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CEDD Civil Engineering and Development Department

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6/F, South Tower
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11 Hoi Ting Road, Kowloon, Hong Kong

By Hand

28 October 2026

Secretariat
Town Planning Board
15/F, North Point Government Offices (NPGO),
333 Java Road, North Point, Hong Kong

RECEIVED
29 OCT 2026
Town Planning Board

Dear Sirs / Madams,

Section 16 Planning Application No. A/TY/154
Proposed Underground Quarrying-cum-Cavern Development with Ancillary Operations at Tsing Yi North

Submission of Further Information

I refer to our subject planning application made on 8 September 2026 and comments received from relevant government departments and the public.

Please find enclosed four copies of the table of response-to-comments with the following further information:-

(a) Planning Study Report and revised figures;
(b) Traffic and Transport Impact Assessment Report (full document);
(c) Marine Traffic Impact Assessment Report (the revised page only); and
(d) Landscape Assessment (revised pages only).

Should you require any further information, please contact Mr. H P LO (tel: 3842 7235 and email: hplo@cedd.gov.hk) or Mr. Isaac LO (tel: 3842 7228 and email: isaaclo@cedd.gov.hk).

Yours faithfully,

(Keness K L WONG)
Chief Geotechnical Engineer/Mines
Geotechnical Engineering Office
Civil Engineering and Development Department

c.c. Town Planner/KT1, TW&WKDPO, PlanD (Attn: Mr. Cecil CHOW) Fax: 2412 5435 – w/o
AECOM (Attn: Mr. Jonathan Yan) Fax: 3922 9797 – w/o

KKLW/HPL/IL/jl

Agreement No. CE 79/2023 (GE)
Underground Quarrying at Tsing Yi North – Investigation, Design and Construction
S.16 Planning Application No. A/TY/154
Responses to Comments from Government Departments

No.	Comments Received	Date Received	Reference
1.	Comments from the Port Works Division, Civil Engineering and Development Department Contact Person: Miss Rosita SO/ 2762 5531	21 September 2026	NA by Email
2.	Comments from Railway Development Division 1-1, Railway Development Office, HyD Contact person: Ms. Kristin Lai/ 3525 1930	21 September 2026	NA by Email
3.	Comments from Transport Department (TD) Contact person: Mr. CHIAO Ying Kit/ 2399 2496	23 September 2026	NA by Email
4.	Comments from Environmental Protection Department (EPD) Contact person: Ms. Tiffany CHEUNG/ 2835 1836	24 September 2026	NA by Email
5.	Comments from FSD Contact person: Mr. LAM Ho / 2733 7758	29 September 2026	NA by Email
6.	Comments from Kwai Tsing District Office, Home Affairs Department Contact person: Mr. Percy LIU/ 2494 4577	29 September 2026	NA by Email
7.	Comments from Planning Department Contact person: Mr. Cecil CHOW/ 2417 6657	9 October 2026	NA by Email
8.	Comments from Marine Department Contact person: Mr. KT Poon/ 2852 4453	2 October 2026	NA by Email

Agreement No. CE 79/2023 (GE)
Underground Quarrying at Tsing Yi North – Investigation, Design and Construction
S.16 Planning Application No. A/TY/154

No.	Comments	Responses
1.	**From : Comments from the Port Works Division, Civil Engineering and Development Department** **Contact Person: Miss Rosita SO/ 2762 5531)** **Date : 21 September 2026** **Ref : NA by Email**	
1.1	1. The concerned area fall within 30 metres behind the copeline of existing seawall, the project shall note the promulgation of Port Works Design Manual (PWDM) Part 1, Paragraph 2.11 and Appendix E on the Shoreline Management Guideline (SMG) for Coastal Development. All works, layouts, structures, and building management plans along the shoreline shall comply fully with the risk-based planning and design principles outlined in the SMG. 2. The project shall adopt a Progressive Adaptive Approach and implement an integrated strategy of "Adaptation, Resilience, and Management" (ARM) to establish multi-layered protection against extreme weather conditions 3. The applicant should review whether any facilities are proposed in his/her project within 30 metres of, and behind, the copeline of the existing seawall. If any are proposed, a comprehensive coastal risk assessment shall be carried out by a qualified professional in accordance with PWDM Part 1 Appendix E. The assessment shall evaluate factors including, but not limited to, extreme sea levels, storm surges, wave actions, and overtopping risks under future climate change scenarios. CEDD's agreement on the assessment shall be obtained prior to the finalisation of detailed structural designs/building plans.	The underground quarry under the TYNUQ development is located at about 85m away from the shoreline, while some ancillary and site facilities are proposed at the Ngau Kok Wan and Wok Tai Wan to support the development. In particular, Wok Tai Wan will be primarily used for stockpiling, and there will be no structures or buildings to be constructed. Those facilities are located behind 10m away from an existing seawall copeline. Findings of the Study on Shoreline Management Plan (SMP) indicate that the project site and works area are not located within the 11 coastal areas identified as requiring priority coastal improvement measures under the mid-century planning horizon. The site is not located within or close to the 26 coastal low-lying or windy residential areas where are facing coastal risks as experienced from the past typhoon events identified by the Coastal Hazard Study. The proposed facilities at Ngau Kok Wan and Wok Tai Wan will be dismantled upon completion of the quarrying. The operational period of those facilities shall expire well before the end-of-century climate change scenarios considered in the SMG. In addition, the nature of those facilities is similar to the existing operational uses by Drainage Services Department (DSD)'s Relocation of Sha Tin Sewage Treatment Works to

No.	Comments	Responses
		Caverns project, where no coastal flooding incidents have been reported since commencement of construction. Besides, the site is situated on existing sloping ground at approximately +5 mPD behind the seawall. Site formation works, where necessary, shall be carried out such that the general ground level within 30m behind the seawall copeline is approximately +5mPD or above. Owing to the elevated site levels and prevailing site topography, any surface water arising from extreme weather would be conveyed by the natural site gradient and existing drainage system. As mentioned above, no structures or buildings are proposed at Wok Tai Wan, which will primarily be used for stockpiling. The proposed land use at Wok Tai Wan is considered less vulnerable to temporary inundation arising from extreme weather events. In view of the existing shoreline protection, elevated site levels, the nature of proposed land use, and the absence of identified priority coastal hazard concerns at this location, the coastal risk is considered to be low.
2.	**From : Comments from Railway Development Division 1-1, Railway Development Office, HyD** **Contact person: Ms. Kristin Lai/ 3525 1930** **Date : 21 September 2026** **Ref : NA by Email**	
2.1	1. The proposed works falls within / in close proximity to the railway protection boundary of existing Airport Express Line and Tung Chung Line. As the operation of existing railways is not under the jurisdiction of this office, we have no comments on the proposed works from railway development point of view.	Noted.
2.2	2. With reference to DEVB TC(W) No. 1/2019 and/or Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP) APP-24, please consult MTR Corporation Limited (MTRCL) with	Noted. MTRCL was consulted separately.

No.	Comments	Responses
	respect to the operation, maintenance, safety and any future works required for the existing railways.	
3.	**From : Comments from Transport Department (TD)** **Contact person: Mr. CHIAO Ying Kit/ 2399 2496** **Date : 23 September 2026** **Ref : NA by Email**	
3.1	**General comments** (a) The Consultants are requested to incorporate their responses to comments into the main text of the TTIA report coherently to enrich its content instead of merely providing responses on a piecemeal basis. The Consultants' failure to do so will only result in our repeating the same comments.	Noted.
3.2	**Specific Comments** (b) Please indicate clearly the provision of the parking and loading/unloading spaces (mentioned in Table 3.8) and delineate the above facilities in Figure 5.2 which should be included as part of the TTIA report.	Figure 5.2 under the planning statement is revised. The same figure is added in the TTIA as Figure 3.13. Section 3.8.2 of the TTIA is revised accordingly.
3.3	(c) The egress route to Nam Wan Tunnel appears to be missing from Figures 3.8 and 3.12 of the TTIA report. Please rectify the situation.	Please be clarified that the egress route to Cheung Tsing Tunnel could not be connected to Nam Wan Tunnel. As such, the outbound traffic could only egress via Cheung Tsing Tunnel under this egress route. The routing shown in Figures 3.8 and 3.12 is consistent with Table 3.3 (Route A4) and Table 3.5 (Route B4) of the TTIA report.
3.4	(d) In Section 3.3 of the TTIA report, please specify the hourly maximum production capacity and daily operating hours of concrete batching facilities and asphalt production facilities in the report. Such information should correspond to the amount of traffic in peak hour trip generation and attraction. Please also advise whether there is any delivery of raw materials, concrete, asphalt or other materials via marine vessels. If yes, please state this in the TTIA Report as the delivery of such materials by vessels will help reduce the vehicular traffic burden on the road.	Noted. The information is provided in the remark of Table 3.2 and supplemented in Section 3.3.2.
3.5	(e) In Table 3.2 Please advise whether the amount of traffic in trip generation and attraction arising from the delivery of raw materials, ingredients and other materials for	As supplemented in Section 3.3.2, please be clarified that the assessment has already taken into account that the majority of raw materials for concrete

No.	Comments	Responses
	supporting the quarrying operations, concrete batching facilities and asphalt production facilities, etc. has been taken into account. If not, please include the above amount of traffic and re-assess the performance of the road network.	/ asphalt production would be delivered to the site by barge.
3.6	(f) The applicant's contractor should be required to submit a detailed Traffic Management Plan and traffic control proposals (in line with the assumptions on trip generation and attraction stipulated in the TTIA report) during construction/operation phases for TD's review and approval prior to the commencement of the works. The Traffic Management Plan should also contain traffic control proposals for operation procedures, real-time positioning, site traffic queues and junction restriction measures. These requirements should be regarded as the approval conditions for the subject planning application.	Noted. The corresponding requirements are already included in TTIA Sections 3.5 to 3.7.
4.	**From : Comments from EPD** **Contact person: Ms. Tiffany CHEUNG/ 2835 1836** **Date : 24 September 2026** **Ref : NA by Email**	
	Please be informed that Environmental Protection Department's (EPD) comments on the remaining aspects of the Preliminary Environmental Review (PER) will be issued under separate cover.	
4.1	1. The applicant / CEDD confirmed that there is no update in the air quality impact assessment as contained in the PER which remains identical to the pre-submission circulated to us on 28.7.2026. However, we noted that there are discrepancies illustrated below between the pre-submission submitted in July and the current version (Sep 2026).	Please refer to our responses 4.2 and 4.3 below.
4.2	2. Section 4.7.18 and 4.7.19, Table 4.25 (i) In the July submission, barium was selected as a representative pollutant for the hourly assessment, and no exceedances were predicted. In the September submission, nickel was selected instead, and exceedances were predicted at 1.5 and 5.0 mAG.	After clarifying with the Department of Health in August 2026 during the pre-submission, the typo in the hourly concentration limits for heavy metals as 0.53 from HPCL should be for Beryllium (Be) instead of Barium (Ba). Following this update, cumulative hourly Nickel concentration is presented instead of cumulative hourly Beryllium concentration as the result-to-standard ratio indicates the cumulative hourly Nickel concentration is higher than Beryllium.
4.3	(ii) In the July submission, exceedances of the annual nickel criterion were predicted at 10 mAG. In the September submission, exceedances were	Please be clarified that exceedance of the annual Nickel criterion at 15mAG is only predicted adjacent to the

No.	Comments	Responses
	predicted at both 10 and 15 mAG.	Project site but not within the Project site (See Figure 4.55).
4.4	3. Please clarify these discrepancies and submit any updated calculation spreadsheets and modelling files for checking.	No changes were made to the calculation spreadsheet and the modelling files. The previous files are still valid.
4.5	4. We will provide other comments, if any on the PER once available.	Noted.
5.	**From : Comments from FSD** **Contact person: Mr. LAM Ho/2733 7758** **Date : 29 September 2026** **Ref : NA by Email**	
5.1	1. Please be informed that we have no specific comments on the application subject to water supplies for firefighting being provided to the satisfaction of the Director of Fire Services and the relevant requirements of Highways Department and Water Supplies Department for the provision of fire mains and hydrants shall be complied with.	Water supply for fire-fighting has been considered in the Waterworks Impact Assessment which Water Supplies Department has been consulted. HyD has no comment on provision of fire mains and hydrants from highways maintenance perspective.
5.2	2. Detailed fire safety requirements will be formulated upon referral from relevant department/authority.	The proposed development is a public works construction site managed by CEDD on a government land. FSD Circular Letter No. 2/2008 - Fire Protection measures in Construction Sites will be followed.
5.3	3. Furthermore, the provision of emergency vehicular access in the subject work shall comply with the requirements as stipulated in Section 6, Part D of the Code of Practice for Fire Safety in Buildings 2011.	
5.4	4. In case the proposed tunnels involves the tunnel boring method using Tunnel Boring Machine (TBM), we may have to formulate additional fire safety requirements and/or setting up a dedicated emergency pressurized team (EPT) for the works. In general, a lead time of about one year is required to set up sufficient EPT members."	Please be clarified that TBM would not be adopted for the proposed development.
5.5	5. Below please find our proposed approval condition for subject application: • The design and provision of fire service installations and water supplies for firefighting to the satisfaction of the Director of Fire Services or of the Town Planning Board.	Noted.

No.	Comments	Responses
6.	**From : Comments from Kwai Tsing District Office, Home Affairs Department** **Contact person: Mr. Percy LIU/2494 4577** **Date : 29 September 2026** **Ref : NA by Email**	
6.1	1. It is noted that the proposed development was discussed at the District Facilities and Works Committee in April 2026 and a local consultation regarding an allocation of government land near Wok Tai Wan, Tsing Yi, as a works area from DLO/TW&KT to CEDD for the proposed development was conducted by this office in February 2026. CEDD has addressed the comments raised by the sub committee members and the objection received from a consultee of the local consultation in May 2026.	Noted.
6.2	2. We defer to relevant B/Ds for comments on technical aspects and it is trusted that the planning application will follow the requirements for public inspection under the Town Planning Ordinance (Cap. 131) and/or other guidelines set by PlanD, including consultation with the local community.	Noted.
6.3	3. In addition, please find our comments regarding the potential interface issues between the proposed development and the existing Tsing Yi Lantau Link Viewing Platform and Visitors Centre (LLVP and LLVC) as follows: Having regard to the LLVP and LLVC's proximity to ongoing quarrying and cavern operations, comprehensive environmental and traffic mitigation measures should be implemented. This is to ensure that both the daily operations of the LLVP and LLVC and the visitor experiences at the panoramic viewing platform remain undisrupted throughout the project's construction and development period. For the environmental mitigation, proactive measures are required to suppress dust and noise in the vicinity of the viewing platform. For example, the erection of temporary noise barriers to minimise noise impact and enforcing regular water spraying schedules across the construction site. For the traffic mitigation, appropriate traffic management measures must be deployed to prevent traffic congestion. This is particularly important given that the North West Tsing Yi Interchange serves as the main gateway to both the LLVP and LLVC and the neighbouring quarrying operations.	Noted. Relevant environmental and traffic mitigation measures will be implemented throughout the quarry operation. Also, according to photomontage viewing from the LLVP, the proposed development is carefully considered not to create significant visual blockage and to reduce adverse visual impact on the surrounding, the visual impact from this Viewing Point is negligible.

No.	Comments	Responses
7.	**From : Planning Department** **Contact person: Mr. Cecil CHOW/ 2417 6657** **Date : 9 October 2026** **Ref : NA by Email**	
7.1	General 1. The applicant should advise how mitigation measures from the technical assessments submitted within the current section 16 planning application be controlled/secured throughout the construction and operation phases. In particular, EPD advised the proposed development does not constitute a Designated Project under the Environmental Impact Assessment Ordinance. The applicant should advise what mechanism can all the environmental mitigation measures/implementation details as pledged under the current application be controlled/secured throughout the construction and operation phases. 2. Regarding concerns on the external appearance of Government projects, please provide reference drawings and/or elaboration on the extant safeguards to ensure compatible external appearance.	All mitigation measures identified in technical assessments submitted under the current s.16 planning application will be included as conditions in the tender for the proposed development. For the environmental mitigation measures, the Contractor shall propose the implementation details to CEDD for agreement. Where necessary, CEDD will also seek advice from EPD. Please refer to attached replacement Figures 5.5 to 5.8 in Planning Study Report. To address possible concerns about façade treatment of ancillary facilities, administrative control mechanisms in accordance with ETWB TC(W) No. 8/2005 on Aesthetic Design of Ancillary Buildings in Engineering Projects are in place to govern the aesthetic aspects (including façade treatment) of the proposed ancillary facilities.
7.2	Use of the site 2. It is expected that some "secondary" materials (such as cement and bitumen) will be transported to the Site for production together with the quarry aggregates. In this regard, please confirm that the ancillary operations will invariably use the quarried aggregates from the Site.	It is expected that all rock excavated from the underground quarry will be processed through the ancillary operations within the Site. The primary purpose of the rock processing, concrete batching and asphalt production are to support the underground quarry-cum cavern development and the beneficial use of quarry-produced aggregates. The proposed development may also receive surplus rock arising from local construction projects for processing and recycling subject to the capacity of the proposed development. This is consistent with the established role of quarries in Hong Kong as stated in CEDD Information Note 30/2025.

No.	Comments	Responses
	3. Please advise on the estimated volume and percentage of these external aggregates to be imported and processed at the Site.	The estimated volume or percentage of imported surplus rock cannot be provided. The future receipt of surplus rock will be subject to market conditions, the programme of construction projects, the availability of suitable surplus rock, and commercial arrangements to be determined by the future contractor. Any indicative volume or percentage quoted at this stage may not be representative and could be misconstrued as an anticipated operational target or commitment for the future tenderers.
7.3	Information to supplement 4. As the majority of the Site falls within the "Green Belt" zone (about 78.2%), please provide detailed planning justifications to demonstrate that the application complies with the assessment criteria of the Town Planning Board Guidelines for 'Application for Development within Green Belt Zone under Section 16 of the Town Planning Ordinance' (TPB PG-No. 10). (Reference link: https://www.tpb.gov.hk/en/forms/Guidelines/pg10_e.pdf	Although the majority of the Site falls within an area zoned "Green Belt" ("GB"), the proposed development complies with the relevant assessment criteria set out in TPB PG-No. 10. The planning intention of the "GB" zone is primarily to promote the conservation of the natural environment, safeguard it from urban-type developments and serve as a buffer between urban areas. The proposed underground quarry-cum-cavern development is predominantly located below ground level with minimal disturbance to the existing landscapes of the surface lands. As such, the overall planning intention of the "GB" zone would not be materially undermined. With the adoption of avoidance-first design approach, the site formation footprint will be minimised as far as practicable and confined to the functional minimum necessary to facilitate the underground development. The majority of the existing natural terrain and vegetated hillside would remain in place, thereby preserving the overall character and function of the surrounding "GB" area. Furthermore, one of the planning intentions of the "GB" zone is to serve as a buffer between different land uses and urban areas. As described in Section 3.3 of the Planning Study

No.	Comments	Responses
		Report, substantial areas of unaffected "GB" land would remain between the Site and the nearest residential clusters. Together with the existing areas zoned "Other Specified Uses" ("OU") annotated "Cement Plant" ("OU(Cement Plant)") and "OU" annotated "Boatyard and Marine-Oriented Industrial Uses" ("OU(BMIU)"), these areas would continue to provide physical separation and buffering between the proposed development and nearby residential clusters. The buffering function of the "GB" zone would therefore be generally maintained. Comprehensive technical assessments undertaken in support of the application have demonstrated that, with the implementation of appropriate mitigation measures, the proposed development would not result in unacceptable ecological, landscape and visual, environmental, drainage, traffic, sewerage, waterworks or geotechnical impacts. In particular, the predominantly underground nature of the development would avoid significant encroachment into the existing natural landscape, while the proposed mitigation measures would ensure that any localised impacts associated with the required surface works are appropriately addressed.
7.4	5. The applicant should clarify whether site decontamination will be carried out when the contract expires in section 8.7 of the Preliminary Environmental Review.	Section 8.7 of the Preliminary Environmental Review refers to the potential decontamination works required before commencement of the underground quarrying. This assessment and decontamination, if required, will be carried out by the Contractor upon works commencement based on the detailed design. Regarding any decontamination works required when the underground quarry expires, this will typically be included in the engineering conditions of the land allocation. Section 6.4.3 of Planning Study Report is updated accordingly.

