

Attachment IV

Justification Note of Adopting Base District Traffic Models – 2020 Update for Traffic Impact Assessment

Planning Application No.: Y/TP/42

Justification of Adopting Base District Traffic Models – 2020 Update for Traffic Impact Assessment

1 Background and Objectives

1.1 Background

- 1.1.1 The planning study and associated technical assessments for the Proposed Development commenced in 2022. At that time, the Base District Traffic Model (BDTM) – *2020 Update* was the latest available model and was therefore adopted as the basis for the Traffic Impact Assessment (TIA) for the subject application.
- 1.1.2 Based on the BDTM – *2020 Update* (hereafter referred to as the “current model”), several rounds of TIA submissions were undertaken in the form of pre-submissions, during which the traffic forecasting methodology were progressively reviewed and refined in response to Transport Department (TD)’s comments.
- 1.1.3 The BDTM – *2024 Update* (hereafter referred to as the “latest model”) was subsequently released in July 2025, after the assessment framework had been established and substantial progress had been made on the TIA and other inter-related technical assessments.

1.2 Objectives

- 1.2.1 The objective of this paper is to justify the continued use of the current model for traffic assessment purposes.
- 1.2.2 Specifically, the paper aims to demonstrate that:
- The current model provides a conservative and robust assessment basis for evaluating traffic impacts of the Proposed Development; and
 - Continued use of the established modelling approach is technically justified and delivers clear benefits in terms of project delivery certainty, cross-disciplinary consistency, and the public interest outcomes.

2 Conservatism of the BDTM – 2020 Update

2.1 Base-Year Traffic Conditions

2.1.1 As documented in the Annual Traffic Census (ATC) 2021, daily life in Hong Kong was disrupted by the outbreak of COVID-19 since 2020, which in turn affected traffic flow patterns. Tourism and related travel activities were also severely affected during this period.

2.1.2 To compare pre-pandemic and pandemic-affected traffic conditions on the assessed road network, reference has been made to ATC 2019 (pre-pandemic) and ATC 2021. The Annual Average Daily Traffic (AADT) at selected counting stations in the vicinity of the Proposed Development is summarised in **Table 1**.

Table 1 Annual Average Daily Traffic at Selected ATC Stations in 2019 and 2021

Station No. / Road Name	Year 2019	Year 2021
5009 / Kwong Fuk Road (from Nam Wan Road to Wan Tau Street)	19,720	19,010
5216 / Nam Wan Road (from Kwong Fuk Road to Tai Po Tai Wo Road)	22,260	22,220
5265 / Tai Po Road – Yuen Chau Tsai E-B ramp H (from Kwong Wang Street to Ramp to Tai Po Road -Yuen Chau Tsai)	20,200	20,170
5420 / Tai Po Road - Yuen Chau Tsai (from Kwong Wang Street to Nam Wan Road)	36,630	31,360
5473 / Tolo Highway ramps A & B (from Ramps to & from Tolo Highway to Ramps to & from Tai Po Road - Yuen Chau Tsai)	11,630	12,320
5669 / Tolo Highway INT ramps C & D (from Tai Po Road-Yuen Chau Tsai to Tai Po Road-Yuen Chau Tsai)	15,310	15,620
6061 / Tolo Highway INT slip road (from Slip roads to & from Tolo Highway to Slip roads to & from Tai Po Rd - Yuen Chau Tsai)	21,320	21,280
6063 / Tolo Highway INT ramp G (from Tolo Highway INT ramp A to Kwong Wang Street)	23,140	23,110
TOTAL	170,210	165,090 (-3.0%)

- 2.1.3 As shown in **Table 1**, the total AADT at the selected ATC stations decreased by approximately 3.0% from 2019 to 2021. This indicates that traffic volumes during the pandemic-affected period were generally lower than pre-pandemic levels across the assessed road network. Accordingly, adopting 2019 as the base year provides a conservative and representative baseline for traffic forecasting, as it reflects higher background traffic levels unaffected by pandemic-related disruptions.
- 2.1.4 In this regard, it is noted that both the current model and the latest model adopt 2019 as the common base year (i.e. pre-pandemic conditions). The latest model mainly incorporates refinements to network representation and model calibration, while retaining the same base-year demand.
- 2.1.5 As such, the continued use of the current model for assessment purposes is considered acceptable and no less conservative, as it is based on the same pre-pandemic base-year traffic conditions and would not result in an under-estimation of background traffic levels.

