[7] They included five tourist hotspots, namely Tung Chung, Tai O, Ngong Ping, Mui Wo and South Lantau waterfront.

which led to overcrowding;

(c) About 70% of the interviewed Tung Chung and Tai O residents considered that there were no spare capacity to receive more visitors at weekends. About 50% - 60% of the interviewed Tung Chung and Tai O visitors considered that there were no spare capacity to receive more visitors; and

(d) About 70% or more of the interviewees[8] considered that enhancing the public transport services, hotel/accommodation, food and beverage, entertainment and shopping facilities would help enhance the visitors' travel experience.

20. In order to further enrich the visitors' travel experience, the mitigation measures recommended in the Study include enhancing the public transport services and supporting facilities (such as improving the queue up/alighting and boarding arrangements), the dissemination of information of public transport services (such as the frequency of the ferry services between Tung Chung and Tai O) and the walkability between Tung Chung Town Centre and Tung Chung Development Pier, and exploring the provision of crowdedness information at tourist hotspots, etc. SLO will review and follow up with relevant departments on the subsequent work arising from the recommendations of the study.

21. In addition, the Study recommended exploring the provision of diversified sustainable leisure and recreational facilities at different locations in Lantau so as to provide visitors with different experiences and help divert the visitors to different locations. In December 2020, SLO has formulated the "Lantau Conservation and Recreation Masterplan" and "Lantau Trails and Recreation Plan", and is currently undertaking relevant studies in phases, including the Round-the-Lantau Route and supporting facilities, the provision of sustainable recreational facilities, etc., connecting as many heritage, ecological and recreational hotspots as possible, to provide diversified leisure and recreational experience.

22. The assessment of the visitors receiving capacity is a continuous work. SLO will continue to collect relevant information, duly review and undertake the follow up work.

[8] They included local residents, businesses and visitors.

WAY FORWARD

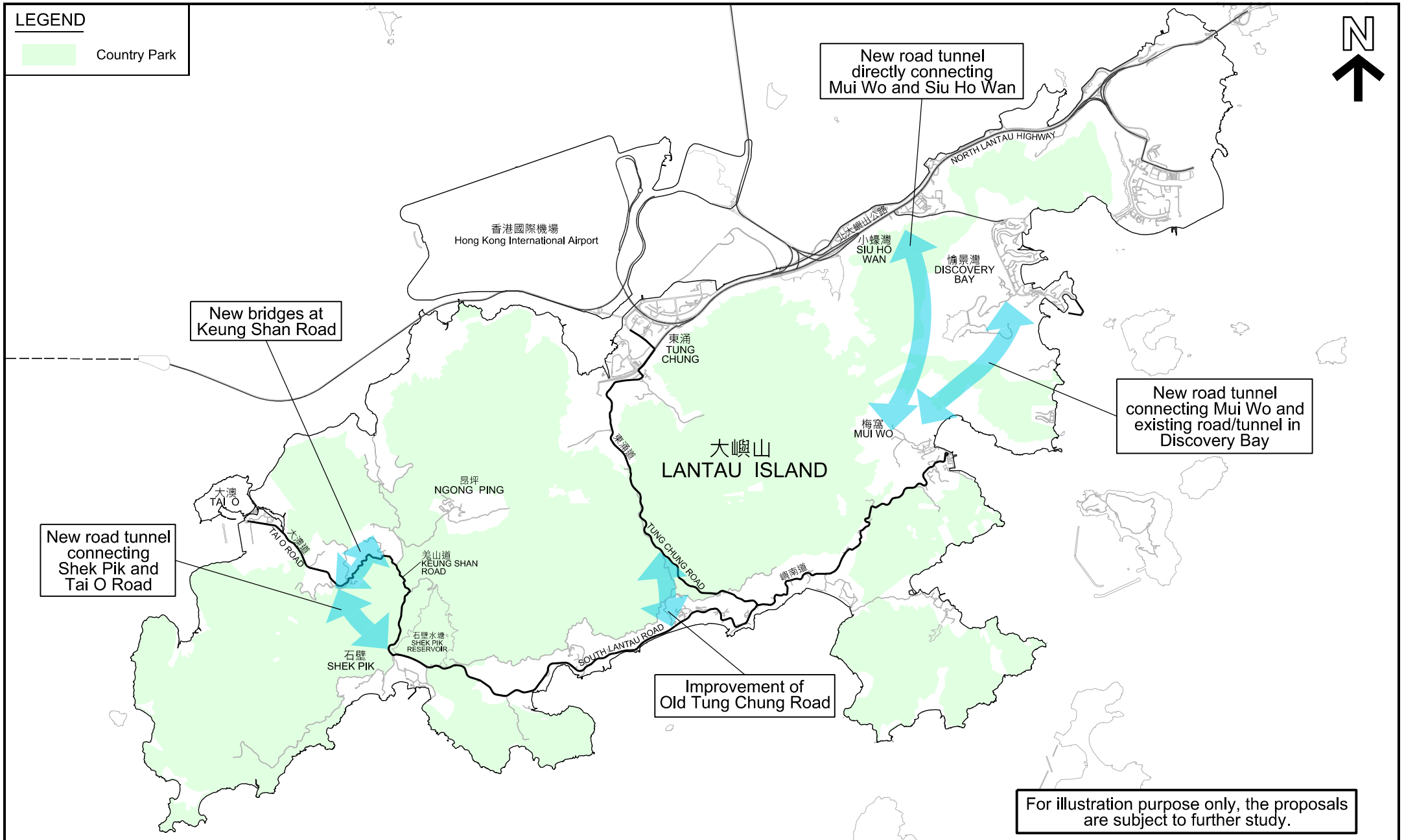
23. SLO will liaise with relevant departments on the above study findings and the corresponding follow-up work.