No.	Comments	Responses
7.5	6. As stated in section 1.5 of the Landscape Assessment, approximately 765 trees will be felled within the Site, with compensatory planting proposed both on-site and off-site. Please state clearly the proposed number of compensatory trees and the respective compensation ratios both on-site and off-site.	To mitigate landscape impacts, planting of 315 new trees is proposed, including no fewer than 75 light standard trees for off-site tree compensation, and approximately 240 seedling trees for woodland shrub mix at the Ngau Kok Wan and Tam Kon Shan Portals. Due to the site constraints (e.g. the portal slopes exceed 30 degrees in gradient), the compensation ratio is over 1:0.4. Apart from trees, shrubs and climbers mix with an approx. quantity of 567 will also be provided.
7.6	7. With reference to Table 5 (Summary of Trees Proposed to be Removed by the Proposed Works Area), it is noted that the proposed felling of 56 existing trees at the Wok Tai Wan Works Area will be subject to the Contractor's design proposal for constructing the Conveyor Belt System. The applicant is requested to clarify whether the Conveyor Belt System will be removed upon completion of the Underground Quarrying-cum-Cavern Development with Ancillary Operations, and whether reinstated planting or compensatory tree planting will be provided on-site afterwards.	The Conveyor Belt System is a temporary installation and will be removed upon completion of Underground Quarrying-cum-Cavern Development with Ancillary Operations. Due to the steep slope gradients at Wok Tai Wan Works Area, with a significant proportion falling within approximately 35° to 45°, woodland shrub mix will be compensated on-site following the demolition of the conveyor belt system.
8.	**From : Marine Department** **Contact person: Mr. KT Poon/ 2852 4453** **Date : 2 October 2026** **Ref : NA by Email**	
8.1	The submission of a revised or supplementary Marine Traffic Impact Assessment, where necessary, in the event of any changes to the approved development which may affect the findings or recommendations of the submitted Marine Traffic Impact Assessment, to the satisfaction of the Director of Marine or of the Town Planning Board.	Noted. In the event of any changes to the approved development which may affect the findings or recommendations of the Marine Traffic Impact Assessment, a revised or supplementary Marine Traffic Impact Assessment will be carried out by the Contractor upon works commencement based on the detailed design. Section 6.3.5 of the Planning Study Report is supplemented.

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S.16 Planning Application No. A/TY/154 Public Comments

No.	Commenter	Summary of Major Grounds	Responses
1	Kowloon Shipyard Company Limited (九龍船廠有限公司)	● Concerns on the traffic capacity of Tam Kon Shan Road (TKSR) ● Severe traffic congestion will hinder the upgrading of existing shipyards to support Yacht Economy and infrastructure development such as Tsing Lung Bridge	● A Traffic and Transport Impact Assessment (TTIA) has been conducted for the proposed development and no further comment is received from Transport Department (TD). ● As stated in the TTIA report, one of site accesses would be located at the unnamed access road at North West Tsing Yi Interchange (NWTYI), while another site access would be located at the off-slip of Tsing Yi North Coastal Road (West Bound) (TYNCR WB), which is **to the south of the existing roundabout at the western end of TKSR**. ● Before the commissioning of the tunnel between Tam Kon Shan Road (TKSR) portal and Ngua Kok Wan (NKW), operational traffic would use the unnamed access road at NWTYI for **both ingress and egress**. ● Upon the implementation of the tunnel between TKSR portal and NKW, operational traffic would use the off-slip of Tsing Yi North Coastal Road (West Bound) for **ingress only**. ● Therefore, the proposed access arrangement could demonstrate that operational traffic generated by the application site (the Site) **will not traverse TKSR and the adjacent roundabout at its western end**, thereby preventing further deterioration in traffic conditions on TKSR. ● During the construction phase of the tunnel to the TKSR portal (i.e. before completion of the tunnel between the TKSR portal and NKW), the corresponding construction vehicle would inevitably travel to TKSR East Bound to leave the Site from the site access at off-slip of TYNCR WB. Nevertheless, it is considered that the traffic impact induced

No.	Commenter	Summary of Major Grounds	Responses
			by the construction traffic at the concerned road and associated junction is insignificant given that the V/C ratio and RC remain almost unchanged, showing only a negligible difference compared to the reference case scenario. ● It is concluded from the TTIA report that the effect by the proposed development on the critical roads is minimal and all other study junctions and roads have sufficient capacity during both the operation and construction phases of the proposed development. The traffic impact is considered insignificant. In this regard, the proposed development is acceptable from a traffic perspective.
2	Yiu Lian Dockyards Limited (友聯船廠有限公司)	● Concerns on the traffic capacity of major trunk roads like Tsing Yi North Coastal Road and nearby interchanges	● A TTIA has been conducted for the proposed development and no further comment is received from Transport Department (TD). ● It is concluded from the TTIA report that the effect by the proposed development on the critical roads is minimal and all other study junctions and roads have sufficient capacity during both the operation and construction phases of the proposed development. The traffic impact is considered insignificant. In this regard, the proposed development is acceptable from a traffic perspective.
		● Recommends appropriate route planning for heavy vehicles and continuous communication between the future operator and other industrial operators to minimise traffic impacts.	● As stated in the TTIA report, to mitigate further deterioration of traffic conditions at Tam Kon Shan Interchange and Tsuen Tsing Interchange, the site traffic would be prohibited from traveling through Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks (i.e. 07:00 to 09:30 and 17:00 to 19:00). ● Communication with stakeholders will be maintained during both construction and operation phases.

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No.	Commenter	Summary of Major Grounds	Responses
3	Hongkong United Dockyards Limited (香港聯合船塢集團有限公司)	● Concerns on the interface issue between Wok Tai Wan and the proposed residential development under Application No. Y/TY/2	● It is noted that the S12A Planning Application (No. Y/TY/2) is on-going and yet to be considered by the Metro Planning Committee. ● Given the uncertainty over its implementation feasibility and programme, it is considered premature to include the proposed development under Y/TY/2 as a concurrent project in this assessment.
		● The approval of this application should not affect, prejudice or predetermine the long-term planning intentions of the Site	● The underground quarrying is an interim process to create underground space and can be regarded as temporary in nature. Upon completion of the underground quarrying works, the surface land as well as the newly created cavern space for long-term gainful uses (which will be subject to a separate land use study in the future). Therefore, the proposed use will not prejudice the long-term planning intention of the Site.
4	Joint submission of: Hong Kong Cement Manufacturing Company Limited (香港水泥有限公司); Hong Kong Concrete Company Limited (港九混凝土有限公司); Quon Hing Concrete Company Limited (港興混凝土有限公司);	● Counter proposed underground quarrying and asphalt plant with suggested approval conditions.	The suggestions have been considered in relevant technical assessments which will be incorporated in the contract specifications.
		● Request to exclude 'Concrete Batching Plant' from the application due to the following reasons:	Concrete production is an essential ancillary activity, providing both financial and technical supports for the proposed development. As such, concrete production cannot be excluded from the application. Nevertheless, the actual operation programme and capacity of concrete production shall be the operational planning of the future operator to match market demands under the Government's supervision.
		➢ misclassification (i.e. using imported raw materials as a "Government Use" or "ancillary operation of	With reference to the Definition of Terms (DoT) adopted by the Town Planning Board, 'Government Use' means any place, structure or premises used directly in connection with or in support of Government administration, or the provision of Government services and facilities for use by and for the benefit of the

No.	Commenter	Summary of Major Grounds	Responses
	Quon Chun Infrastructure Management Company Limited (港晉基建管理有限公司); and Hong Kong Cement Company Limited	underground quarrying" is inappropriate);	public. It is considered that the proposed development meets the DoT with the following justifications: - • the proposed development, including the underground quarrying-cum cavern development and its ancillary operations, is directly administered and managed by CEDD, and serves to create cavern space for long-term gainful uses (which will be subject to a separate land use study in the future); • the Site will be handed over to the Government within the period specified in the contract prepared, administered and managed by CEDD; • it is expected that all rock excavated from the underground quarry will be processed through the ancillary operations within the Site; • concrete production is an essential ancillary activity, providing both financial and technical supports for the proposed development; • the proposed development can also bring environmental and public benefits by using not only the rock extracted from the proposed development but also recycling the surplus rocks excavated from other local construction sites, particularly the Government construction sites subject to the capacity of the proposed development, thereby relieving the burden of the public fill banks and landfill sites through beneficial reuse of the excavated rocks; and • on-site reuse of the recycled excavated rocks for concrete production under the proposed development can reduce the unnecessary transportation and bring environmental and carbon reduction benefits to the public.

No.	Commenter	Summary of Major Grounds	Responses
		➢ lack of supporting aggregate test data and supply-demand analysis; and	Aggregate test data: • Laboratory test indicates the rock extracted from the proposed development shall be alkali reactive. Alkali reactive rocks could be adopted for concrete production with appropriate preventive measures. There are international and local experiences to adopt reactive rock for concrete production. • The concrete production capacity specified in the Planning Study Report is the allowed capacity based on the various technical assessments. It is expected that all rock excavated from the underground quarry will be processed through the ancillary operations within the Site. Rock/Aggregates from other local construction sites may also be imported for concrete production, particularly the Government construction sites subject to the capacity of the proposed development. The actual operation capacity of concrete production shall be the commercial consideration of future contractor and governed by the permitted environmental ceiling under the contract. Supply-demand analysis: CEDD's study on the demand and supply of concrete in Hong Kong conducted in 2025 reflects that the overall demand for concrete in the coming ten years from 2025 will broadly be maintained at around 8 to 9.5 million cubic metres per annum, while the total concrete production capacity will be maintained at around 11 to 12 million cubic metres per annum. Additional concrete production capacity could provide buffer for meeting the seasonal demand and cope with the situation of temporarily shut down of CBPs in whole or partly for maintenance. While one existing CBP has already closed and some others are

No.	Commenter	Summary of Major Grounds	Responses
			expected to close over the next few years due to the land resumption for the Northern Metropolis (NM) development, the establishment of new CBPs nearby could help meet the anticipated growth in concrete demand arising from the NM development. To this end, the concrete supply for the proposed concrete production under the proposed development has been taken into account in the above supply and demand review.
		➢ insufficient impact assessments on geotechnical, marine traffic, traffic, and environmental aspects.	*Geotechnical Assessment (GA):* Based on the preliminary blasting assessment enclosed in the GA, the concerned silos, production lines, and piers on the adjoining lot do not fall within the blasting influence zone. Therefore, they are not considered as the blasting sensitive receivers. During the construction stage, the contractor will be required to submit the Contractor's Blasting Assessment Report and obtain a Blasting Permission from the Commissioner of Mines (CoM) prior to the commencement of blasting works. *Marine Traffic Impact Assessment:* A Marine Traffic Impact Assessment (MTIA) has been conducted for the proposed development and no further comment is received from Marine Department (MD). Please be clarified that under Section 5 of the Marine Traffic Impact Assessment (MTIA), the study area and model area both covered the adjacent areas for the marine traffic risk assessment. As concluded from the MTIA, it is anticipated that the proposed development, with the proposed risk control measures during the construction phase and operation phase, will not pose significant hazards to existing and future marine traffic. *Traffic and Transport Impact Assessment:*

No.	Commenter	Summary of Major Grounds	Responses
			A TTIA has been conducted for the proposed development and no further comment is received from the TD. Please also refer to the response to comments from Kowloon Shipyard Company Limited above. *Preliminary Environmental Review:* Environmental Protection Department has reviewed the Preliminary Environmental Review Report of the proposed development and no further comment is received. It demonstrates that the project is environmentally acceptable with the implementation of mitigation measures.
		● A fresh s.16 planning application is required for the proposed "Concrete Batching Plant" use at the Site.	Please refer to our response to the first comment above. As the concrete production forms an intrinsic and ancillary component of the overall project, processing it under a single and comprehensive s.16 application submission is appropriate.
		● Appeal to CEDD to release the concrete demand in 10 years; consultation with the Hong Kong Construction Material Association (HKCMA) Limited, liaison with neighbouring operators regarding drill and blasting intensity and schedule with instantaneous notification; claim for damages and compensatory mechanism.	The findings of CEDD's study have been presented to Legislative Council in May 2025 under LC Paper No. CB(1)813/2025(01). DEVB and CEDD also held two meetings with HKCMA in February and May 2025 to present the findings and seek HKCMA's views on concrete supply and demand. We will continue to keep discussion with HKCMA reflecting valuable views from industry stakeholders. In the contract for this proposed development, the operator will be required to monitor any blasting effects using methods agreed with CEDD. The operator will also make the blasting schedule publicly available. In addition, the contract will require the operator to buy insurance that covers legal

No.	Commenter	Summary of Major Grounds	Responses
			liability if site work accidentally causes injury, death, or damage to someone else's property.
5	Mary Mulvihill	● The location is effectively a "Gateway" to Hong Kong. Hundreds of thousands of visitors will form an impression of the territory as they come across the Tsing Ma Bridge. Any impact on the tourist experience should be carefully assessed.	● The design and layout of the proposed development have carefully considered the surrounding contexts and key public viewers. Sensitive design measures (including sensitive and aesthetically pleasing design, buffer screen planting, landscape treatments on slope or retaining structure, and compensatory planting) have been introduced to minimize adverse visual impacts arising from the proposed development. The Visual Impact Assessment reveals the proposed development would unlikely induce significant visual impact with the implementation of the mitigation measures.
		● 765 trees to be felled but a mere 75 to be reinstated upon completion of the works. This indicates a very significant negative impact.	● The Applicant supplements that out of the 765 trees proposed to be removed, more than half of them could be retained, subject to the Contractor's detailed construction proposal (i.e. at the Ngau Kok Wan Portion and Wok Tai Wan Portion), meaning the actual number of trees felled may be reduced during the construction stage. To mitigate landscape impacts, planting of 315 new trees is proposed, including no fewer than 75 light standard trees for off-site tree compensation, and approximately 240 seedling trees for woodland shrub mix at the Ngau Kok Wan and Tam Kon Shan portals. Apart from trees, shrubs and climbers mix with an approx. quantity of 567 will also be provided. ● Together with the proposed mitigation measures, the residual landscape impacts identified in the Landscape Assessment are assessed as ranging from moderate to negligible.

No.	Commenter	Summary of Major Grounds	Responses
		Again Pressure is being placed on Town Planning Board Members to consider that: **Creation of Revenue Source for the Government** The proposed development offers a new revenue stream for the Government, as it will be implemented under a revenue-generating contact. In alignment with the Government's latest initiative to identify new sources of income, this proposed development presents a viable opportunity to support this direction. ● This ensures that the revenue gain takes precedence over negative impacts on the community.	● All potential impacts (including traffic, geotechnical, environmental, and landscape) have been fully assessed that the project will not cause any insurmountable impacts on the community and will fully comply with all relevant statutory requirements in the Planning Application. In addition, the proposed development will generate revenue to the Government and create an underground space for future development.
		● There is no mention of how this development would interface with the Cheung Kong plans for the other side of the bridge, Y/TY/2.	● Refer to Response to Comment on Hong Kong United Dockyards Limited above.

THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Planning Study Report

Application for Planning Permission Under Section 16 of Town Planning Ordinance for Underground Quarrying at Tsing Yi North

October 2026

Applicant:
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EXECUTIVE SUMMARY

1.1 This Section 16 Planning Application is submitted by the Civil Engineering and Development Department (CEDD) (the Applicant) to seek permission from the Town Planning Board (the TPB) for the implementation of the proposed Tsing Yi North Underground Quarry (TYNUQ) at Ngau Kok Wan, Wok Tai Wan, southwest of Tam Kon Shan Road, and at caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island (Application Site) in the Strategic Cavern Area (SCVA) No. 10 – Tsing Yi North of the Cavern Master Plan (CMP).

1.2 Hong Kong's construction industry has long relied on rock, primarily as aggregates in concrete, for buildings and infrastructure. While local quarries have historically played a strategic role in supplying these materials, the evolving needs of the city now call for a broader vision.

1.3 In 2019, the CEDD and PlanD jointly commissioned the Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study ("Pilot Study") to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. As concluded under the Executive Summary of the Pilot Study, SCVA No. 10 at Tsing Yi North is proposed to be implemented by an underground quarrying-cum-cavern development approach.

1.4 Shortage of rock import from Chinese Mainland due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, the proposed TYNUQ shall be proceeded timely, along with other quarry-related initiatives to maintain local rock supply.

1.5 As advocated in the 2025 Policy Address, the innovative "Underground quarry-cum-cavern development" model under this proposed development aims to enhance long-term land supply more efficiently while providing a sustainable local source of rock materials. Under this approach, excavated materials from the underground quarry will be reused as aggregates for the construction industry, directly supporting Hong Kong's economic growth and resource sustainability, while the formation of underground cavern spaces presents a unique opportunity to address land supply challenges.

1.6 The Application Site falls within areas zoned "GB", "OU(RTRU)", "OU(BMIU)" and an area shown as "Road" on the approved Tsing Yi Outline Zoning Plan ("the OZP") No. S/TY/32, while a small portion of land without OZP covered. Given that the proposed development is directly administered and managed by CEDD, and serves to create underground space for the Government, it is regarded as "Government Use" which is a Column 2 use under the above zones, and planning permission from the TPB under section 16 of the Town Planning Ordinance is required.

1.7 The proposed development will include underground quarry operation by formation of connection tunnels and production caverns. Surface ancillary activities will be carried out concurrently at Ngau Kok Wan and Wok Tai Wan to support quarry operation, including stockpiling, rock processing, concrete production and asphalt production, etc. Since Ngau Kok Wan and Wok Tai Wan fall within "OU(RTRU)", the concerned area for ancillary activities is subject to a maximum plot ratio of 0.4 and a building height restriction of +40mPD.

1.8 The proposed development under this application is considered in line with the policy directive as an innovative means of enhancing land supply. The proposed development also offers a new revenue stream for the Government as it will be implemented under a revenue-generating contract, which aligns with the Government's latest initiative to identify new sources of income.

1.9 Furthermore, the majority of the proposed development is underground and the ancillary operations will be located on already formed land with height restrictions. They are distant from residential areas and adjoining to the existing area with a similar nature of land use, which is considered compatible with the surrounding development and well-blended in with the surrounding context and green backdrop. Technical assessments have demonstrated that the proposed development would not cause insurmountable impacts on traffic, environmental, landscape and visual impact, drainage and sewerage, waterworks, or be subject to geotechnical impacts.

1.10 In view of the above planning merits, we sincerely seek favourable consideration from the TPB to give its support to this application.

行政摘要

1.1 根據城市規劃條例第 16 條，土木工程拓展署 (下稱「申請人」) 向城市規劃委員會 (下稱「城規會」) 呈交規劃申請 (下稱「申請」)。申請擬議在《岩洞總綱圖》中第 10 號策略性岩洞區青衣北的青衣島西北部的牛角灣、鑊底灣、担桿山路西南面以及石環山西北面的山體內 (下稱「申請地點」) 申請擬議青衣北地下採石場發展。

1.2 長久以來，香港的建築業高度依靠石料 (主要用作混凝土的骨料) 以進行房屋及基礎建設。雖然本地採石場在歷史上於物料供應方面一直扮演著策略性角色，但隨著城市不斷演變的發展需求，如今需要更宏大的願景。

1.3 於 2019 年，土木工程拓展署聯同規劃署共同進行了「策略性岩洞區發展規劃及工程先導研究 - 可行性研究」(下稱「先導研究」)，以協助政府預留土地進行岩洞發展，並促進岩洞發展計畫的落實。根據先導研究行政摘要的結論，第 10 號策略性岩洞區青衣北建議採用「地下採石暨岩洞發展」模式進行開發。

1.4 2020 年初內地採石場因疫情暫時停工，導致內地石料進口短缺，對香港建築業造成了重大影響，進一步突顯了本地採石場在供應鏈中的重要性。為加強應對危機的準備，擬議的青衣北地下採石場應及時推進，並配合其他與採石相關的措施，以穩定本地石料供應。

1.5 如 2025 年《施政報告》所提倡，本擬議發展項目採用的「地下採石暨岩洞發展」創新模式，旨在更有效率地增加長遠土地供應，同時提供可持續的本地石料來源。在此模式下，地下採石所挖掘出的物料將用作建築物料的骨料，直接支持香港的經濟增長及資源可持續性；而形成的地下岩洞空間，亦提供了解決土地供應挑戰的獨特契機。

1.6 申請地點座落於《青衣分區計劃大綱核准圖編號 S/TY/32》(下稱「大綱核准圖」) 的「綠化地帶」、「其他指定用途」註明「康樂及與旅遊業有關的用途」、「其他指定用途」註明「船廠及依靠海運之工業用途」及顯示為「道路」的區域內，亦有小部分土地未有大綱核准圖覆蓋。由於擬議發展項目由土木工程拓展署直接管理，旨在為政府創造地下空間，因此被視為上述分區附表第二欄用途下的「政府用途」，因此須根據城市規劃條例第 16 條向城市規劃委員會申請規劃許可。

1.7 擬議發展項目包括透過建造連接隧道及岩洞進行地下採石，而地面附屬作業將同時於牛角灣及鑊底灣進行以配合採石場營運，一般包括物料存放、石料加工、混凝土生產、瀝青生產等。由於牛角灣及鑊底灣座落於「其他指定用途」註明「康樂及與旅遊業有關的用途」地帶內，相關附屬作業運作區域受最大地積比率 0.4 及建築物高度主水平基準以上 40 米所限制。

1.8 本申請中擬議的發展與政府以創新方法增加土地供應的政策方向一致。此外，由於擬議發展項目將以收入合約方式推展，這能為政府提供新的收入來源，與政府尋求新收入來源的方向相符。

1.9 再者，考慮到擬議發展的主要部分將會於地下進行，而附屬作業將位於現有已設立高度限制的土地上，該等設施遠離住宅區並與具類似土地用途性質的區域相連，因此該項目可與周邊發展相協調，並與周圍環境及綠化背景相融合。同時，各項技術性評估結果均顯示，是次發展計劃將不會對交通、環境、景觀和視覺影響、排水排污及水務等造成負面影響，而擬議的發展亦不會受土力影響。

1.10 基於上述規劃優點及支持理據，懇請城規會委員對支持是項申請作出正面考慮。

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1 Summary of Application

Applicant	:	Civil Engineering and Development Department, Mines Division, the Government of the Hong Kong Special Administrative Region
Consultants	:	AECOM Asia Company Limited
Applied Use	:	Application Site – "Government Use"
Existing Use	:	Application Site – Majority is vegetated slopes, Ngau Kok Wan and Wok Tai Wan are works areas of the Government construction project for stockpile and rock processing
Location	:	Application Site – A Government land located at: (i) Caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island in Strategic Cavern Area (SCVA) No. 10 – Tsing Yi North; (ii) Ngau Kok Wan and southwest of Tam Kon Shan Road; and (iii) Wok Tai Wan
Site Area	:	Application Site – About 393,000m^2 for the construction and operation of Tsing Yi North Underground Quarry (TYNUQ)
Statutory Plan	:	Tsing Yi Outline Zoning Plan No. S/TY/32 gazetted on 18 October 2022
Zoning	:	Application Site – About 307,000m^2 under "Green Belt" zone, 69,000 m^2 under "Other Specified Uses (Recreation and Tourism Related Uses)", 2,150m^2 under "Other Specified Uses (Boatyard and Marine-oriented Industrial Uses)", 14,200m^2 area shown as "Road", 650m^2 area outside OZP
Previous Application(s)	:	Application Site – Nil

2 Introduction

2.1 Purpose of the Application

2.1.1 This application is prepared by AECOM Asia Company Limited on behalf of the Applicant, Civil Engineering and Development Department (CEDD), to seek permission from the Town Planning Board (the TPB) for the implementation of the proposed Underground Quarrying at Tsing Yi North (the proposed development) under Agreement No. CE 79/2023 (GE).

2.1.2 The request for planning permission involved a piece of Government land located at Ngau Kok Wan, Wok Tai Wan, southwest of Tam Kon Shan Road, and at caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island in the Strategic Cavern Area (SCVA) No. 10 – Tsing Yi North. The tunnel portals will be located at Ngau Kok Wan and Tam Kon Shan Road, situated to the north and northeast of Shek Wan, respectively. The Application Site location plan is shown in **Figure 2.1**.

2.2 Structure of the Report

2.2.1 This Report is divided into 9 sections.

Section 1	Summary of Application
Sections 2 and 3	Discussion on the project background, details of the Application Site, including its location, existing and surrounding land uses, accessibility, land status
Section 4	Discussion on the planning context
Section 5	Summary of the development proposal
Section 6	Summary of the technical assessments
Section 7	Overview of the public consultation undertaken for the project
Section 8	Justifications in support of the planning proposal.
Section 9	Recommendations and the conclusion

2.3 Project Background

2.3.1 Hong Kong's construction industry has long relied on rock, primarily as aggregates in concrete, for buildings and infrastructure. While local quarries have historically played a strategic role in supplying these materials, the evolving needs of the city now call for a broader vision. In particular, the formation of underground cavern spaces presents a unique opportunity to address land supply challenges while also contributing to sustainable resource use.

2.3.2 Currently, Lam Tei Quarry (LTQ) at Tuen Mun is the only active local quarry. To ensure continuity in local rock supply and to support strategic land use planning, the Government has been exploring alternative approaches. Among these, the creation of cavern spaces through underground quarrying offers dual benefits: it supports rock supply in the short term and unlocks valuable underground land for future development. In this connection, underground quarrying, in this context, serves as an interim process only — a method to create cavern spaces that can be repurposed for long-term government use.

2.3.3 The quarrying process not only yields good quality rock but also facilitates the formation of these valuable underground assets. These caverns, formed through controlled underground quarrying, can be potentially repurposed for various uses or strategic facilities, which are subject to further review and refinement during the later stages, particularly near the completion of cavern formation. The after-use will be determined based on evolving government needs, technical feasibility, and stakeholder engagement. Therefore, this planning application is confined to the proposed underground quarrying process. The after-use in the future caverns would require a separate future study.

2.3.4 The concept of "underground quarry-cum-cavern development" is not unprecedented. It has proven to be commercially viable in countries like Switzerland, Norway, and the United States, where cavern spaces are used for cold storage, warehousing, and recreational complexes.

2.3.5 Preliminary reviews under a previous Strategic Cavern Study identified the prospect of this concept and thereby proposed it as one of the initiatives under the long-term strategy for cavern developments in Hong Kong. Accordingly, in November 2018, when formulating the local quarry strategy for maintaining the local rock supply, the Government also recognized this initiative as a potential long-term solution that is complementary to new surface quarries. In other words, underground quarrying in Hong Kong is being pursued as a dual-benefit policy initiative contributing to enhanced land supply and sustainable use of local rock resources.

2.3.6 In 2017, CEDD commissioned the Underground Quarry Study to evaluate the feasibility of this initiative, covering various aspects including technical acceptability, statutory and regulatory requirements, business model analyses, and implementation mechanisms. Based on the results of a systematic territory-wide site search, the hillside at Tsing Yi North, which is one of the 48 Strategic Cavern Areas (SCVAs) as delineated in the Cavern Master Plan jointly promulgated by CEDD and PlanD in 2017, was recommended to be taken forward.

2.3.7 In 2019, the CEDD and PlanD jointly commissioned the Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study ("Pilot Study") to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. As concluded under the Executive Summary of the Pilot Study, SCVA No. 10 at Tsing Yi North is proposed to be implemented by an underground quarrying-cum-cavern development approach. The cavern space formed could potentially serve as a land bank for storage/warehouse/logistics. The after-use will be further investigated and ascertained before the completion of the Tsing Yi North Underground Quarry (TYNUQ) quarry contract, based on the development need/potential in the area by that time. It is envisioned as an integral part of the long-term local quarry strategy.

2.3.8 Shortage of rock import from Chinese Mainland due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, the scheme shall be proceeded timely, along with other quarry-related initiatives to maintain local rock supply.

2.3.9 AECOM Asia Company Limited was commissioned by CEDD in June 2024 to undertake an Investigation, Design and Construction (IDC) assignment for developing a new underground quarry at Tsing Yi North.

2.3.10 Development-by-stages approach is adopted for the proposed TYNUQ "underground quarry-cum-cavern development" to facilitate a phased implementation of the underground quarrying and subsequent cavern utilization. This approach comprises the following key stages:

- Stage 1 – Cavern Planning and Development: The Civil Engineering and Development Department (CEDD) will tender a revenue-earning contract for the entire cavern excavation in the form of underground quarrying.
- Stage 2 – Underground Quarrying: During cavern formation, the quarry operator will undertake underground quarrying operations for approximately 25 years. Ancillary operations, such as stockpiling, rock processing, concrete production and asphalt production, will be carried out concurrently. Revenues generated from the sale of aggregates, concrete, and/or asphalt products will support the cost of rock extraction to be borne by the quarry operator. Through recycling the surplus rocks excavated from other local construction sites, particularly the Government construction sites, the proposed development can also bring environmental benefits by relieving the burden of the public fill bank and landfill sites through recycling the excavated rocks. The underground quarrying contract will be directly administered by the CEDD.
- Stage 3 – Strategic Review and Land Use Study: Near the completion of the underground quarrying stage, a study may be conducted by the Government to ascertain the potential long-term land uses of the cavern space. This will be subject to various factors, including funding arrangements and policy direction at the time.
- Stage 4 – Cavern Handover and Future Utilization: Upon completion of the underground quarrying, the quarry operator will hand over the cavern space to the Government for the construction of public facilities, or may be disposed/leased to the private sector or through Public-Private Partnerships (PPP), depending on the confirmed future land use.

2.3.11 Stage 1 and Stage 2 as described under Section 2.3.10 would be implemented under this proposed development, while Stage 3 and Stage 4 would be subject to future separate study.

2.4 Description of the Project

2.4.1 The proposed TYNUQ (Application Site) falls within areas zoned “GB”, “OU(RTRU)”, “OU(BMIU)” and an area shown as “Road” on the approved Tsing Yi Outline Zoning Plan (“the OZP”) No. S/TY/32, while a small portion of land without OZP covered. According to the covering Notes of the OZP, in any area shown as ‘Road’, all uses or developments require permission from the Town Planning Board. Given that the proposed development is directly administered and managed by CEDD, and serves to create underground space for the Government, it is regarded as “Government Use” which is a Column 2 use under the above zones, and planning permission from the TPB is required (i.e. s.16 Planning Application for Planning Permission).

2.4.2 The works to be implemented under this proposed development comprise the following:

(a) Design and construction of the cavern spaces via underground quarrying;

(b) Design and carry out ancillary activities for quarry operation (i.e., stockpiling, rock processing, concrete production and asphalt production etc.); and

(c) Other associated works, including site formation works, utilities works, drainage works, landscaping works, etc.

3 Site Context

3.1 Location

3.1.1 The Application Site for the proposed TYNUQ is located at the northwestern portion of Tsing Yi Island, which is situated to the west of Kwai Chung and Tsuen Wan. Ngau Kok Wan is to the north of the proposed underground quarry site, Tam Kon Shan Road is to the northeast of the proposed underground quarry site, Fung Shue Wo is to the east, Shek Wan is to the south, and the coastal area facing Ma Wan Channel and Wok Tai Wan is to the west.

3.2 Existing Conditions

3.2.1 The Application Site covers an area of about 393,000m^2. The Site is located at Ngau Kok Wan, Wok Tai Wan, southwest of Tam Kon Shan Road, and at caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island in the Strategic Cavern Area (SCVA) No. 10 – Tsing Yi North. The tunnel portals will be located at Ngau Kok Wan and Tam Kon Shan Road, situated to the north and northeast of Shek Wan, respectively.

3.2.2 Ngau Kok Wan with the existing access road is currently occupied by Contract No. DC/2020/05 – Relocation of Sha Tin Sewage Treatment Works to Caverns – Main Caverns Construction (STSTW – Main Caverns Construction) under TGLA No. GLA-TKT 1940 for stockpiling and rock processing. Wok Tai Wan is also currently occupied by STSTW – Main Caverns Construction under TGLA No. GLA-TKT 1939 for stockpiling. The surface land located between Wok Tai Wan and the existing access road is currently a green belt. Another surface land of the Application Site, Tam Kon Shan Portal, is slopes with vegetation. The existing site conditions and photos of the Application Site can be found in **Figure 3.1**.

3.2.3 As the planning proposal is intended to facilitate an underground quarry, existing underground facilities are also reviewed. As revealed from the utility undertakings' record, there is no major underground utility within the Application Site. Major public utilities (e.g. CLP cables, WSD pipes, DSD pipes, telecommunication cables etc.) are located at the northeast of the Application Site, along the Tam Kon Shan Road.

3.3 Land Uses

Surface Land

3.3.1 Under the proposed development, the surface land consists of Ngau Kok Wan, Wok Tai Wan, and the southwest of Tam Kon Shan Road to facilitate quarry operation and transportation. The surface land also covers the portion of the main access tunnels and its associated portals of proposed TYNUQ.

Underground Stratum

3.3.2 Under the proposed development, the underground stratum consists of the underground quarry for the excavation of main access tunnels, connection tunnels, and production caverns of the proposed TYNUQ.

Surrounding Area

3.3.3 The Application Site is surrounded by infrastructure, industrial activities, and steep natural terrain. Residential and GIC uses are located further northeast and east of the Application Site.

3.3.4 To the north and northeast of Application Site are areas zoned "Other Specified Uses" annotated "Cement Plant" ("OU(Cement Plant)") and "Other Specified Uses" annotated "Boatyard and Marine Oriented Industrial Uses" ("OU(BMIU)") with an area of about 0.9 ha and 7.7 ha respectively. The area zoned "OU(Cement Plant)" accommodates a cement plant while the area zoned "OU(BMIU)" accommodates several workshops and shipyards along the north shore of Tsing Yi Island, and a Portable Emission Measurement System Laboratory operated by the Environmental Protection Department (EPD). A site, with an area of 4,335 m^2 and falling within the "OU(BMIU)" zone, area shown as "Road" and occupying a small portion of area not covered by any statutory plan is under s.16 planning application (No. A/TY/150) for a proposed temporary concrete batching plant for a period of 5 years. The application was approved with conditions on a temporary basis by the TPB on 4 July 2025.

3.3.5 To the further northeast along the northern waterfront is Tsing Yi Northeast Park, which occupies an area of about 6.2 ha and is zoned "Open Space" ("O"). To the east of Tsing Yi Northeast Park are a cluster of public housing developments zoned "Residential (Group A)" ("R(A)") and with a total area of about 20.2 ha, including Queen's College Old Boys'

Association Secondary School, Cheung On Estate, Cheung Fat Estate, and Ching Wang Court.

3.3.6 To the east and southeast of the Application Site are another cluster of public housing developments zoned "Residential (Group A)" ("R(A)") and occupying a total area of about 13.9 ha, which includes Cheung Wang Estate and Cheung Hang Estate. They are entwined with areas zoned "G/IC", which have a total site area of about 4.2 ha and mainly accommodate fresh water reservoirs serving the needs of the wider district of Tsing Yi Island. To the south of the public housing developments is Mount Haven, a private housing development zoned "Residential (Group B)" ("R(B)") and with a site area of about 2.9 ha.

3.3.7 To the immediate north of Wok Tai Wan are the existing Lantau Link Visitors Centre and Lantau Link Viewing Platform zoned "Other Specified Uses" annotated "Viewing Platform" ("OU(VP)") for public enjoyment of the scenic view of Tsing Ma Bridge. Furthermore, the Northwest Tsing Yi Interchange and Cheung Tsing Highway flank the western coast of Tsing Yi Island between Wok Tai Wan and Ngau Kok Wan.

3.3.8 To the southwest of the Application Site lies an industrial belt along the southern and western shores of Tsing Yi Island, zoned "Industrial" ("I") and with a site area of about 10.2 ha. It provides land for dockyards, boatyards, oil storage, chemical industries, and other industries requiring direct marine access.

3.3.9 To the south of the Application Site is a large extent of natural slopes of Tsing Yi Liu To Shan, zoned "GB" and with a land area of about 17.7 ha. It serves as a physical barrier separating the aforementioned industrial belt at the southwest from the aforementioned residential developments at the southeast. Within the "GB" zone, a network of natural pathways has been established leading to the hilltop of Liu To Shan in Tsing Yi Area 28, providing the public with a panoramic view for leisure and recreational activities.

3.4 Accessibility

3.4.1 The Application Site is served by two existing access roads which will be managed by the quarry operator. One is an existing access road connecting the North West Tsing Yi Interchange (NWTYI) northbound to Ngau Kok Wan. Another access is at the off-slip of Tsing Yi North Coastal Road westbound near the southwest of Tam Kon Shan Road connecting to the proposed Tam Kon Shan Portal.

3.4.2 Site access would be provided at these two locations to facilitate vehicle access during the construction and operation of the proposed development.

3.4.3 Barging points are available at Ngau Kok Wan and Wok Tai Wan, which could facilitate marine access to the site during the construction and operation of the proposed development.

3.5 Land Status

3.5.1 The Application Site, including both surface land and underground stratum as described in Section 3.3, is on the government land.

3.5.2 Wok Tai Wan and Ngau Kok Wan, with the associated existing access road, are located within an existing TGLA No. GLA-TKT 1939 and TGLA No. GLA-TKT 1940, respectively. The Drainage Services Department (DSD) will hand back to the Lands Department (LandsD) on 31 December 2026, tentatively.

3.5.3 There will be a potential interface at Wok Tai Wan surface land with the Tsing Yi- Lantau Link project (TYLL) as it will be used as a works area by TYLL during its construction stage. Subject to the actual implementation programme of TYLL, the quarry operator will take over the Wok Tai Wan surface land before the commencement of construction of TYLL. Upon receiving the TYLL construction notice, the quarry operator will vacate part of the sea access to Wok Tai Wan surface land and the concerned surface land area to the Highways Department (HyD) in due course.

3.5.4 The remaining part of the Application Site is unallocated Government land.

3.5.5 **Figure 3.2** shows the land status of the Application Site and the surrounding land lots.

4 Planning Context

4.1 Statutory Plan

4.1.1 The Application Site is highlighted in a red line as shown in **Figure 2.1** and its existing zoning can be seen in **Figure 4.1**. The Application Site consists of four components.

4.1.2 Firstly, there is the underground area beneath Yau Kom Tau, currently zoned "Green Belt" ("GB") and area shown as "Road" on the approved Tsing Yi Outline Zoning Plan No. S/TY/32 ("the OZP"). The underground area is located within the Strategic Cavern Area No.10 (SCVA No.10) – Tsing Yi North.

4.1.3 Secondly, there are two proposed portal areas for access to the underground area, namely 1) the proposed Tam Kon Shan Portal at the north-eastern corner under "Other Specified Uses" annotated "Boatyard and Marine-oriented Industrial Uses" ("OU(BMIU)"), "GB" and area shown as 'Road'; and 2) the proposed Ngau Kok Wan Portal including areas for surface ancillary operations (e.g. stockpiling, rock processing, concrete production, asphalt production, etc.) located at the northwest currently zoned "Other Specified Uses" annotated "Recreation and Tourism Related Uses" ("OU(RTRU)"), "GB" and the area shown as "Road". The Ngau Kok Wan Portal is connected to North West Tsing Yi Interchange via the associated existing access road of TGLA No. GLA-TKT 1940, which is zoned "GB" and the area shown as "Road" on the OZP.