2.2 Territory-Wide Planning Data Input

- 2.2.1 It is noted that the BDTM adopts territory-wide population and employment distributions from the Territory Population and Employment Data Matrix (TPEDM) as key planning inputs for traffic forecasting.
- 2.2.2 The current model adopts the 2016-based TPEDM, which was prepared under earlier planning assumptions. While the specific TPEDM vintage adopted in the latest model is not explicitly stated, it is understood that a more recent TPEDM has been adopted to reflect updated planning assumptions.
- 2.2.3 For reference, **Table 2** summarises and compares the 2016-based and 2021-based TPEDM for Tai Po District in terms of population, employment and the corresponding annual average growth rates.

Table 2 Comparison of Growth Assumptions for Tai Po District

Year	2016-based TPEDM			Annual Average Growth Rate		Year	2021-based TPEDM			Annual Average Growth Rate	
	Population	Employment	TOTAL	2016 to 2021	2016 to 2026		Population	Employment	TOTAL	2021 to 2026	2021 to 2031
2016	248,850	79,450	328,300	+1.53 %	+1.21%	2021	316,450	96,600	413,050	+1.44%	+0.47%
2021	269,050	85,100	354,150			2026	348,900	94,800	443,700		
2026	284,300	86,000	370,300			2031	343,250	89,800	433,050		

- 2.2.4 As shown in **Table 2**, the 2016-based TPEDM assumes **higher annual average growth rates** for Tai Po District over comparable medium- and long-term horizons than the 2021-based TPEDM.

- 2.2.5 In this connection, the use of the current model with the 2016-based TPEDM is likely to yield higher background traffic forecasts than a model adopting the later version of TPEDM. Therefore, the adoption of the current model for the purpose of this assessment is considered acceptable and would not result in an under-estimation of future traffic forecast.

2.3 Road Network Assumptions

- 2.3.1 Each version of the BDTM represents the road network and committed improvement schemes for its base year and forecast years, based on the assumptions adopted at the time the model was developed.
- 2.3.2 It is noted that both the current model and the latest model adopt 2019 as the base year. The main differences between the two versions would therefore be related not to the base year itself, but to possible updates to network representation, model calibration, and the way committed schemes may have been included in the forecast networks.
- 2.3.3 The latest model would be expected to reflect more recent information on committed / implemented road network enhancements, including those in the Tai Po area and the wider New Territories, where the Proposed Development is located. By way of example, this could include strategic regional infrastructure such as the Heung Yuen Wai Boundary Control Point and its associated connecting road network, as well as other local or regional network improvements, subject to the scope of the model.
- 2.3.4 If such enhancements were not fully represented in the forecast networks of the current model, the resulting traffic forecasts would not assume the potential benefits of those improvements, such as additional capacity and improved connectivity. In this context, the use of the older BDTM for assessing background traffic conditions for the Proposed Development would be considered conservative, as it would be less likely to over-estimate future network performance. The continued use of the current model is therefore considered acceptable for assessment purposes.

3 Benefits of The Continued Use of BDTM – 2020 Update

3.1 Programme Certainty

- 3.1.1 Continuing with the current model avoids the need for a full model rebuild and revalidation at this advanced stage of the study. This reduces repetitive processing and inter-departmental coordination for government reviewers, thereby lowering review workload and facilitating a more efficient approval process without compromising the integrity of the assessment.

3.2 Cross-Discipline Consistency

- 3.2.1 The traffic forecast adopted in the TIA also serve as key inputs to other technical assessments, including the Noise Impact Assessment. Retaining the established traffic model avoids unnecessary reassessment and duplicate review, ensures consistency of assumptions across disciplines.

3.3 Public Interest Outcomes

- 3.3.1 By preserving programme certainty and avoiding traffic model re-work, the project can proceed to statutory approvals, funding application, and construction without avoidable delay. This enables earlier project completion and housing supply, directly supporting broader public objectives on timely housing provision.
- 3.3.2 Continued use of the established model also facilitates the timely implementation of the junction improvement and road modification works identified in the TIA, bringing forward tangible operational and road safety benefits for all road users within the surrounding road network.

4 Conclusion

- 4.1.1 In conclusion, continued use of the current model for the Proposed Development is technically justified and appropriate. The model provides a conservative assessment basis in terms of base-year traffic conditions, planning data inputs, and road network assumptions, while maintaining consistency with the established assessment framework.
- 4.1.2 Retaining the current model also delivers clear benefits in terms of programme certainty, cross-disciplinary efficiency, and public interest outcomes, without compromising the robustness or reliability of the traffic assessment.