

Annex 4

Traffic Consideration

1.1 Traffic Consideration

Operation Mode

- 1.1.1 While the subject carpark is proposing a flexible mode, it is anticipated that the proposed temporary vehicle park will not incur adverse traffic impact. With most of the end user would be cross-boundary travellers, they may park their cars in the Application site and stay in the Mainland for one day or more.
- 1.1.2 In order to assess the existing traffic conditions, a vehicle count survey was conducted at the Lin Ma Hang Road from 8:00 am to 7:00 pm on 16 July (WED), 2025. Flow counts are recorded at 60-minute intervals; and converted to Passenger Car Unit (pcu) values. The highest 60-minute traffic volume is used as the peak hour traffic volume. Location of conducting the vehicle count survey is shown in **Diagram 1**.



Diagram 1. Location for Traffic Estimation

- 1.1.3 The morning and afternoon peak times for the network are determined to be 11:00am to 12:00pm and 5:00pm to 6:00pm respectively. The traffic flow observed in the study area is demonstrated in the following table.

Development Traffic Generation and Attraction

- 1.1.4 A vehicle count survey was conducted at two existing public vehicle parks (Application No. A/NE-TKLN/57 and 58) in the vicinity from 8:00 am to 7:00 pm on 10 July (THURS), 2025. The traffic flow of the existing public vehicle parks at the peak hours is recorded and shown below:

| | No. of Parking Space | AM (11 am - 12 pm) (pcu/hr) | | PM (5 pm - 6 pm) (pcu/hr) | |
|--------------|----------------------|-----------------------------|------------|---------------------------|------------|
| | | Generation | Attraction | Generation | Attraction |
| A/NE-TKLN/57 | 24 CPS | 4 | 3 | 12 | 3 |
| A/NE-TKLN/58 | 26 CPS | 3 | 8 | 7 | 7 |

1.1.5 Flow counts are recorded at 60-minute intervals; and converted to Passenger Car Unit (pcu) values. The highest 60-minute traffic volume is used as the peak hour traffic volume. A summary of the result is as follow:

| Public Vehicle Park | | Generation | | Attraction | |
|----------------------------------|---------------|----------------------------------|----------------------------------|---------------------------------|--------------------------------|
| | | AM | PM | AM | PM |
| | No. of Spaces | Traffic flow (pcu) | | | |
| A/NE-TKLN/57 | 24 CPS | 4+3 | 5+8 | 12+7 | 3+7 |
| A/NE-TKLN/58 | 26 CPS | | | | |
| Total | 50 CPS | | | | |
| Trip rate (pcu/hr/parking space) | | | | | |
| | | = 7/50 = 0.14 | =13/50 = 0.26 | = 19/50 =0.38 | = 10/50 =0.2 |
| Trips in veh/hr (pcu/hr) | | | | | |
| Proposed Parking Facilities | | = 0.14 x 115 ⁽³⁾ = 16 | = 0.26 x 115 ⁽³⁾ = 30 | =0.38 x 115 ⁽³⁾ = 44 | =0.2 x 115 ⁽³⁾ = 23 |
| Proposed Shop and Services | | 2 | 2 | 2 | 2 |
| Total | | 18 | 32 | 46 | 25 |

- (1) It is noted from vehicle count survey that the two sites have been operated as a whole, with its ingress and egress marked in Figure 2.
- (2) The number of estimated traffic generation (10) and number of estimated traffic attraction (13) are derived from the TIA submitted with planning application no. A/NE-TKLN/75.
- (3) The total number of parking spaces for this application is 115.

Existing Traffic Capacity

1.1.6 The Volume to Capacity (V/C) ratio represents the proportion of road capacity used by traffic flow during peak hours. Higher V/C ratios for roads indicate greater use of road connection problems. A V/C ratio of 0.85 or less indicates that there is sufficient capacity available and vehicles are not expected to experience significant queues and delays.

1.1.7 To assess the current traffic conditions at the Application Site, traffic count surveys were conducted during both AM and PM peak hours on a typical weekday in 2025.

1.1.8 Based on the observed peak hour traffic flows, the performances on the Lin Ma Hang Road could be assessed. The results are summarized in the following table:

| No. | Road Link (Direction) | Observed Flow | | V/C Ratio | |
|-----|------------------------------|---------------|----|-----------|------|
| | | AM | PM | AM | PM |
| L1 | Lin Ma Hang Road (Eastbound) | 110 | 69 | 0.31 | 0.19 |
| L2 | Lin Ma Hang Road (Westbound) | 95 | 94 | 0.26 | 0.26 |

(1) The Capacity Index for Road Links is Peak Hourly Traffic Flow/Design Flow Capacity

(2) Design Capacity of the Link according to TPDM, reduction was considered due to high proportion of Heavy Goods Vehicles. Thus, the design capacity of Lin Ma Hang Road (Rural road with 6.3m 2-lane single carriageway) = 720 veh/hr (2-way)

- 1.1.9 As demonstrated in the above table, that the V/C ratio of Lin Ma Hang Road is less than 0.85, which means the Lin Ma Hang Road operates satisfactorily during the peak hour of weekday.