4.1.4 Thirdly, there is a works area (currently zoned "GB" and "OU(RTRU)") for the installation of a conveyor belt system connecting the existing access road to the existing surface land at Wok Tai Wan for rock transportation.

4.1.5 Lastly, the Wok Tai Wan Surface Land for stockpiling is currently zoned "Other Specified Uses" annotated "Recreation and Tourism Related Uses" ("OU(RTRU)"), and with a minor portion extending beyond the OZP boundary to the west.

4.1.6 The proposed development falls within "GB", "OU(RTRU)", "OU(BMIU)" and the area shown as "Road" on the approved Tsing Yi Outline Zoning Plan ("the OZP") No. S/TY/32. According to the covering Notes of the OZP, in any area shown as 'Road', all uses or developments require permission from the Town Planning Board. Since underground quarrying and its ancillary operations are administered and managed by CEDD, it can be regarded as "Government Use" which is a Column 2 use under the above zones, and planning permission from the TPB is required (i.e. s.16 Planning Application for Planning Permission).

4.1.7 With reference to the Definition of Terms (DoT), 'Government Use' is defined as any place, structure or premises used directly in connection with or in support of Government administration, or the provision of Government services and facilities for use by and for the benefit of the public. As underground quarrying and its ancillary operations are part of the cavern works to be directly administered and managed by the CEDD as an employer by a Government revenue-earning contract under construction and operation phases and with the intention of land bank creation (i.e. creating caverns). Moreover, through recycling the surplus rocks excavated from other local construction sites, particularly the Government construction sites, the proposed development can also bring environmental benefits by relieving the burden of the public fill bank and landfill sites through recycling the excavated rocks. Therefore, the proposed development is regarded as a construction site developed for the benefit of the public and hence is reasonable to be considered as 'Government Use'. **Table 4.1** presents a summary of the proposed use of TYNUQ under each zoning and their respective permitted use to be applied under the Schedule of Uses in the OZP.

4.1.8 This s.16 application for planning permission only confines to the proposed TYNUQ. The after-use in the future caverns is subject to future study and therefore not covered under this s.16 application.

Table 4.1 Proposed Use by Zoning and Suggested Applied Use

Land Use Zonings	Proposed Use Based on Initial Layout	Suggested Applied Use	Other OZP Restrictions that Need to be Applied
"Green Belt" ("GB") Approx. Area: 307,000m^2 (78.1%)	• Mainly the cavern portion, including rock extraction/ processing/ stockpiling within caverns • Ancillary operations and access road (existing) in the surface area at Ngau Kok Wan • Access road (existing)/ tunnels/ portals • Conveyor belt system at Wok Tai Wan	'Government Use (not elsewhere specified)'	Nil
Area shown as "Road" Approx. Area: 14,200m^2 (3.6%)	• Minor portion, mainly involving cavern, access tunnels/ portals and access road (existing)	'Government Use'	Nil
"Other Specified Use (Recreation and Tourism Related Uses)" ("OU(RTRU)") Approx. Area: 69,000m^2 (17.6%)	• Ancillary operations and access road (existing) in the surface area at Ngau Kok Wan • Stockpiling area at Wok Tai Wan	'Government Use'	• Maximum Plot Ratio: 0.4 • Building Height Restriction: +40mPD
"Other Specified Use (Boatyard and Marine-oriented Industrial Uses)" ("OU(BMIU)") Approx. Area: 2,150m^2 (0.5%)	• Mainly access tunnels/portals	'Government Use'	Nil

4.2 Previous Application

4.2.1 There is a previous planning application involving the Application Site. The proposed Ngau Kok Wan works area zoned "OU(RTRU)" on the OZP partially falls within the site boundary of Application No. A/TY/87 for a proposed concrete batching plant which was rejected by the Metro Planning Committee of the Town Planning Board on 29 April 2005.

4.2.2 The Wok Tai Wan portion is the subject of an ongoing rezoning application No. Y/TY/2. The application proposes to rezone 19.9 ha of land from "Industrial", "OU(RTRU)" and "GB" to "Residential (Group A)6", "Residential (Group A)7" and area shown as 'Road'; and to incorporate an area currently not covered by the approved Tsing Yi Outline Zoning Plan No. S/TY/32 (the OZP) into the OZP and rezone it to "Residential (Group A)6" and "Other Specified Uses" annotated "Marina Club" and amend the Notes of the zone applicable to the site. The application will be considered by the Metro Planning Committee of the Town Planning Board on 11.9.2026 (tentative).

5 Development Proposal

5.1 Layout Plan

5.1.1 To facilitate the Town Planning Board (TPB)'s consideration of the planning permission, a schematic development proposal is prepared for the Application Site. The area of the Application Site is about 393,000m^2. The schematic layout plan is shown in **Figure 5.1**.

5.1.2 The development schedule for the proposed TYNUQ's ancillary activities at Ngau Kok Wan and Wok Tai Wan is shown in **Table 5.1**. The existing ground level is approximately +5mPD. The proposed ancillary activities that support quarry operation generally include stockpiling, rock processing, concrete production and asphalt production, etc. Since Ngau Kok Wan and Wok Tai Wan fall within "OU(RTRU)", the concerned area for ancillary activities is subject to a maximum plot ratio of 0.4 (i.e. Ngau Kok Wan maximum GFA: 8,520m^2) and a building height restriction of +40mPD. The schematic layout arrangement of the ancillary activities at Ngau Kok Wan and Wok Tai Wan is indicative only. The detailed arrangement and layout of the ancillary activities at Ngau Kok Wan and Wok Tai Wan shall be prepared by the quarry operator, bounded by these requirements.

Table 5.1 Development Schedule for the Proposed Ancillary Activities at Ngau Kok Wan and Wok Tai Wan

Ngau Kok Wan Site Area	About 21,300m^2 (maximum GFA: 8,520m^2)
Wok Tai Wan Site Area	About 50,000m^2 (GFA is not applicable to Wok Tai Wan since no building is proposed)
Maximum Plot Ratio	0.4
Building Height Restriction	40mPD

5.1.3 The underground quarry is formed by the proposed connection tunnels and production caverns. Connection tunnels will be built around the perimeter of the underground quarry. The minimum dimensions of the underground openings as proposed under the Pilot Study are maintained to satisfy the spatial requirement of the potential after-use.

5.1.4 There are three portals proposed at two portal areas, two at Ngau Kok Wan and one at Tam Kon Shan. They are necessary for the operation of the underground quarry. The site formation of the proposed portals will require cutting of existing slopes. The proposed main access tunnels will be constructed to connect the proposed portals and the underground quarry for ancillary operation. There are two main access tunnels for the Ngau Kok Wan Portal and one main access tunnel for the Tam Kon Shan Portal.

5.1.5 Subject to the need of the quarry operator, the underground quarry is allowed for stockpiling the excavated rocks / aggregates, storage of construction materials, rock processing and concrete production.

5.1.6 The arrangement of the proposed main access tunnels, connection tunnels, and production caverns of the underground quarry will be developed within the underground strata of the Application Site. **Table 5.2** presents the proposed excavation dimensions of the underground openings.

Table 5.2 Proposed Dimensions of Tunnels and Caverns

Type of Tunnel/Cavern	Typical Span (m)	Typical Height (m)
Main Access Tunnel	16	10 to 22
Connection Tunnel	16	22
Production Cavern	20	20

5.1.7 Unlike other capital works cavern development projects, one of the primary aims of the underground quarry is to extract good-quality rock. The programme of excavation/quarrying will be dependent on the demand for rock products in the local market. During the operation phase, with the approval by the CEDD, the quarry operator can propose to alter tunnel / cavern opening locations within the underground quarry footprint if a substantial underground section with poor geological conditions is anticipated. This will also help safeguard the stability of production caverns for the after-use.

5.1.8 Ancillary activities will include stockpiling, rock processing, and associated activities such as concrete production and asphalt production. Blasted rocks will undergo on-site crushing to achieve suitable aggregate sizes. Some aggregates will be further processed for concrete production or asphalt production at Ngau Kok Wan before being transported off-site to construction sites. Indicative dimensions of the ancillary structures are presented in **Table 5.3** and illustrated in **Figure 5.2** and **5.3**. The ancillary operation arrangements at Ngau Kok Wan and conveyor belt arrangement at Wok Tai Wan are subject to the contractor's design.

Table 5.3 Indicative Dimensions of typical ancillary structures

Type of ancillary structures	Length (m)	Width (m)	Height (m)
Rock Processing	45	10	35
Concrete Production	55	45	35
Asphalt Production	55	10	35
Conveyor Belt	140	6	9

5.1.9 TYNUQ will also serve as one of the major centralised locations to recycle surplus good quality rock from local construction projects. Subject to the capacity of TYNUQ, surplus rocks from other projects will be imported to Ngau Kok Wan either by trucks via the existing access road, by barge via an existing barging point at Ngau Kok Wan, or by barge via an existing barging point at Wok Tai Wan through the proposed conveyor belt at Wok Tai Wan and then by trucks through the existing access road to Ngau Kok Wan. In the event that the stockpile capacity at Ngau Kok Wan is insufficient, the surplus rock (generated from this project or other construction projects) would be delivered to Wok Tai Wan for stockpile via the existing access road by truck and then through the proposed conveyor belt, or by barge via the existing barging points at Ngau Kok Wan and Wok Tai Wan. In the absence of current vehicular access to Wok Tai Wan, the proposed conveyor belt would provide a logistical link between Ngau Kok Wan and Wok Tai Wan, complementing marine transport and enhancing the overall attractiveness of the project.

5.2 Landscape and Visual Proposal

5.2.1 Potential landscape and visual impacts associated with the construction and operation of the proposed development have been assessed under the preliminary environmental review report. The landscape impact assessment covers an area within 500 m of the site. The visual envelope extends to Tuen Mun Road to the north, Ma Wan to the west, the natural hillside backdrop to the south, and industrial and shipyard areas along Tam Kon Shan Road to the east.

5.2.2 Although the proposed underground quarry is primarily implemented deep below the existing ground surface, a relatively small portion of aboveground works is still unavoidable, such as site formation works for the tunnel portals and ancillary operations. Approximately 765 trees, including some undesirable trees, are anticipated to be affected by the proposed site formation works at Ngau Kok Wan and Tam Kon Shan. The tree felling locations are generally within Ngau Kok Wan Surface Land, Ngau Kok Wan Portals, Tam Kon Shan Portal, and Wok Tai Wan Works Area. No Old and Valuable Trees have been identified within the assessment area. The tree compensation strategy is included in **Appendix G**.

5.2.3 The potentially affected landscape resources (LRs) and landscape character areas (LCAs) are Hillside Vegetation along Tsing Yi North Coastal Road (LR1), Coastal Landscape along Wok Tai Wan and Cheung Shue Tau (LR3), and Transportation Corridor Landscape (LCA2) as shown in **Figure 5.4**. Upon full implementation of all proposed mitigation measures, the

residual landscape impacts on LRs and LCAs are anticipated to be negligible during the operation phase.

5.2.4 The most affected public viewers are recreational users of the beaches along Castle Peak Road – New Ting Kau and Ting Kau (RE1 and RE2, respectively) (**Figure 5.5, 5.6, and 5.8**) and travelers at Cheung Shue Tau (T1) (**Figure 5.7**). With the implementation of mitigation measures, the residual visual impacts on public viewers during the operation phase are anticipated to be slight to negligible.

5.2.5 Mitigation measures, such as tree preservation and the erection of decorative screen hoarding during the construction phase, as well as sensitive and aesthetically pleasing design and compensatory planting, where appropriate, during the operation phase, are recommended. Nevertheless, to further soften the visual impact of the industrial buildings and facilities, both hard and soft landscape mitigation measures have been explored. These include implementing a sensitive and aesthetically pleasing design tailored for the structures, as well as examining the technical feasibility of installing epiphytic wall-mounting planters on the walls of suitable structures to enhance vertical greening. Photomontages are produced to illustrate the acceptability of the visual effects of the proposed development (**Figures 5.5 to 5.8**).

5.3 Environmental Considerations

Air Quality Impact

5.3.1 Potential air quality impacts associated with the construction and operation of the proposed development have been assessed under the preliminary environmental review report. The assessment area is defined as within 500m of the Application Site.

5.3.2 During the construction phase, potential dust emissions may arise from limited portal formation works, excavation, spoil handling, and vehicle movement. Mitigation measures in accordance with the Air Pollution Control (Construction Dust) Regulation, including watering, covered stockpiles, paved haul roads and wheel-washing facilities, will be implemented. Emissions from construction plants will be controlled through the use of ultra-low sulphur fuel, avoidance of exempted NRMMs and adoption of electric alternatives where practicable. With these measures, no adverse construction air quality impact on nearby air sensitive receivers is anticipated.

5.3.3 During the operation phase, quarrying activities will be predominantly conducted within underground caverns, with dust emissions largely confined and controlled through blasting doors, wet suppression, and dust collection systems as far as practicable. Ancillary operations will be enclosed and fitted with appropriate emission control systems. With the implementation of recommended mitigation measures, all predicted air pollutant concentrations comply with relevant standards, and no adverse air quality impact on nearby air sensitive receivers is anticipated.

Noise Impact

5.3.4 Potential noise impacts associated with the construction and operation of the proposed development have been assessed under the preliminary environmental review report. The assessment area is defined as 300m within the Application Site.

5.3.5 No noise sensitive receivers are located within the 300 m assessment area, with the nearest representative receivers situated approximately 350 m to 900 m away from the Application Site and largely screened by intervening natural terrain. During the construction phase, works will include portal site formation and mechanical breaking for the initial sections of the main access tunnel. Given the localized scale of surface works, the use of non-blasting methods at the early stage, substantial separation distances to receivers, and terrain screening, construction noise impacts are anticipated to be insignificant. During the operation phase, quarrying by drill-and-blast method will be conducted underground and outside restricted hours. With the implementation of good site practices and recommended mitigation measures, noise impacts from both construction and operation phases are expected to be insignificant.

Water Quality Impact

5.3.6 Potential water impacts associated with the construction and operation of the proposed development have been assessed under the preliminary environmental review report. The assessment area is defined as 500m within the Application Site.

5.3.7 During the construction phase, key potential sources include construction site runoff,

wastewater from site activities such as wheel washing and dust suppression, accidental spillage of fuels and chemicals, and sewage from the construction workforce. Mitigation measures, including effective site drainage, silt and sediment control, proper storage and handling of chemicals, and the provision of chemical toilets with licensed servicing, will be implemented. With the adoption of good site practices and recommended mitigation measures, construction-phase water quality impacts are anticipated to be minimal.

5.3.8 During the operation phase, potential water quality impacts may arise from quarrying and ancillary operations, surface runoff from portal areas and existing access roads, and marine vessel activities associated with material transport. Process water and drilling water will be treated and recycled as far as practicable, while surface runoff will be managed through a designed drainage system incorporating appropriate erosion and silt control measures. Marine operations will comply with relevant statutory requirements and good practice to prevent water pollution. With the implementation of these measures, water quality impacts during the operation phase are anticipated to be minimal and acceptable.

5.4 Drainage and Sewerage Proposal

5.4.1 The proposed development will not interfere with the existing drainage system, which collects the surface runoff. With a minor change in site topography due to the proposed site formation works, drainage channels are proposed to collect surface runoff and groundwater seepage, and connect to the existing drainage system. Due to the coastal location of the proposed development, the majority of groundwater seepage from the caverns during the construction and operation phases would be diverted to sea via the existing outfall through the existing nullah at Ngau Kok Wan, while some of the groundwater seepage would be diverted to the existing culvert at Tam Kon Shan Road.

5.4.2 Surface runoff from the sites will be discharged into the existing drainage system via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels or earth bunds or sandbag barriers would be required to be provided on site during construction works to properly direct stormwater to such silt removal facilities. Perimeter channels will be provided on site boundaries where necessary to intercept storm runoff from outside the site so that it will not wash across the site. Catchpits and perimeter channels will be constructed in advance of site formation works and earthworks.

5.4.3 During the construction and operation phase, the workforce on site is anticipated to generate sewage effluent. Adequate and sufficient chemical toilets will be provided in the works area to handle sewage from the construction workforce and a licensed collector is to be employed to clean and maintain the chemical toilets on a regular basis. No discharge of sewage to the inland water is allowed.

5.4.4 The sewage generated by the proposed development would not be directly discharged to the existing sewerage network. Sewage is required to be treated by the on-site sewage treatment facility with discharge license for the discharge of effluent from the site under the Water Pollution Control Ordinance (WPCO), or tanked away by a registered waste collector.

5.5 Traffic Arrangement

5.5.1 Two vehicle site accesses will be provided to access the Application Site. One is an existing access road connecting the North West Tsing Yi Interchange (NWTYI) northbound to Ngau Kok Wan. Another access is at the off-slip of Tsing Yi North Coastal Road westbound near the southwest of Tam Kon Shan Road connecting to the proposed Tam Kon Shan Portal.

5.5.2 To avoid illegal entrance to the underground quarry, access control is required at the portals to guard against unauthorized access.

5.5.3 Since no pedestrian access is available for both site accesses, all staff and visitors would be required to access the site solely by vehicles / shuttles during both construction and operation of the proposed development.

5.5.4 In consideration of ancillary parking and loading / unloading (L/UL) spaces, there is no parking standard specifically for quarrying in the Hong Kong Planning Standards and Guidelines (HKPSG). Therefore, the proposed provision of ancillary parking and loading/unloading facilities for ancillary operation at Ngau Kok Wan is referred to the standards for Industrial Use (I) under General Industrial Use (GIU). **Table 5.4** summarizes the proposed number of parking and L/UL spaces for ancillary operation at Ngau Kok Wan.

Table 5.4 Provision of Parking and L/UL Facilities for Ancillary Operation at Ngau Kok Wan

Parking and L/UL Facilities	Proposed Number of Parking and L/UL Provision
Parking Facilities:	
Motorcycle	5
Private Car (PC)	10
Light Goods Vehicle (LGV)	5
Heavy Goods Vehicle (HGV)	3
L/UL Facilities:	
Goods Vehicle	7
Container Vehicle Loading / Unloading Bay	1

5.5.5 Barging points are available at Ngau Kok Wan and Wok Tai Wan for marine access to the Application Site. During the construction phase, it is expected to generate marine traffic, primarily due to the transportation of construction materials, including construction machinery, equipment, and ancillary facilities. During the operation phase, the concrete and asphalt production activities will require a consistent supply of raw material (e.g. aggregates and cement etc.) for production. These materials will be delivered primarily by marine transportation from suppliers to alleviate traffic pressures on the road network. In addition, an internal marine transfer between Wok Tai Wan and Ngau Kok Wan will be established for the transport of stockpiled rock. This includes the delivery of excavated or processed rock from Ngau Kok Wan to Wok Tai Wan for storage, and the transfer of stockpiled rock from Wok Tai Wan to Ngau Kok Wan for further processing.

5.6 Utilities Requirement

5.6.1 To facilitate the construction and operation of the proposed development, power and water supply to the Application Site would be required, in particular, to support the operation of the ancillary facilities at Ngau Kok Wan.

5.6.2 Based on the available information and confirmation from the relevant utility undertakings, the existing power and water supply at Ngau Kok Wan and Wok Tai Wan are insufficient to support the operation of the ancillary facilities. Accordingly, it has been agreed with CLP and WSD that a new power and water supply source could be provided near the proposed Tam Kon Shan Portal, where spare capacity for the proposed development is available along Tam Kon Shan Road.