CONCLUSION

24. Members are invited to note the key findings and recommendations of the Study.

Civil Engineering and Development Department
June 2022

Figure 1



圖則名稱 drawing title

Preliminary Road Network Enhancement Options in Lantau

項目編號 item no.

圖則編號 drawing no.

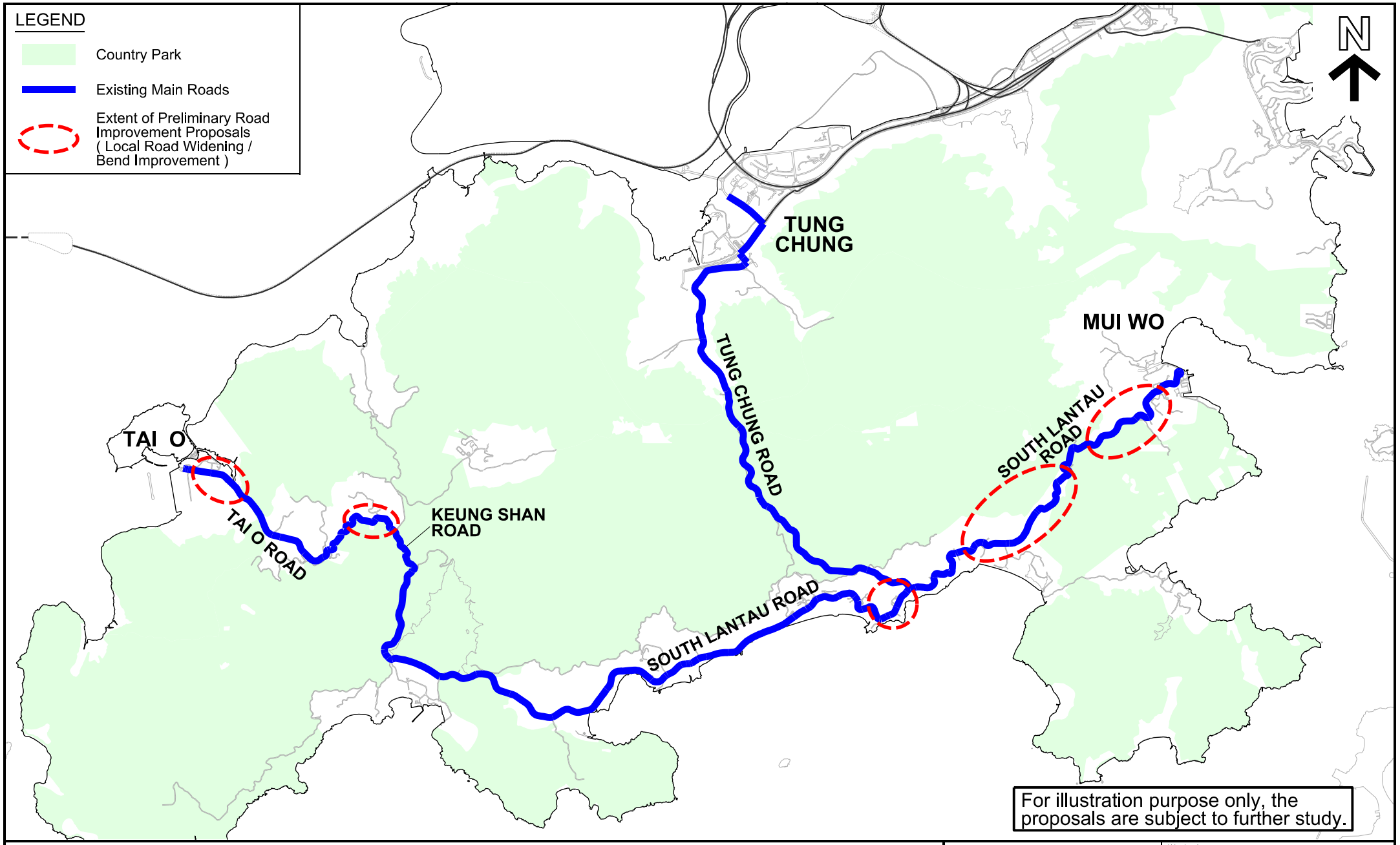
SLO-Z0853

辦事處 office

可持續大嶼辦事處
SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Figure 2



圖則名稱 drawing title

Preliminary Local Road Improvement Proposals in South Lantau

項目編號 item no.

圖則編號 drawing no.

SLO-Z0866

辦事處 office

可持續大嶼辦事處
SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT