

3 Traffic Forecast and Link Capacity Assessment

3.1 Traffic Forecast Methodology

- 3.1.1 In general, growth factor methodology could be adopted for relatively simple cases by using the historical growth information, and supplemented with well-defined development parameters. As stated in Section 1.3.1, the 3rd Stage of FCA reduction took effect on 4 January 2016, the local traffic pattern has been redistributed and stabilized at the time when the traffic survey was conducted in July 2017. In view of the small scale of the proposed road widening work and there is no major road work in the future which would induce significant change of the local traffic pattern, the growth factor methodology is considered applicable to forecast the traffic flows at the subject road. Traffic flows forecast adopted in this assessment are primarily based on the traffic survey conducted in July 2017. A suitable growth factor by making reference to historical data of the Annual Traffic Census is then applied to these survey results to obtain the design year traffic flows. There are planned/committed developments in the vicinity of the Western Section of LMH Road, including the columbarium at Sandy Ridge, village expansion and organic farm. Their induced traffic demand will be added to the traffic flows forecast.

3.2 Volume/Capacity Ratio

- 3.2.1 The Volume to Capacity (V/C) ratio indicates the proportion of the road capacity being used by the peak hour traffic flow. Higher V/C ratio of a road indicates heavier usage of the road link concerned. A V/C ratio equals to or less than 1.0 is considered acceptable. A V/C ratio between 1.0 and 1.2 indicates a manageable degree of congestion. A V/C ratio above 1.2 indicates more serious congestion.

3.3 Design Capacity of the Existing Lin Ma Hang Road

- 3.3.1 Taking into account the current configuration of the subject LMH Road, its design capacity is estimated to be 600PCU/hr¹.

3.4 Traffic Survey

- 3.4.1 Based on the traffic survey conducted in 2017 at Western Section of LMH Road, the breakdown of vehicle type and highest traffic flow observed during AM peak and PM peak hours are summarized as follows.

| | 2017 Vehicle Type (PCU/hr) AM Peak: 07:30-08:30 | | | | | 2017 Vehicle Type (PCU/hr) PM Peak: 17:15-18:15 | | | | |
|----|--|---------------------|------------------------------------|------------------|-------------|--|---------------------|------------------------------------|------------------|-------------|
| | Private Vehicle | Light Goods Vehicle | Medium/Heavy Goods Vehicle (M/HGV) | Public Transport | Total | Private Vehicle | Light Goods Vehicle | Medium/Heavy Goods Vehicle (M/HGV) | Public Transport | Total |
| EB | 202 | 61 | 190 | 9 | 462 | 106 | 42 | 163 | 6 | 317 |
| WB | 105 | 31 | 58 | 6 | 200 | 136 | 38 | 145 | 8 | 327 |
| | Sum | | | | 662 | Sum | | | | 644 |
| | Volume/Capacity Ratio | | | | 1.10 | Volume/Capacity Ratio | | | | 1.07 |

¹ Design capacity of single track access road: 120 PCU/hr. Design capacity of single-two lane local roads: 1000 PCU/hr. Length of passing bays = 400m. Resulting design capacity = 1000 PCU/hr x (400/750) + 120 x (350/750) ≈ **600 PCU/hr**.