5.6.3 The quarry operator will be responsible for coordinating with the relevant utility undertakings on the detailed arrangement and carrying out the laying of power cables and water pipes from the new supply source near Tam Kon Shan Portal to Ngau Kok Wan to support the proposed development. This includes all associated equipment and facilities, and shall be carried out at the operator's own cost and time.

6 Technical Assessments

6.1 Geotechnical Assessment

6.1.1 A geotechnical assessment has been conducted to review and assess the geotechnical constraints of establishing the proposed development. This has been conducted through a comprehensive review of available geological maps, geological memoirs, aerial photographs, and ground investigation (GI) records.

6.1.2 Due to limited existing GI information in the vicinity of the proposed development, project-specific GI works have been carried out. The geotechnical properties and parameters, discontinuous orientation, and rock mass quality have been reviewed with reference to the results of project-specific GI works.

6.1.3 Site formation works in the form of cut slopes are proposed for Ngau Kok Wan Portals and Tam Kon Shan Portal. As the surface land at Ngau Kok Wan is considered to be small and irregular in shape, site formation works in the form of retaining structures will be allowed on the west to enlarge the surface land at Ngau Kok Wan. However, the implementation of this expansion depends on the quarry operator's decision on whether the existing surface land at Ngau Kok Wan is sufficient to support his ancillary operations.

6.1.4 All registered man-made features that may affect or be affected by the proposed development have been classified by considering either the debris travel distance and angle in accordance with GEO TGN No. 15, or their locations within the blasting influence zone. The existing features no. 6SE-D/C 544, 6SE-D/C 554, 6SE-D/F252, and 6SE-D/F253 will be modified by the proposed site formation works at the Tam Kon Shan Portal and Ngau Kok Wan Portals. For the remaining parts of these features, further assessment on the features shall be conducted with due consideration of the extent of the Tam Kon Shan Portal and Ngau Kok Wan Portals formation works. Upgrading works may be required to ensure that the features are up to the current geotechnical standard. The existing features no. 6SE-D/C 485, 6SE-D/C 192, and 6SE-D/F88 will be removed by the proposed site formation works at Tam Kon Shan Portal, Ngau Kok Wan Portals, and Ngau Kok Wan surface land expansion. No modification works are anticipated to the existing features along Wok Tai Wan and the existing access road to Ngau Kok Wan.

6.1.5 It is considered that catchments TY-NT1, TY-NT2, TY-NT3, and TY-NT4a may pose potential natural terrain hazards to the proposed developments downslope at Ngau Kok Wan. The assessment results show that none of the debris can reach beyond a 10-meter buffer zone. A 10-meter no-manned facility zone along the surface land boundary at Ngau Kok Wan is proposed during the Amber rainstorm signal or above is in force as a plausible mitigation measure for the catchments as part of the holistic risk mitigation strategy.

6.1.6 Depending on the ground condition, drill-and-blast and mechanical excavation are anticipated to be adopted for the excavation of the underground quarry. Underground quarry excavation will be carried out in an enclosed underground space with blast door(s) at portals. With careful control of maximum instantaneous chargeweight (MIC) of the explosives, coupled with the implementation of necessary monitoring and mitigation measures in place, no adverse impact to nearby sensitive receivers would result due to blasting-induced vibration, flyrock, and air overpressure.

6.1.7 The excavated material from tunnels / caverns is mainly rock. These rocks would be further processed on-site for the production of construction materials. Soil and low-quality rock would be sent to public fill reception facilities for reuse as filling material, where appropriate.

6.1.8 The proposed development is considered technically feasible from the geotechnical perspective.

6.1.9 The extract of the geotechnical assessment report is enclosed in **Appendix A**.

6.2 Traffic Impact Assessment

6.2.1 A traffic impact assessment has been conducted to assess the potential traffic impact on the surrounding road networks due to the potential traffic generated from the proposed development.

6.2.2 Vehicular accesses provided at NWTYI and off-slip of Tsing Yi North Coastal Road westbound near the southwest of Tam Kon Shan Road are considered acceptable from a traffic

engineering point of view in terms of location and access arrangement.

6.2.3 Since no pedestrian access is available for both site accesses, all staff and visitors would be required to access the site solely by vehicle during both the construction and operation of the proposed development. As such, the impact on the existing public transport operations is not anticipated.

6.2.4 Construction vehicles are expected to travel to the site during the construction phase. The performance of all junctions and road links along construction traffic routings would be operating within capacity during AM, PM, and logistic peak hours on normal weekdays for the construction peak year 2028. Nevertheless, it is considered that the traffic impact induced by the construction traffic at the concerned road links is insignificant, given that the V/C ratio remains unchanged compared to the reference case scenario.

6.2.5 During the operation phase, the performance of all the study junctions and road links would be operating within capacity during AM and PM peak hours on weekdays for the design year 2031.

6.2.6 Nevertheless, it is considered that the traffic impact induced by the development at the concerned road links is insignificant since the change of V/C ratio is minimal and the road links would still operate in a manageable degree (V/C ratio < 1.2).

6.2.7 Following the implementation of the tunnel to the Tam Kon Shan Portal, development traffic would be able to access the site alternatively from the Tam Kon Shan Portal as well.

6.2.8 To mitigate further deterioration of traffic conditions at Tam Kon Shan Interchange and Tsuen Tsing Interchange, the development traffic would be prohibited from traveling through these two interchanges during AM and PM peaks.

6.2.9 In view of the minimal effect on the critical road links and sufficient capacity of all other study junctions and road links during both the operation and construction phases of the proposed development, the traffic impact is considered insignificant. In this regard, the proposed development is acceptable from a traffic perspective.

6.2.10 The traffic and transport impact assessment report is enclosed in **Appendix B**.

6.3 Marine Traffic Impact Assessment

6.3.1 A marine traffic impact assessment has been conducted to assess and evaluate potential marine traffic impacts and cumulative effects arising from the proposed development within the study area during the construction and operation.

6.3.2 The primary marine activity during construction and operation phases is the transportation of material. There are no marine construction works proposed under the proposed development.

6.3.3 It is not anticipated that the construction and operation of the proposed development will be impacted by metocean conditions or have a significant interface with any existing or planned marine facilities. It is also identified that the annual collision and grounding incident level or risk level would not significantly increase with the implementation of the proposed development.

6.3.4 It is identified that the risk values for all undesirable scenarios are within the as low as reasonably practicable (ALARP) region. To ensure risks are minimised and managed, further risk control measures are recommended for the construction and operation of the proposed development, including site survey, general marine traffic management measures, marine traffic control and a contingency plan for adverse weather and emergency conditions. A new risk value is calculated to evaluate the effectiveness of the proposed risk control measures. It is identified that the recommended risk control measures have further reduced risk values.

6.3.5 In the event of any changes to the approved development which may affect the findings or recommendations of the Marine Traffic Impact Assessment, a revised or supplementary Marine Traffic Impact Assessment shall be carried out by the Contractor based on his design.

6.3.6 The marine traffic impact assessment report is enclosed in **Appendix C**.

6.4 Environmental Review

6.4.1 A preliminary environmental review (PER) has been conducted for the proposed development to examine key environmental aspects related to the construction and operation, including air

quality, noise, water quality, waste management, land contamination, terrestrial ecology, landscape and visual impact, cultural heritage, and hazards to life.

6.4.2 Literature reviews are conducted to establish baseline environmental conditions. Major environmental elements and sensitive receivers in the vicinity of the Application Site have been identified and considered. While vegetation removal has been minimized through careful design, the recorded biodiversity in the potentially affected small areas is low. It is identified that these areas are generally under constant anthropogenic disturbance, such as human activities and heavy vehicle traffic. The direct ecological impact resulting from habitat loss is considered minor.

6.4.3 Potential impacts on sensitive receivers are identified, and a preliminary assessment was carried out based on the best available engineering information. Standard environmental practices and mitigation measures will be enforced to minimize these potential impacts. It is concluded that the proposed development would not lead to adverse environmental impacts with the implementation of the recommended mitigation measures and incorporation of appropriate design. Potential contamination arising from the proposed development should be assessed and remediated, if present, upon completion of the underground quarrying operation.

6.4.4 The preliminary environmental review report is enclosed in **Appendix D**.

6.5 Drainage and Sewerage Impact Assessment

6.5.1 A drainage and sewerage impact assessment has been conducted to assess the potential drainage and sewerage impact on the existing systems due to the proposed development.

6.5.2 The proposed development would not interfere with the existing drainage system, which collects the surface runoff. In general, the flow path and catchments after development will be similar to those before development. The catchment areas and drainage characteristics of the concerned catchments have no change. Albeit no change of the surface drainage characteristics is anticipated, groundwater seepage into the underground quarry shall generate additional drainage flow. Based on the drainage impact assessment, the groundwater seepage to be discharged from the cavern during the construction and operation phase is anticipated to be insignificant, with only <1% increase compared with the existing surface runoff from the catchment to the existing drainage system. With the proposed drainage channels in place, no potential drainage impacts arising from the proposed development are expected to affect the existing drainage system.

6.5.3 The average daily sewage generated from the proposed development is minimal. Domestic sewage will be tanked away by registered waste collector(s). Industrial wastewater from concrete production will be treated by the on-site wastewater treatment plant and then reused for production. If necessary, discharge license for the discharge of effluent from the site under the Water Pollution Control Ordinance (WPCO) shall be obtained. Therefore, the sewage generated by the proposed development would not be directly discharged to the existing sewerage network. Based on the sewerage impact assessment, no adverse sewerage impact is anticipated from the proposed development.

6.5.4 The drainage and sewerage impact assessment report is enclosed in **Appendix E**.

6.6 Waterworks Impact Assessment

6.6.1 A waterworks impact assessment has been conducted to assess the potential impact on the existing waterwork facilities due to the proposed development.

6.6.2 The proposed development is located at the most downstream water mains network of the Tsing Yi water supply zone. After considering the system supply capacity and the convenience of connection to the existing water supply systems, connection to the water mains to the east of the proposed development near Tam Kon Shan Portal supplied by Tsing Yi North Low Level Fresh Water Service Reservoir (TYNLLFWSR) is proposed.

6.6.3 It is proposed that the waterworks connecting to the proposed development from the existing network will be undertaken by the quarry operator as part of the quarry contract. The details of the new connection and its alignment are subject to further discussion with WSD by the quarry operator, so that the actual water demand and the alignment of the new water pipe could fulfil the operational requirements.

6.6.4 Based on the assessment results, the proposed development would require an additional water demand, which is approximately 7.9% of and does not exceed the capacity of the TYNLLFWSR.

6.6.5 It is envisaged that the waterworks impact arising from the proposed development on the existing water supply system is acceptable.

6.6.6 The waterworks impact assessment report is enclosed in **Appendix F**.

6.7 Landscape Assessment

6.7.1 Landscape Assessment has been conducted to assess the impact on the landscape due to the proposed development.

6.7.2 Recognizing that natural terrain is a precious and irreplaceable resource, the project has been designed with the principle of minimal disturbance wherever possible. The underground quarry itself will not disturb the natural terrain above. Surface works are limited to the functional minimum required, such as the portals and ancillary operation area required to support the underground quarry. Though the Contractor will be allowed to slightly enlarge the surface land to the west at Ngau Kok Wan, this proposed expansion area is not entirely a “natural” slope. Instead, its majority would be formed by a registered man-made fill slope (Slope no. 6SE-D/F88) where anthropogenic disturbance has been documented and observed.

6.7.3 A broad-brush survey on the landscape resources, such as the approximate number of trees/tree groups within the site (including information on Old and Valuable Trees, trees of particular interest, rare and precious species, protected species scheduled under Cap. 96 and 586, mature trees) has been conducted. The survey estimates the approximate number of trees/tree groups that will be affected due to the proposed development, and the assessment also outlines the compensatory planting strategy.

6.7.4 A 1:1 compensatory ratio may not be achieved for the slope works due to site constraints, including the absence of suitable flat land, steep slope gradients, anticipated low survival rates, and the poor adaptability of heavy standard trees on slopes. Suitable compensatory planting will be adopted, with consideration of feasibility and biodiversity. For instance, woodland shrubs and climber mix will be deployed on the steep portal slopes. Additionally, the opportunity of off-site tree compensation has also been explored. It is agreed that off-site tree compensation of not less than 75 nos. of trees will be carried out in the area designated by Tsing Ma Control Area (TMCA) of HyD.

6.7.5 The schematic landscape design and landscape treatments/mitigation measures have been proposed to minimize the potential impacts. The Landscape Assessment can be referred to **Appendix G**.

7 Public Consultation

7.1 Kwai Tsing District Council

7.1.1 CEDD has consulted the District Facilities and Works Committee of the Kwai Tsing District Council (KTDC) on the proposed development on 8 April 2026 and a follow-up meeting on 7 May 2026. CEDD introduced and highlighted the importance of the proposed development. The assessment findings and the proposed mitigation measures to minimize the impacts are also elaborated as substantiation.

7.1.2 During the District Council (DC) consultation, DC members primarily expressed their concern about the potential traffic impact and communication channels with the project team throughout the implementation period.

7.1.3 In response to the concerns raised by DC members, the restricted period for using Tam Kon Shan Interchange and Tsuen Tsing Interchange at AM peak by site traffic is extended. In addition, two accesses (i.e. existing access road connecting NWTYI to Ngau Kok Wan and the off-slip of Tsing Yi North Coastal Road) shall be maintained throughout the project period to access the Application Site, thereby further reducing the use of Tam Kon Shan Interchange by site traffic. Shuttle bus service or meal arrangement shall also be provided by the quarry operator to facilitate site staff during mealtimes. To maintain close communication with stakeholders, the quarry operator would set up dedicated hotlines for receiving enquiries from DC members and the public throughout the project period.

7.2 Harbourfront Commission

7.2.1 CEDD has consulted the committee members of the Task Force on Harbourfront Developments in Kowloon, Tsuen Wan and Kwai Tsing (KTF) on the proposed development in July 2026.

7.2.2 According to the feedback from the committee members, they primarily expressed their concern about the potential visual impact on the coastal landscape, the disturbance to natural terrain, and the compatibility with the recreation and tourism planning intention of the “OU(RTRU)” zoning.

7.2.3 In response to the concerns raised by the committee members, the design has adopted an avoidance-first approach, limiting surface works to the functional minimum required for safe operations while keeping the natural terrain above the quarry largely undisturbed. In addition, landscaping and architectural mitigation measures will be implemented. Importantly, the use is not permanent in nature which the site will be reinstated upon project completion. Therefore, the long-term recreation and tourism potential of the area will not be prejudiced.

8 Justifications

8.1 Alignment with Government Policy on Long-term Strategy for Cavern Development

8.1.1 Land supply is always limited in Hong Kong. A key priority of the current-term Government is to increase land supply. Given Hong Kong's hilly terrain and strong rock formations, cavern development by means of underground quarrying is a practical solution, especially in urban fringe areas, for enhancing long-term land availability and supporting sustainable growth and stability. This proposed underground quarrying delivers substantial long-term public benefits to Hong Kong by generating valuable future cavern space and contributing significantly to the city's strategic land bank.

8.1.2 Upon completion of the underground quarry, the cavern space created can be used for housing various facilities. Relocation of existing facilities to the cavern space could release any prime surface land for other value-added developments. Alternatively, the cavern space could be arranged for developing other facilities. The exact after-use will be determined based on the evolving government needs in the future, serving as a flexible and resilient component of Hong Kong's long-term land strategy.

8.1.3 The proposed underground quarrying operation represents an enabling stage for the creation of substantial underground cavern space which may be utilised for a wide range of future land uses subject to separate studies and statutory procedures. International and local experience has demonstrated that underground caverns can successfully accommodate various facilities, such as recreational facilities, logistics, warehouses, utilities, and industrial operations, thereby reducing demand for surface land.

8.1.4 In the context of Tsing Yi, the future cavern space may provide opportunities to support the long-term planning intentions of the surrounding industrial and marine-oriented areas. Subject to future feasibility studies and operational requirements, selected industrial functions that do not require direct surface exposure could potentially be accommodated underground, thereby enhancing land-use efficiency and operational flexibility within the district.

8.2 Sustainable Use of Local Resources

8.2.1 Shortage of rock import from Chinese Mainland due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, the proposed TYNUQ shall be proceeded timely, along with other quarry-related initiatives to maintain local rock supply. As advocated in the 2025 Policy Address, the innovative "Underground quarry-cum-cavern development" model under this proposed development aims to enhance long-term land supply more efficiently while providing a sustainable local source of rock materials. Under this approach, excavated materials from the underground quarry will be reused as aggregates for the construction industry, directly supporting Hong Kong's economic growth and resource sustainability.

8.2.2 The underground quarry will receive surplus rock generated from other local construction projects for further processing into valuable rock products, such as concrete and asphalt. The proposed development not only offers a sustainable way out for the surplus rock, but also largely relieves the operational pressure on public fill reception facilities and landfill sites.

8.2.3 Tsing Yi is located at the central hub of Hong Kong, with a superior geographical position. Establishing an underground quarry in Tsing Yi not only stabilizes the local supply of rock materials but also strengthens the supply chain for local concrete and/or asphalt production, particularly in support of the development of the Northern Metropolis.

8.2.4 The proposed development is strategically located near an established industrial cluster in Tsing Yi. The Application Site is situated in close proximity to existing areas zoned "Other Specified Uses" annotated "Cement Plant" ("OU(Cement Plant)"), "Other Specified Uses" annotated "Boatyard and Marine-oriented Industrial Uses" ("OU(BMIU)"), as well as other industrial operations along the western and southern shoreline of Tsing Yi. Furthermore, a temporary concrete batching plant has recently been approved in the vicinity under Application No. A/TY/150.

8.2.5 The proposed underground quarry-cum-cavern development can generate planning and

operational synergies with these existing and planned industrial activities. In addition to processing rock excavated from the underground quarry, the proposed development may also receive surplus good-quality rock arising from local construction projects for recycling and further processing into aggregates and other construction materials. Such materials may subsequently be supplied to existing and planned concrete batching plants, asphalt production plants, and other advanced construction industries within the district and elsewhere in Hong Kong.

8.2.6 Tsing Yi occupies a strategic position within the territory and is well connected by both road and marine transport networks. The availability of existing barging points at Ngau Kok Wan and Wok Tai Wan, together with direct connections to the strategic road network, enables efficient receipt of surplus rock and distribution of construction materials. The proposed development would therefore strengthen the local construction material supply chain and enhance resource circulation within Hong Kong.

8.3 Creation of Revenue Source for the Government

8.3.1 The proposed development offers a new revenue stream for the Government, as it will be implemented under a revenue-generating contract.

8.3.2 In alignment with the Government's latest initiative to identify new sources of income, this proposed development presents a viable opportunity to support this direction.

8.4 Compatible with Surrounding Context

8.4.1 The Application Site is on Government land and no insurmountable constraints on land ownership are envisaged for the proposed development. The Application Site is distant from residential areas and adjoining to the existing area with a similar nature of land use (i.e. industrial operations and mix of boatyards and workshops). This indicates that the proposed development is compatible with the surroundings.

8.4.2 The Application Site is surrounded by hilly terrain. The project has been designed from the outset with the principle of minimal disturbance to the natural terrain wherever possible. More importantly, the underground quarry itself will generally not disturb the natural terrain above through confining surface works strictly to the portals and ancillary operation area required to support the underground quarry. This spatial relationship between the underground quarry and the undisturbed natural terrain above is clearly illustrated in the typical longitudinal section provided in **Figure 8.1**. With the surface works restricted to the ancillary operations at Ngau Kok Wan as well as Wok Tai Wan and the implementation of height restrictions for ancillary activities, the proposed development is considered compatible with the rural character of the area.