Future Year Reference Traffic Flows

- 1.1.10 Reference is made to the 2021-based Territorial Population and Employment Data Matrix (TPEDM) planning data published by Planning Department. The following table presents the population and employment data in North District for 2021, 2026 and 2031.

| Category | 2021 | 2025 ⁽¹⁾ | 2026 | 2028 ⁽²⁾ | 2031 | % Growth p.a. |
|------------|---------|---------------------|---------|---------------------|---------|---------------|
| | | | | | | 2025 - 2028 |
| Population | 309,650 | 330,825 | 352,000 | 393,775 | 435,550 | 1.69% |
| Employment | 84,150 | 94,130 | 104,050 | 124,450 | 144,850 | 2.31% |
| Total | 393,800 | 424,955 | 456,050 | 518,225 | 580,400 | 1.81% |

Source: 2021-based TPEDM published by Planning Department.

- (1) 2025 population and employment places are calculated by interpolation between 2021 – 2026
 (2) 2028 population and employment places are calculated by interpolation between 2026 – 2031

- 1.1.11 It is anticipated that the population and employment places in North District would be increased by 1.69% and 2.31% p.a. respectively, with an overall annual growth rate of 1.81% between 2025 and 2028.

- 1.1.12 For the traffic growth of year between Year 2025 to 2028, reference is made to the estimation from “Hong Kong Population Projection 2022-2046” published by Census and Statistics Department (C&SD). The following table presents the projected population data in 2025 and 2028.

| Category | 2025 | 2028 | % Growth p.a. |
|----------------------|-----------|-----------|---------------|
| | | | 2025 - 2028 |
| Projected Population | 7,559,800 | 7,684,500 | +0.5% |

- 1.1.13 As illustrated in the above tables, the predicted growth of population from 2025 to 2028 is approximately +0.5% per annum. Taking into account the above factors, it is proposed to adopt an average growth rate of 1.81% per annum from 2025 to 2028 to forecast the 2028 background traffic flows.

Traffic Assessment

- 1.1.14 This application is seeking temporary permission for a period of 3 years only, which targets to commence by the end of 2025. Thus, to estimate the worst-case scenario, a growth factor will be applied to the end of this application, i.e., 2028 to demonstrate the traffic impact.

$$2028 \text{ Reference Flow} = 2025 \text{ Observed Flow} \times 1.81\%^1$$

$$2028 \text{ Design Flow} = 2028 \text{ Reference Flow} + \text{Development Flow of this Application}$$

1.1.15 The link capacity assessment results under the 2028 reference and design scenarios are summarised in table below:

2028 Traffic Assessment

| No. | Road Link (Direction) | Reference Flow (veh/hr) | | Reference V/C Ratio | | Design Flow (veh/hr) | | Design V/C Ratio | |
|-----|---------------------------------|----------------------------|--------------------|------------------------|------|--------------------------|-------------------------|---------------------|------|
| | | AM | PM | AM | PM | AM | PM | AM | PM |
| L1 | Lin Ma Hang Road (Eastbound) | 96 x 1.81 = 174 | 55 x 1.81 = 100 | 0.48 | 0.28 | 174 + 4 + 3 = 181 | 100 + 5 + 8 = 113 | 0.50 | 0.31 |
| L2 | Lin Ma Hang Road (Westbound) | 81 x 1.81 = 147 | 80 x 1.81 = 145 | 0.41 | 0.40 | 147 + 12 + 7 = 166 | 145 + 3 + 7 = 155 | 0.46 | 0.43 |

(1) The Capacity Index for Road Links is Peak Hourly Traffic Flow/Design Flow Capacity

(2) Design Capacity of the Link according to TPDM, reduction was considered due to high proportion of Heavy Goods Vehicles. Thus, the design capacity of Lin Ma Hang Road (Rural road with 6.3m 2-lane single carriageway) = 720 veh/hr (2-way)

Notes: The design flow has also taken into account the traffic flow of adjacent site at Lot Nos. 388 S.A, 388 S.B, 388 RP (Part) and 390 RP (Part) in D.D. 78 and Adjoining Government Land.

1.1.16 As shown in table above, the V/C ratio of Lin Ma Hang Road is less than 0.85 which means the Lin Ma Hang Road would be performing satisfactorily during the peak periods for both Reference and Design Scenarios. No adverse traffic impact is anticipated.

1.1.17 Traffic management measures proposed in Section 2.9 in the supporting planning statement would be fully implemented. With only 8 to 9 trips per hour generated and attracted from the application, it is expected that there will not be significant negative impacts regarding the safety of road users and the traffic network of the area concerned.

¹ According to the Highways Department Agreement No. CE 51/2013 (HY) Widening of Western Section and Eastern Section of Lin Ma Hang Road – Design and Construction Note of Traffic Forecast Review (Western Section), the steady traffic growth rate of 0.6% p.a. is anticipated. However, an annual growth factor of 1.81% from 2025 to 2028 has been adopted by making reference to the population and employment data obtained from 2021-based Territorial Population and Employment Data Matrices (TPEDM) planning data in North District published by Planning Department.