8.4.3 It is fully acknowledged that the GB is a statutory zoning intended for natural environment conservation and ecosystem protection. The project's intersection with the Green Belt has been carefully managed through the principle of avoidance-first, resulting in a minimal site formation footprint confined to Ngau Kok Wan and Tam Kon Shan. As the majority of the proposed development is underground and the ancillary operation will be located on already formed land (i.e. Ngau Kok Wan and Wok Tai Wan), the proposed development aligns with the planning intention of the "GB" zone, which aims to conserve the existing natural environment. While minimal site formation works at the portals will necessitate the removal of some trees and vegetation, compensatory planting, such as woodland shrubs and climber mix, will be deployed on the steep portal slopes as a mitigation measure to restore the green buffer with the surrounding environment and maintain the visual integrity of the Green Belt. Together with other mitigation measures, such as erection of decorative screen hoarding, sensitive and aesthetically pleasing design, the modified landform could be blended into the surrounding landscape, effectively reducing visual and environmental impacts and ensuring that residual impacts are insignificant.

8.5 Not Prejudice the Long-term Planning Intention of the "OU(RTRU)" Zone

8.5.1 The underground quarrying is an interim process to create underground space and can be regarded as temporary in nature. Upon completion of the underground quarrying works, the surface land as well as the newly created underground space will be handed back to the Lands Department (LandsD) as a valuable land bank for the Government's future development.

Therefore, the proposed use remains transitional, ensuring it will not prejudice the long-term planning intention of the "OU(RTRU)" zoning.

8.5.2 Furthermore, the Tourism Commission (TC) has recently advised that there is currently no concrete or immediate project planned for the piece of land zoned as "OU(RTRU)". Since the Site will be reinstated in accordance with the requirements of relevant government departments and handed back to the Government for future comprehensive planning and development, the temporary utilization of the Site by this project will not permanently alter or compromise its future potential for recreation and tourism activities.

8.6 No Adverse Environmental and Engineering Impact

8.6.1 As discussed in Section 6, comprehensive technical assessments are conducted on geotechnical, traffic, environmental, landscape and visual, drainage and sewerage, and waterworks impacts.

8.6.2 With the incorporation of appropriate design, implementation of control and mitigation measures, no adverse environmental and engineering impact is anticipated from the proposed development.

9 Conclusion and Recommendations

9.1.1 This supporting planning statement is submitted under Section 16 of TPO to seek approval for the implementation of the proposed development (TYNUQ). The request for planning permission involved a piece of Government land located at Ngau Kok Wan, Wok Tai Wan, and southwest of Tam Kon Shan Road, and at caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island in SCVA No. 10 – Tsing Yi North.

9.1.2 The proposed development is regarded as “Government Use” which falls under Column 2 of the Schedule of Uses in “GB”, “OU(RTRU)”, “OU(BMIU)” requiring planning permission from the Town Planning Board. According to the covering Notes of the OZP, in any area shown as “Road”, all uses or developments require permission from the Town Planning Board.

9.1.3 Technical assessments on geotechnical, traffic, environmental, landscape and visual impact, drainage and sewerage, and waterworks impacts have been conducted to ascertain the technical suitability of the proposed development. The conclusion of the technical assessments revealed that no adverse impact would be generated from the proposed development with the implementation of appropriate mitigation measures.

9.1.4 The proposed development would bring significant social, economic, and environmental benefits to Hong Kong. Implementation of TYNUQ is fully in line with the government policy on the creation of revenue sources, sustainable use of local resources, cavern development, and land supply. Underground quarrying is merely an interim process for creating an underground space. The initiative of “Underground quarry-cum-cavern development” supports rock supply in the short term and unlocks valuable underground land for future development. In particular, rock caverns are suitable for Hong Kong's long-term development from a geological perspective.

9.1.5 The proposed development takes into account the implementation programme of proposed developments in Hong Kong, such as the Northern Metropolis, and contributes toward enhancing the synergy effect by supplying sufficient concrete and/or asphalt.

9.1.6 In light of the abovementioned justifications and merits, the proposed development is considered acceptable for approval by the TPB. We sincerely seek the favourable consideration from the TPB to give support to this Application.

END OF TEXT

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LEGEND:

PARKING FACILITIES
- MOTORCYCLE
- PRIVATE CAR (PC)
- LIGHT GOODS VEHICLE (LGV)
- HEAVY GOODS VEHICLE (HGV)

LOADING/UNLOADING FACILITIES
- GOODS VEHICLE (GV)
- CONTAINER VEHICLE (CV)

- INDICATIVE AREA FOR CONCRETE BATCHING OPERATIONS
- PROPOSED PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE AREA FOR ASPHALT PRODUCTION OR CONCRETE BATCHING OPERATIONS
- INDICATIVE STRUCTURE
- INDICATIVE INTERNAL CIRCULATION
- INDICATIVE AREA FOR ROCK PROCESSING OPERATIONS
- INDICATIVE RETAINING STRUCTURE
- PROPOSED MAIN ACCESS TUNNEL
- INDICATIVE CONVEYOR BELT SYSTEM

* THE SCHEMATIC LAYOUT ARRANGEMENTS OF THE ANCILLARY OPERATIONS AND PARKING FACILITIES AT NGAU KOK WAN SURFACE LAND ARE INDICATIVE ONLY, SUBJECT TO THE CONTRACTOR'S DESIGN IN THE CONSTRUCTION / OPERATION PHASES.

INDICATIVE ARRANGEMENT OF ROCK CRUSHING COMPLEX (R1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

ROCK PROCESSING OPERATIONS (MAX. 35m OR +40mPD HIGH)

INDICATIVE ARRANGEMENT OF CONCRETE BATCHING COMPLEX (C1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

INDICATIVE ARRANGEMENT OF CONCRETE BATCHING COMPLEX (C1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

CONCRETE BATCHING OPERATIONS (MAX. 35m OR +40mPD HIGH)

ASPHALT PRODUCTION OR CONCRETE BATCHING OPERATIONS (MAX. 35m OR +40mPD HIGH)

INDICATIVE ARRANGEMENT OF ASPHALT/CONCRETE PRODUCTION COMPLEX (A1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

RETAINING WALL (APPROX. 20m HIGH)

RETAINING WALL (APPROX. 10m HIGH)

NGAU KOK WAN PORTAL

MAIN ACCESS TUNNEL OF 10m (H) x 16m (W)

TSING YI NORTH COASTAL ROAD

R1 C1 A1 PC (1-8) PC (9-10) HGV (1-3) GV-L/UL (1) GV-L/UL (5-6) GV-L/UL (7) GV-L/UL (2-4) LGV(1) LGV(2) LGV(3) LGV(4) LGV(5) MOTOR (1-5)

Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm

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PROJECT
項目
UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主
土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
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修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容說明	CHK. 核對

STATUS
階段

SCALE 比例: A3 1 : 1000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
INDICATIVE LAYOUT AT NGAU KOK WAN PORTAL

SHEET NUMBER
圖紙編號
60733229/PA/FIGURE 5.2

ISO A1 594mm x 841mm

Approved:

Checked:

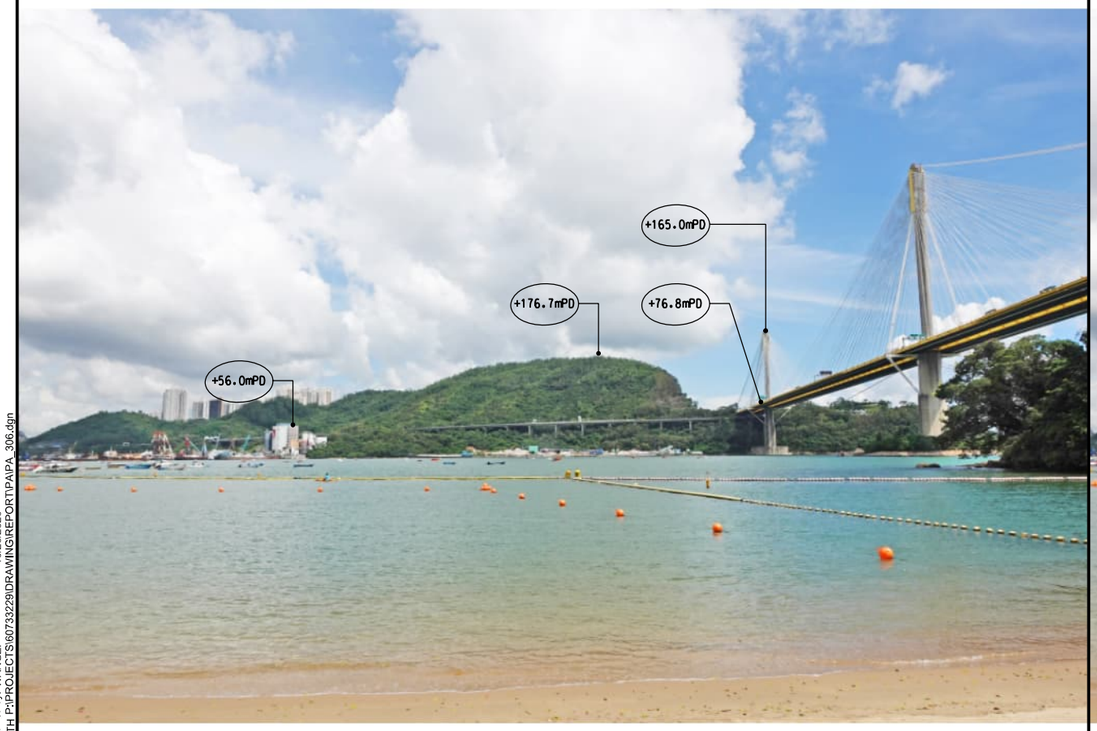
Designer:

Project Management Initials:

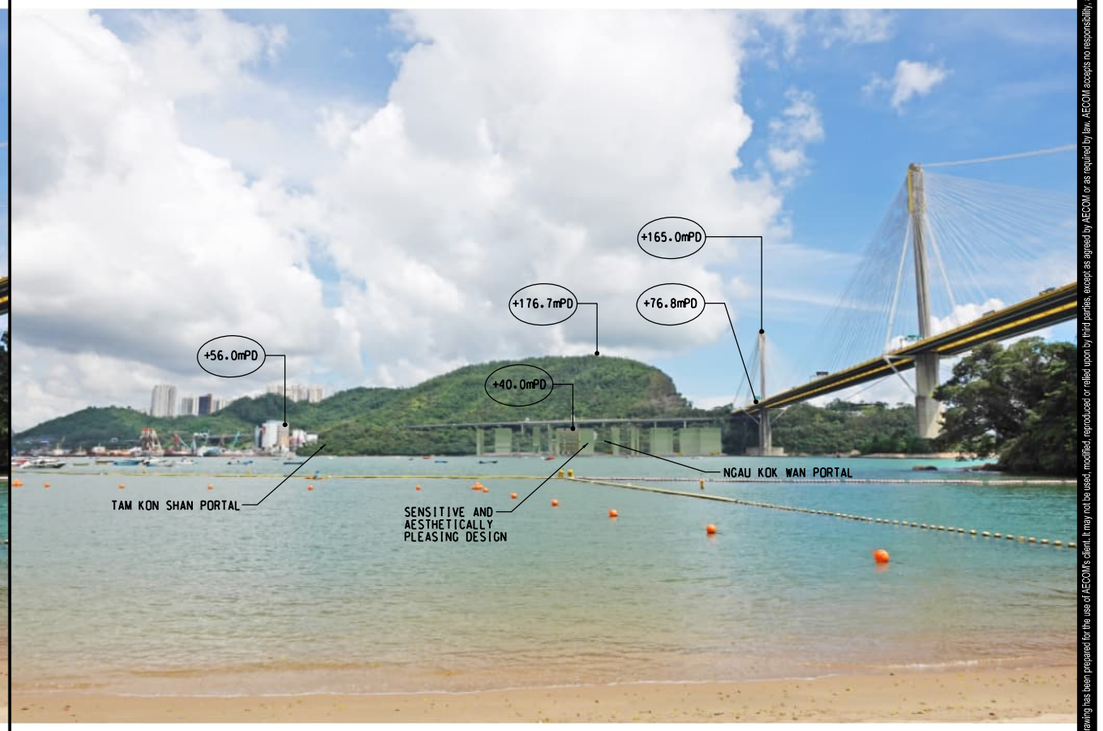
LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 1 - BASELINE SCENARIO



VIEWPOINT 1 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
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SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 1 OF 4)

SHEET NUMBER
圖紙編號

60733229/PA/FIGURE 5.5

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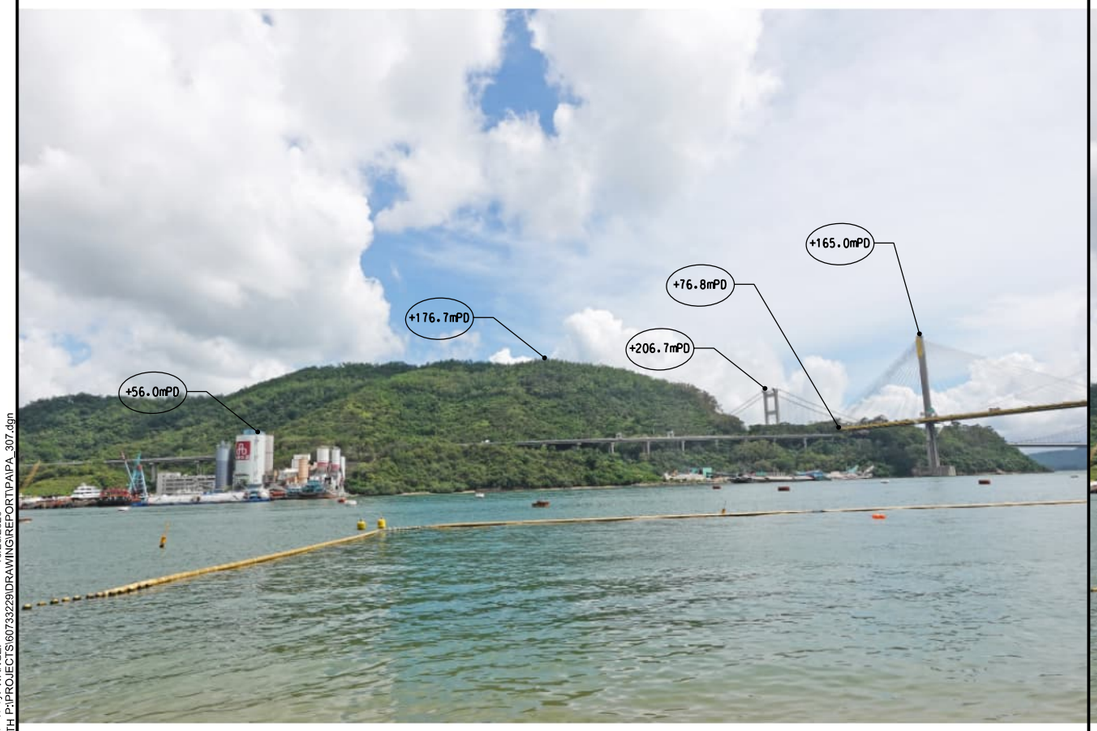
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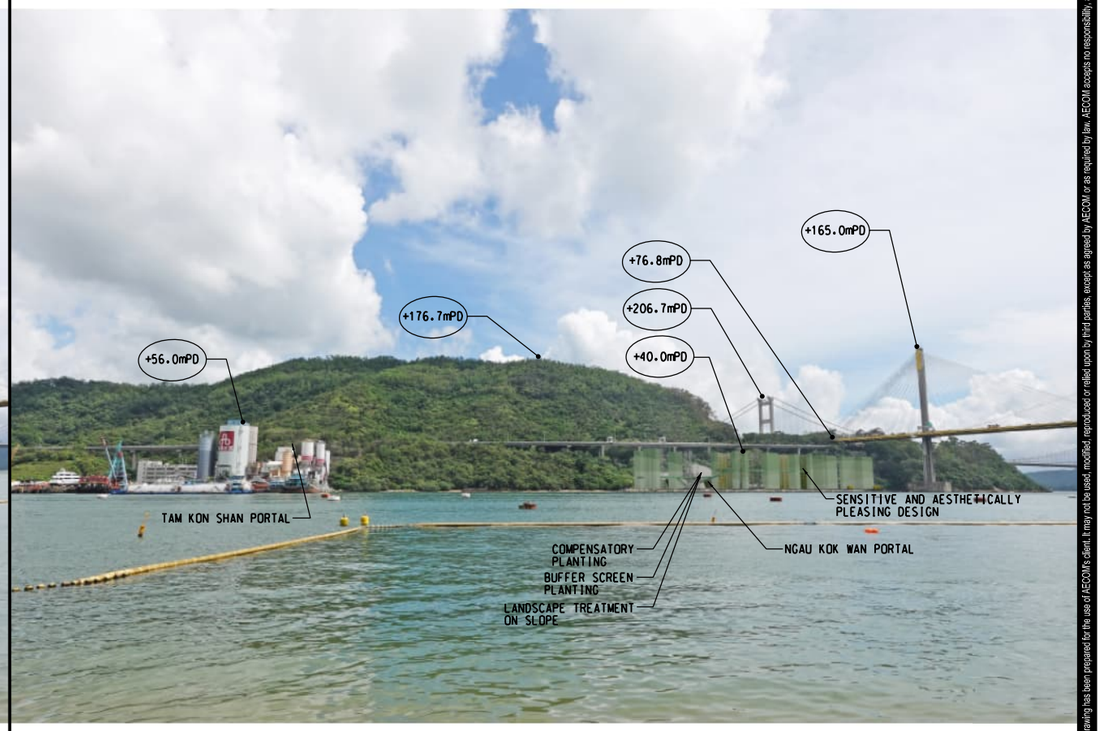
LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 2 - BASELINE SCENARIO



VIEWPOINT 2 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
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Civil Engineering and Development Department

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DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
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PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 2 OF 4)

SHEET NUMBER
圖紙編號

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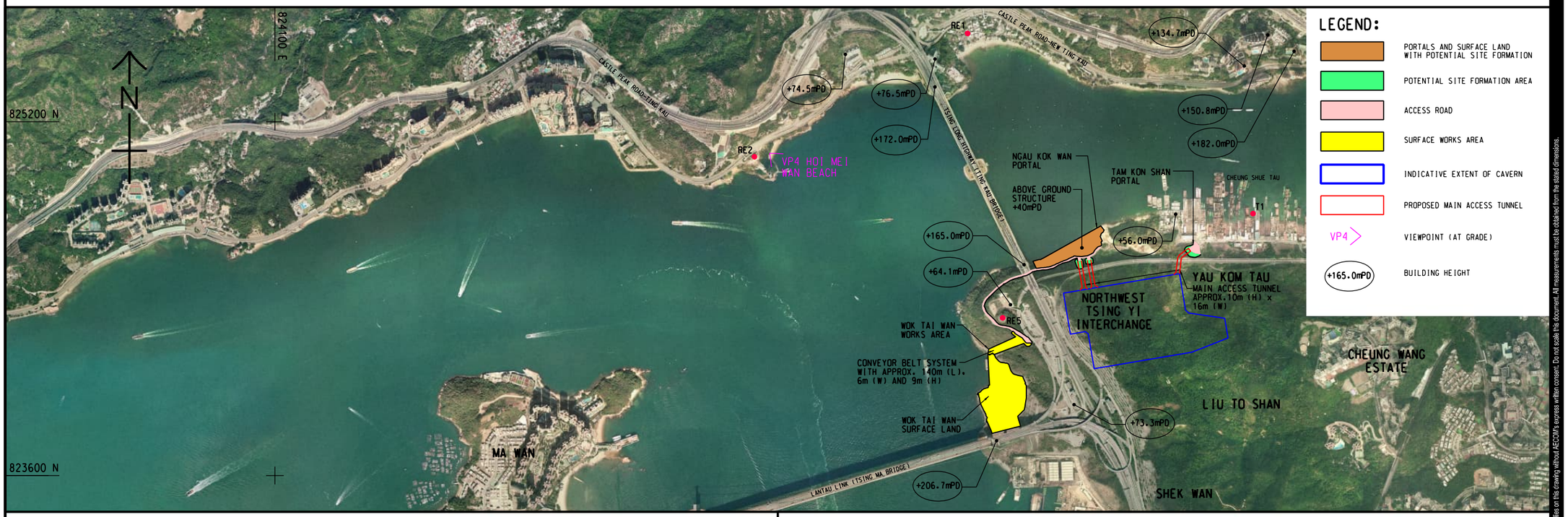
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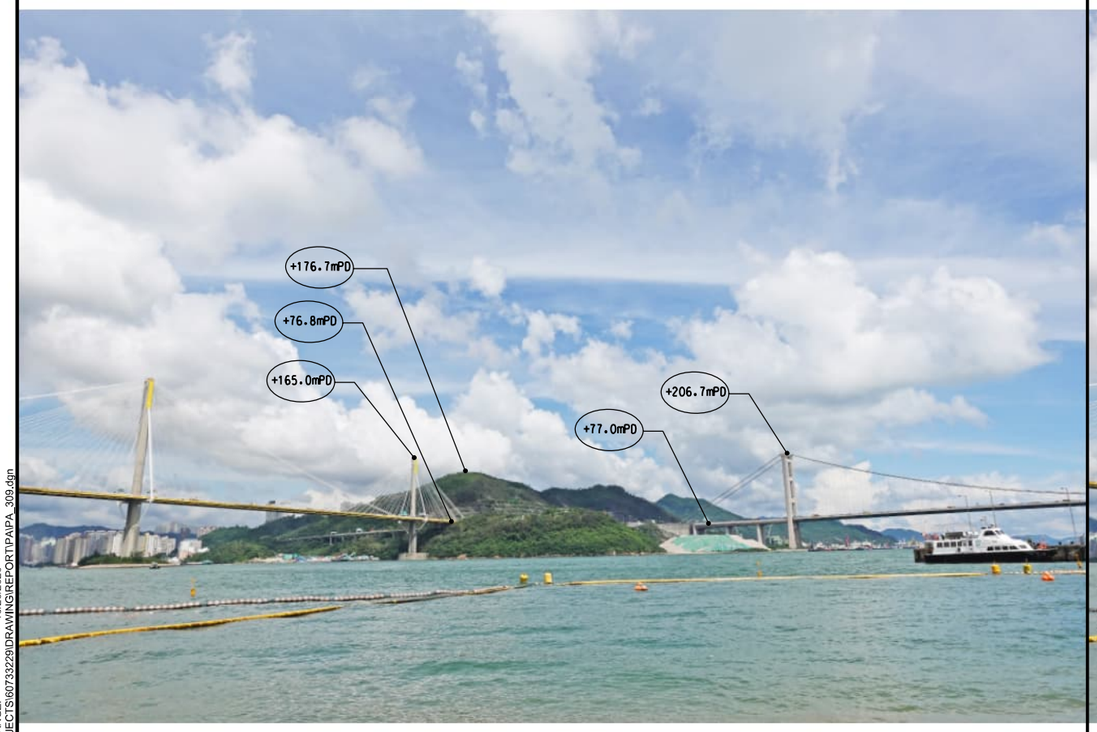
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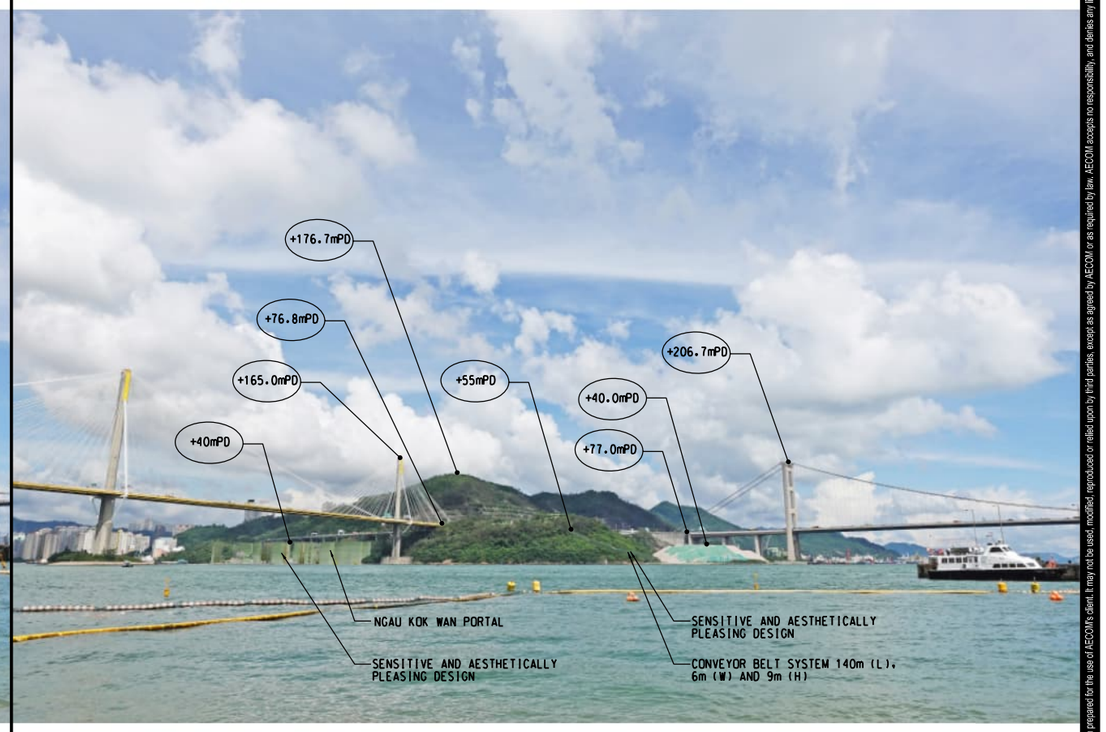
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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SHEET TITLE
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PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 4 OF 4)

SHEET NUMBER
圖紙編號

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Appendix B

Traffic and Transport Impact Assessment Report

Agreement No. CE 79/2023 (GE)

**Underground Quarrying at Tsing Yi North –
Investigation, Design and Construction**

**Traffic and Transport Impact Assessment Report (Final)
(Ref. B20b-04)**

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Drawing

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1 INTRODUCTION

1.1 Project Background

1.1.1 Rock, principally as aggregates in concrete, is the most predominately used construction material for buildings and infrastructure developments in Hong Kong. Local quarries, where rock is sourced for such uses, are strategically important to the construction industry in Hong Kong. Apart from extraction of virgin rock, surplus rock generated from local construction projects can be processed and recycled at quarries for beneficial reuse. In addition, the quarries are suitable sites for housing manufacturing plants of rock-derived construction materials such as ready-mixed concrete and asphalt. Historically, rock has been quarried in Hong Kong by way of surface quarrying – open/pit extraction at the ground surface. By doing this, the quarries have been operating as self-financing business entities rather than government-funded facilities.

1.1.2 Currently, Lam Tei Quarry (LTQ) at Tuen Mun is the only active local quarry, for which the current quarry contract is scheduled for completion in 2025. Recognising the importance of local quarries in minimizing the risk of irregularities in the supply of imported rock, the Government has been searching for suitable sites to set up new surface quarries in order to maintain local rock supply, with a view to having at least one new quarry to dovetail with the closure of Lam Tei Quarry.

1.1.3 Apart from rock materials, Hong Kong is also desperately in need of developable land to meet socio-economic needs. Creating spaces in underground rock caverns is one of the solutions in boosting land supply in the medium to long terms. To create land in this manner, the cavern formation will not only generate a large amount of good quality rock, but this process is also a source of rock materials which could be an integral part of the local rock supply in future. This is the underlying concept of the initiative of underground quarry-cum-cavern development, which is unprecedented in Hong Kong. There are, nevertheless, successful examples of this approach in other countries, e.g. Switzerland, Norway and the United States of America, where the entire operation combining quarrying and subsequent uses of the cavern spaces created (e.g. cold storage, data centres, warehousing and recreational complexes) is confirmed to be commercially viable.

1.1.4 Preliminary reviews under the Strategic Cavern Study identified the prospect of this concept and thereby proposed it as one of the initiatives under the long-term strategy for cavern developments in Hong Kong. Accordingly, in November 2018, when formulating the local quarry strategy for maintaining the local rock supply, the Government also recognized this initiative as a potential long-term solution that is complementary to new surface quarries. In other words, underground quarrying in Hong Kong is being pursued as a dual-benefit policy initiative contributing to enhanced land supply and sustainable use of local rock resources.

1.1.5 In 2017, CEDD commissioned the Underground Quarry Study to evaluate the feasibility of this initiative, covering various aspects including technical acceptability, statutory and regulatory requirements, business model analyses and implementation mechanisms. Based on the results of a systematic territory-wide site search, the hillside at Tsing Yi North, which is one of the 48 Strategic Cavern Areas (SCVAs) as delineated in the Cavern Master Plan (CMP) jointly promulgated by CEDD and PlanD in 2017, was recommended to take forward.

1.1.6 In 2019, the CEDD and PlanD jointly commissioned the Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study (“Pilot Study”) to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. The study findings concluded that it is worthwhile launching a scheme of underground quarrying at Tsing Yi North. It is envisioned as an integral part of the long-term local quarry strategy. Shortage of rock import from the mainland China due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, it is timely to proceed with the scheme, along with other quarry related initiatives to maintain local rock supply.

1.1.7 Following the commencement of the IDC assignment for developing and designing the pilot underground quarry at Lam Tei, Tuen Mun in 2021, CEDD launched an IDC assignment for developing a new underground quarry at Tsing Yi North in 2023.

1.1.8 To implement the proposed underground quarry-cum-cavern development at Tsing Yi North, it is necessary to conduct a site-specific investigation and design for the scheme, building on the work completed under the Underground Quarry Study and the pilot study.

1.1.9 This Assignment aims to complete all the tasks necessary and sufficient to undertake the assignments including statutory procedures, public consultation, detailed technical assessments, broad design for potential facilities, formulation of implementation arrangement etc. at the investigation, design and early construction stages, in order to enable commencement of the underground quarrying tentatively targeted in 2027. These include various impact assessments, reference design of caverns and the underground quarrying-related activities (e.g. the materials processing/manufacturing plants and their operations) coordinated or implemented by the Government, business case analyses, implementation strategy and procurement arrangements. Consultation within the Government and with public and relevant stakeholders/industry players will also be carried out.

1.1.10 This Assignment will also look into any works potentially required by the quarry operators during the operation stage of the proposed underground quarrying. Given its pilot nature, the underground quarrying operation will be subject to the prevailing and/or new implementation mechanisms such as contract form, site supervision and any independent audits required. These will be examined and tailor-designed under this Assignment. Depending on the findings, it may call for work or tasks for which the Government may procure consultancy services separately during the operation stage.

1.1.11 AECOM Asia Co. Ltd. has been commissioned by the Civil Engineering and Development Department (CEDD) on 13 June 2024 to undertake Agreement No. CE 79/2023 (GE) – Underground Quarrying at Tsing Yi North – Investigation, Design and Construction. It is targeted to commence construction in Year 2027.

1.2 Objectives of the Traffic and Transport Impact Assessment

1.2.1 According to Clause 6.15.1 of the Brief, a detailed Traffic and Transport Impact Assessment (TTIA) shall be carried out for the Development, with a view to forecasting future traffic and transport demand, identifying any adverse impacts on the existing, committed and planned road networks in the vicinity during construction and operation stages, and proposing improvement measures at the problematic areas identified, examining the adequacy of the existing and planned transport system, and the requirement for new road connections, capacity improvements or enhancement arising from quarrying and the ancillary operations.

1.2.2 The objectives of the TTIA are as follows:

a) to review the findings and conclusions from the preliminary traffic and transport impact assessment (PTTIA) under the Underground Quarry Study such as temporary traffic arrangement, permanent changes (e.g. new roads, road diversions, road improvements, etc.) and mitigation/improvement measures for the Tsing Yi North Underground Quarry (TYNUQ);

b) to identify the elements of the community, existing traffic characteristics, possible interfacing projects, known transport proposals and future developments adjacent to TYNUQ which may also affect the surrounding traffic conditions during the span of the operation of the TYNUQ.

c) to incorporate any suggestions and address concerns from the relevant stakeholders/public obtained during the public consultation exercise;

d) to review and propose any necessary road widening and/or improvement measures in order to mitigate any traffic and transport impact on the existing/committed/planned road networks arising from the development and operation of the quarry with the consideration of other cumulative traffic effect from other planned/committed projects in the vicinity of the site;

e) to review whether there are other alternative access routes and propose such alternatives, if applicable, which may be in form of roads or new access road to be

constructed by-passing heavily trafficked roads/areas, residential areas, in order to avoid or minimise the traffic and transport impact arising during the development and operation of the quarry;

f) to introduce a structured and systematic approach to identify, assess and mitigate potential adverse traffic and transport impacts, which might arise from the development and operation of the quarry;

g) to identify, assess and specify methods, measures and standards to be included in the reference design of the quarry and its subsequent operation, which are necessary to mitigate these impacts and reduce them to acceptable levels;

h) to propose and implement suitable traffic diversion, temporary traffic arrangement schemes and other mitigation/improvement measures to accommodate the additional traffic flow at the time of development and operation of the quarry so that any adverse traffic and transport impacts can be kept minimum and mitigated to acceptable levels;

i) to enable an agreement in principle to be reached amongst the relevant government departments on the traffic diversion and arrangement schemes and road improvement proposal(s) for the development and operation of the quarry;

j) to identify the anticipated public transport demand raised from the site and suggest transport mode for those demand, and needs for public transport facilities; and

k) to demonstrate all mitigation/improvement measures to be introduced.

1.3 Purpose of this Report

1.3.1 The main purpose of this Traffic and Transport Impact Assessment (TTIA) Report is to assess the traffic impact to the nearby road network within the proposed area of influence (AOI) due to the proposed development, and the structure of this Report is outlined below.

1.4 Purpose of this Report

1.4.1 This Report is organized into 7 sections including this introductory section:-

- Section 1 - outlines the background, and sets out the objectives, purpose and structure of this Report;
- Section 2 - reviews the existing traffic conditions within the area of influence including the site location, junction and road link capacity assessment;
- Section 3 - describes the development proposal, requirements of parking and loading/unloading provision and public transport arrangement;
- Section 4 - presents the approach, methodology and results of vehicular traffic demand forecasts, and junction and road link capacity assessment for the scenario of “Without” and “With” the proposed development for the design year during operation stage;
- Section 5 - presents the sensitivity test scenario for alternative site access arrangements during operation stage;
- Section 6 - presents the potential construction traffic impact due to the proposed development and traffic management measures to minimize the construction traffic impact if necessary; and
- Section 7 - presents the summary of findings.

1.5 Nomenclature and Abbreviations

1.5.1 The following table lists out the abbreviations for expressions adopted in this Report.

Table 1.1 Abbreviations Adopted in this Report

Abbreviation	Full Expression
AOI	Area of Influence
ATC	Annual Traffic Census
BDTM	Base District Traffic Model
CEDD	Civil Engineering and Development Department
DEVB	Development Bureau
DFC	Design Flow/Capacity
FS	Feasibility Study
FSD	Fire Services Department
GIU	General Industrial Use
GMB	Green Minibus
GV	Goods Vehicle
HD	Housing Department
HKPSG	Hong Kong Planning Standards and Guidelines
HKSAR	Hong Kong Special Administrative Region
J/O	Junction
LATM	Local Area Traffic Model
L/UL	Loading/Unloading
NKW	Ngau Kok Wan
TPDEM	Territorial Population and Employment Data Matrix
TTIA	Traffic and Transport Impact Assessment
NMDS	Northern Metropolis Development Strategy
NWTYI	North West Tsing Yi Interchange
PCU	Passenger Car Units
PlanD	Planning Department
PLB	Public Light Bus
PT	Public Transport
PV	Private Vehicle
RC	Reserve Capacity
STM	Strategic Transport Model
TD	Transport Department
TFPD	Task Force Planning Dataset
TKSR	Tam Kon Shan Road
TPDM	Transport Planning and Design Manual
TPU	Tertiary Planning Unit
TGS2006	Trip Generation Survey 2006
TTA	Temporary Traffic Arrangement
TYNCR	Tsing Yi North Coastal Road
VC	Volume-to-Capacity Ratio
VOC	Vehicle Operating Cost
VOT	Value of Time
WENT	West New Territories

2 EXISTING TRAFFIC CONDITIONS

2.1 Existing Road Network

2.1.1 The Site is located in the northwest of Tsing Yi. It is bounded by Tsing Yi North Coastal Road (TYNCR) to the north, North West Tsing Yi Interchange (NWTYI) to the west, MTR Airport Express and Tung Chung Line to the south, and near Tam Kon Shan Interchange to the east. The existing road network surrounding the Site is shown in **Figure 2.1** and the existing junction layouts are illustrated from **Figure 2.2** to **Figure 2.4**.

2.1.2 Tsing Ma Bridge is a dual-3 expressway connecting the Cheung Tsing Highway to the east and Lantau Link to the west. This expressway is currently acting as the major corridor connecting the western end of Tsing Yi Island and Ma Wan / Lantau Island.

2.1.3 Tsing Long Highway (including Ting Kau Bridge) is a dual-3 expressway connecting Cheung Tsing Highway to the south and Tai Lam Tunnel to the north. It acts as the major north-south corridor connecting Tsing Yi Island and Shum Tseng via Ting Kau Bridge.

2.1.4 Cheung Tsing Highway is a dual 1/2 expressway near Tsing Yi Road West with increasing of traffic lanes after merging with Tsing Sha Highway which become a dual-4/5 carriageway near NWTYI to the west. It is an important corridor for the middle and southern parts of Tsing Yi Island connecting Kwai Chung via Cheung Tsing Tunnel and Lai Chi Kok via Nam Wan Tunnel to the east.

2.1.5 Tsing Yi North Coastal Road is a dual-2 district distributor connecting Tsing Tsuen Road to the east and Tsing Long Highway to the west. It serves as an important east west corridor for the northern part of Tsing Yi Island.

2.1.6 Tam Kon Shan Road (TKSR) is currently a single-2 carriageway and is classified as local distributor without stopping restrictions along the south side of the carriageway between the roundabout at the western end of the road and the slip road to TYNCR. Parking and loading/unloading activities of concrete trucks and heavy vehicles were observed.

2.1.7 Fung Shue Wo Road is in general a dual-2 local distributor connecting TKSR to the west and Tsing Yi Heung Sze Wui Road to the east which mainly serve the residential developments and schools along the carriageway.

2.1.8 Tsing Yi Road West is a single-4 district distributor (except for sections with central reserve near Fung Shue Wo Road, Ching Hong Road and Tsing Yi Road) which is a major north-south corridor stretching Fung Shue Wo Road to the north and Tsing Yi Road to the south in the middle of Tsing Yi Island.

2.1.9 Ching Hong Road is classified as a local distributor. It is a single-2 carriageway at the western section between Tsing Yi Road West and Ching Hong Road and becomes a dual-2 carriageway between Ching Hong Road and Tsing Yi Road at the eastern section of the road.

2.2 Area of Influence and Traffic Surveys

2.2.1 The proposed Area of Influence (AOI) of the development Site covers the surrounding road network with major road links connected to the development, as shown in **Figure 2.1**. With reference made to the Pilot Study within the proposed AOI, all key junctions (except free-flow junctions) and road links are included for assessment along the major ingress and egress routes from/to the site during operation phase, as shown in **Table 2.1** and **Table 2.2.**

Table 2.1 Identified Study Junctions

Index	Junction	Type
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority
J5	Tam Kon Shan Interchange	Roundabout
J6	Fung Shue Wo Road / Tsing Yi Road West	Signal

Index	Junction	Type
J7	Liu To Road / Tsing Yi Road West	Signal
J8	Ching Hong Road / Tsing Yi Road West	Signal
J9	Ching Hong Road / Chung Mei Road	Signal
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal

Table 2.2 Identified Study Road Links

Link Name	Direction	Capacity (pcu/hr)
L1 – Tsing Ma Bridge	EB	6,100
	WB	6,100
L2 – Ting Kau Bridge	NB	6,100
	SB	6,100
L3 - Unnamed access road near Lantau Link Visitors Centre	NB	500
	SB	500
L4 – Tam Kon Shan Road	EB	900
	WB	900
L5 - Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800
L6 - Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800
L7 – Tsing Yi North Coastal Road	EB	5,600
	WB	3,600
L8 – Cheung Tsing Tunnel	EB	5,400
	WB	5,400
L9 – Nam Wan Tunnel	EB	5,400
	WB	5,400
L10 – Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050
	SB	4,850
L11 - Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050
	SB	3,050
L12 - Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800
	SB	2,800
L13 – Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920
	WB	920
L14 - Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	1,250
	WB	1,250
LL1 - NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000
LL2 - NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800
LL3 - NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800
LL4 - NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800
LL5 - NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700

Link Name	Direction	Capacity (pcu/hr)
LL6 - NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100
LL7 – NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600
LL8 - Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800
LL9 - NWTYI – Tsing Long Highway southbound	SB	1,900
LL10 - NWTYI - Slip Road connecting LL9 to LL1	SB	3,600
LL11 - NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100
LL12 - NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900
LL13 - NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900
LL 14(a) - Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200
LL 14(b) - Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000
LL 14(c) - Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	SB	4,000
LL 14(d) - Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	SB	8,200

2.2.2 Classified vehicular counts were conducted at road links and/or classified vehicular turning movement counts were carried out at junctions, in which both the above two types of vehicular counts were recorded in 15-minute interval. The volume of different types of vehicles recorded during the surveys were converted into passenger car unit (pcu) factors which are stipulated in Volume 2 of Transport Planning and Design Manual (TPDM) for traffic model development and assessment purposes. The highest consecutive 15-minute hourly pcu volumes were adopted as the peak hour traffic flows.

2.2.3 In order to identify the survey periods, a pilot site survey was conducted from 07:00 to 20:00 on 11 March 2025. Tsing Tuen Road (near Maritime Square) and Tsing Yi Road West (near Liu To Road) were selected as the locations for the pilot site survey since these locations connect both the strategic and local road network and also connect all the proposed study junctions and road links within the AOI.

2.2.4 Based on the results of the pilot site survey, an hourly traffic flow variation is produced in the below table throughout the survey period.

Table 2.3 Results of Pilot Site Survey

Time	2025 Observed Traffic Flows (pcu/hr)						
	Tsing Tsuen Road (near Maritime Square)			Tsing Yi Road West (near Liu To Road)			Tsing Tsuen Road and Tsing Yi Road West
	EB	WB	Total	NB	SB	Total	Grand Total
0700 – 0800	2,154	2,051	4,205	965	785	1,750	5,955
0715 – 0815	2,397	2,238	4,635	**1,007**	836	1,843	6,478
0730 – 0830	2,300	**2,429**	4,729	1,003	**863**	**1,866**	**6,595**
0745 – 0845	2,316	2,348	4,664	925	792	1,717	6,381
0800 – 0900	**2,399**	2,382	**4,781**	909	741	1,650	6,431
0815 – 0915	2,366	2,255	4,621	846	715	1,561	6,182
0830 – 0930	2,359	2,171	4,530	857	673	1,530	6,060
0845 – 0945	2,281	2,066	4,347	874	646	1,520	5,867
0900 – 1000	2,003	2,011	4,014	834	602	1,436	5,450

Time	2025 Observed Traffic Flows (pcu/hr)						
	Tsing Tsuen Road (near Maritime Square)			Tsing Yi Road West (near Liu To Road)			Tsing Tsuen Road and Tsing Yi Road West
	EB	WB	Total	NB	SB	Total	Grand Total
0915 – 1015	1,889	2,040	3,929	819	587	1,406	5,335
0930 – 1030	1,915	2,018	3,933	794	565	1,359	5,292
0945 – 1045	1,892	2,026	3,918	756	530	1,286	5,204
1000 – 1100	1,921	2,022	3,943	731	555	1,286	5,229
1015 – 1115	1,926	2,014	3,940	709	556	1,265	5,205
1030 – 1130	1,978	1,996	3,974	701	593	1,294	5,268
1045 – 1145	1,960	1,925	3,885	723	608	1,331	5,216
1100 – 1200	1,997	**2,025**	**4,022**	731	570	1,301	**5,323**
1115 – 1215	**2,040**	1,875	3,915	753	563	1,316	5,231
1130 – 1230	1,886	1,872	3,758	764	534	1,298	5,056
1145 – 1245	1,792	1,853	3,645	**771**	500	1,271	4,916
1200 – 1300	1,727	1,859	3,586	751	550	1,301	4,887
1215 – 1315	1,604	1,838	3,442	735	597	1,332	4,774
1230 – 1330	1,669	1,852	3,521	694	645	**1,339**	4,860
1245 – 1345	1,751	1,862	3,613	639	**654**	1,293	4,906
1300 – 1400	1,705	1,856	3,561	632	624	1,256	4,817
1315 – 1415	1,675	1,857	3,532	585	624	1,209	4,741
1330 – 1430	1,658	1,815	3,473	601	598	1,199	4,672
1345 – 1445	1,748	1,808	3,556	623	581	1,204	4,760
1400 – 1500	1,831	1,843	3,674	615	594	1,209	4,883
1415 – 1515	1,779	1,853	3,632	663	599	1,262	4,894
1430 – 1530	1,753	1,876	3,629	700	621	1,321	4,950
1445 – 1545	1,681	1,852	3,533	708	605	1,313	4,846
1500 – 1600	1,732	1,854	3,586	736	599	1,335	4,921
1515 – 1615	1,873	1,848	3,721	781	585	1,366	5,087
1530 – 1630	1,964	1,839	3,803	768	625	1,393	5,196
1545 – 1645	2,065	1,876	3,941	814	625	1,439	5,380
1600 – 1700	2,086	1,843	3,929	809	626	1,435	5,364
1615 – 1715	2,090	1,875	3,965	803	641	1,444	5,409
1630 – 1730	2,241	1,886	4,127	803	601	1,404	5,531
1645 – 1745	2,256	1,897	4,153	805	614	1,419	5,572
1700 – 1800	2,257	**1,899**	**4,156**	**810**	637	**1,447**	**5,603**
1715 – 1815	**2,258**	1,875	4,133	790	645	1,435	5,568
1730 – 1830	2,127	1,862	3,989	784	656	1,440	5,429
1745 – 1845	2,141	1,822	3,963	771	653	1,424	5,387
1800 – 1900	2,151	1,805	3,956	765	**660**	1,425	5,381
1815 – 1915	2,064	1,803	3,867	764	654	1,418	5,285
1830 – 1930	1,962	1,745	3,707	747	648	1,395	5,102
1845 – 1945	1,746	1,749	3,495	693	643	1,336	4,831
1900 – 2000	1,668	1,645	3,313	644	640	1,284	4,597

2.2.5 As shown in the above table, the AM peak, logistic peak and PM peak of Tsing Tsuen Road and Tsing Yi Road West range between 07:15 – 09:00, 11:00 – 13:45 and 17:00 – 19:00 respectively.

2.2.6 Supplemented with the findings of the survey results from the pilot site survey, vehicular traffic count surveys were conducted in April 2025 from 07:15 to 09:15, 11:00 to 14:00 and 17:00 to 19:00 on normal weekday(s). The locations of vehicular traffic count survey are the same as the location of study junctions and road links in **Figure 2.1**. The survey results indicated that the AM peak hour is between 07:30 and 08:30, the logistic peak hour is between 11:15 and 12:15 and the PM peak hour is between 17:00 and 18:00.

2.3 Assessment of Study Junctions and Road Links for Existing Year 2025

2.3.1 This TIA includes assessment of existing junction and road link performance by means of capacity analysis.

2.3.2 The performances of road links are evaluated with the volume to capacity ratio (V/C). The V/C ratio compares the peak hour flow of a road link with its design flows, with a V/C ratio up to 0.3 represents free-flow conditions. A V/C ratio between 0.3 and 0.5 means an easy flow conditions, with travel speeds close to free-flow speed. V/C ratio between 0.5 and 0.75 represents generally easy flow condition, with the travel speeds of the road link begins to be restricted by the traffic conditions. V/C ratio between 0.75 and 1.0 means well used flow conditions, with travel speeds reduced by increasing traffic volumes. V/C ratio between 1.0 and 1.2 means unstable flow conditions, with travel speeds substantially reduced and are highly variable and unpredictable. For new roads, it should be designed to attain the target performance at the design years with V/C <=0.85 wherever possible to allow adequate spare capacities catering for fluctuations during peak hours, natural growth of traffic demand and further developments in future years.

2.3.3 The performance of a signalised road junction is indicated by its reserve capacity (RC). A positive RC indicates that the junction is operating with spare capacity. A negative RC indicates that the junction is overloaded, resulting in traffic queues and longer delay time. For new junctions, a minimum provision of 25% RC should be provided wherever possible. For existing junctions, it is desirable to achieve an RC of ≥ 15% as far as possible.

2.3.4 The performance of a roundabout and a priority junction is indicated by the design flow/capacity (DFC) ratio. A DFC ratio less than 1.0 indicates that the junction is operating within design capacity, while 0.85 is the acceptance criteria of DFC. A DFC ratio greater than 1.0 indicates that the junction is overloaded, resulting in traffic queues and longer delay time to the minor arm traffic. For existing roundabout and priority junction, DFC of ≤ 0.85 should be provided whenever possible, which indicates that queuing would theoretically be avoided in 85% of cases. For new roundabout and priority junction, DFC of ≤ 0.75 should be provided.

2.3.5 The study junctions and road links have been identified (**Figure 2.1** refers) and the existing performance of study junctions and road links were assessed based on the junction flow diagrams in **Figure 2.5**. The results are presented in **Table 2.4** and **Table 2.5** below and the details of the junction calculations are presented in **Appendix A**.

Table 2.4 Junction Capacity Assessment for Existing Year (2025)

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logistic Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.42	0.37	0.39
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	0.26	0.32	0.31
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.18	0.17	0.14
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.21	0.13
J5	Tam Kon Shan Interchange	Roundabout	0.59	0.59	0.47
J6	Fung Shue Wo Road / Tsing Yi Road West	Signal	**11%**	**13%**	40%
J7	Liu To Road / Tsing Yi Road West	Signal	28%	30%	55%

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logistic Peak
J8	Ching Hong Road / Tsing Yi Road West	Signal	69%	95%	86%
J9	Ching Hong Road / Chung Mei Road	Signal	>100%	>100%	>100%
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal	64%	66%	51%
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal	47%	69%	49%

2.3.6 The results in **Table 2.4** above show that the performance of all the study junctions is currently operating within sufficient capacity (i.e. RC≥15%, DFC≤0.85) during AM, logistic peak and PM peak hours on weekday, expect J6 during the commuting peak periods.

Table 2.5 Road Link Capacity Assessment for Existing Year (2025)

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	3,370	0.55	4,460	0.73	3,780	0.62
		WB	6,100	4,445	0.73	3,175	0.52	3,430	0.56
L2	Ting Kau Bridge	NB	6,100	3,160	0.52	4,690	0.77	3,735	0.61
		SB	6,100	6,840	**1.12**	3,650	0.60	5,190	0.85
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	195	0.39	190	0.38	275	0.55
		SB	500	125	0.25	140	0.28	140	0.28
L4	Tam Kon Shan Road	EB	900	325	0.36	335	0.37	190	0.21
		WB	900	105	0.12	105	0.12	65	0.07
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	220	0.12	195	0.11	170	0.09
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	155	0.09	170	0.09	100	0.06
L7	Tsing Yi North Coastal Road	EB	5,600	1,200	0.21	1,115	0.20	1,230	0.22
		WB	3,600	1,600	0.44	1,045	0.29	1,175	0.33
L8	Cheung Tsing Tunnel	EB	5,400	4,360	0.81	3,540	0.66	3,325	0.62
		WB	5,400	2,930	0.54	2,930	0.54	2,360	0.44
L9	Nam Wan Tunnel	EB	5,400	2,910	0.54	1,755	0.33	2,985	0.55
		WB	5,400	1,795	0.33	2,345	0.43	2,565	0.48
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050	1,360	0.45	1,365	0.45	1,095	0.36
		SB	4,850	1,230	0.25	1,010	0.21	885	0.18
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050	1,000	0.33	945	0.31	760	0.25
		SB	3,050	805	0.26	710	0.23	570	0.19
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800	675	0.24	715	0.26	715	0.26
		SB	2,800	750	0.27	570	0.20	590	0.21
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920	615	0.67	510	0.55	575	0.63
		WB	920	625	0.68	550	0.60	530	0.58
L14	Sai Tso Wan Road between Tsing Yi Road West and local	EB	1,250	490	0.39	615	0.49	805	0.64
		WB	1,250	790	0.63	575	0.46	710	0.57

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	access for Yiu Lian Dockyards Limited								
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	1,865	0.47	1,315	0.33	1,260	0.32
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	545	0.30	450	0.25	365	0.20
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800	565	0.31	65	0.04	230	0.13
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	1,030	0.57	1,120	0.62	1,110	0.62
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	370	0.22	330	0.19	365	0.21
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	2,985	0.49	4,285	0.70	3,515	0.58
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,300	0.36	1,380	0.38	1,340	0.37
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	260	0.14	435	0.24	215	0.12
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	1,035	0.54	600	0.32	690	0.36
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	1,635	0.45	1,285	0.36	1,220	0.34
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	2,670	0.44	1,890	0.31	1,905	0.31
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	805	0.42	575	0.30	650	0.34
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	260	0.14	125	0.07	285	0.15
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	4,340	0.53	4,975	0.61	4,295	0.52

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,180	0.30	1,130	0.28	1,435	0.36
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,135	0.28	1,540	0.39	1,265	0.32
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,095	0.87	4,570	0.56	5,975	0.73

2.3.7 The assessment results in the above table show that the performance of all study road links are currently operating within its capacity, with the exception of Ting Kau Bridge southbound (L2) during AM peak hour, which indicates that this road link operates in unstable flow condition on weekday AM peak (v/c ratio between 1.0 and 1.2).

3 DEVELOPMENT PROPOSAL

3.1 Development Parameters

3.1.1 The Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study (FS) was commissioned by CEDD and PlanD in 2019. The pilot study findings concluded that it is worthwhile launching a scheme of underground quarrying at Tsing Yi North and it is envisioned as an integral part of the long-term local quarry strategy. The preliminary layout of the proposed underground quarrying-cum-cavern development is shown in **Figure 3.1**.

3.1.2 Below table summarizes the proposed development parameter of the Site.

Table 3.1 Proposed Development Parameters

Parameter	Description
Estimated Population during Operation Phase	Approximate 100 persons
Target Commission Year	2028(1)
Operation Hour	Case 1 • Concrete Production (500m^3/hr): 07:00 to 19:00 • Asphalt Production (208t/hr): 24 hours Case 2 • Concrete Production (550m^3/hr): 07:00 to 19:00 • Concrete Production (50m^3/hr): 19:01 to 06:59 • No Asphalt Production Case 1 and Case 2 are anticipated. Since the hourly development traffic generated under Case 1 is more than Case 2, Case 1 is put forward in the impact assessment.

Remark:
(1) Tunnel to TKSR portal is anticipated to be commenced by 2031 tentatively

3.2 Site Assess Arrangement

3.2.1 The Site would only be accessible by private vehicles, as illustrated in **Figure 3.1**. Since the tunnel to TKSR portal and the Site access road connecting NWTYI would not permit pedestrians access, all staff and visitors would be required to access the Site solely by private vehicles during both construction and operation phases. As such, the impact on the existing public transport operations is not anticipated.

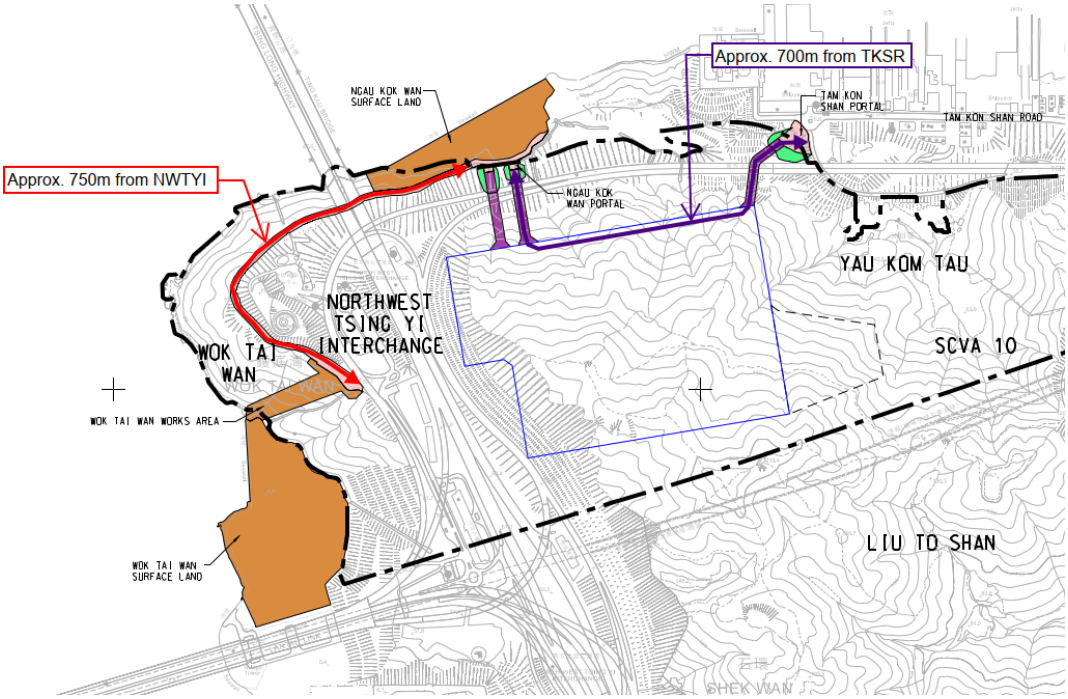
3.2.2 Concerning the junction at NWTYI (J2) where the site access connects to (Ngau Kok Wan portal), it is anticipated that the site traffic entering or leaving the unnamed access road would interfere with the traffic on the mainline of NWTYI. To mitigate this impact, a Temporary Traffic Arrangement (TTA) has been proposed at the intersection of the unnamed access road and NWTYI, as presented in **Figure 3.2**. “No objection in principle with conditions” on the schematic TTA at NWTYI access has been sought from TD and no adverse comments from other stakeholder. The contractor shall take these conditions into account and address any issues raised in the subsequent construction/operation phase. In addition, the TTA shall be modified after the tunnel to TKSR portal is implemented to facilitate the one-way outbound arrangement at the NKW (Ngau Kok Wan) portal, subject to the contractor’s operational need, if necessary.

3.2.3 Subsequent to the implementation of the tunnel to TKSR portal at the northeast of the Site in 2031, site access would be provided to the south of the existing roundabout (J3) at the western end of TKSR. The vehicular access, in term of run-in, leading to the tunnel to TKSR portal is proposed to be located at the off-slip of Tsing Yi North Coastal Road (TYNCR) WB. Furthermore, to further disperse the traffic demand generated by the development onto the nearby road network, the access near TKSR would serve ingress only, as the TKSR portal would operate as a one-way inbound route for private cars and goods vehicles accessing the Site. Meanwhile, the unnamed access road at NWTYI would also be converted into a one-way

outbound road, with all development traffic entering via the TKSR portal and exiting via the NKW portal. Consequently, development traffic would no longer be permitted to access the Site via the NKW portal. The proposed run-in located at the off-slip of TYNCR WB is shown in **Figure 3.3**. The run-in would be operated under a TTA during construction and operation phases after the implementation of tunnel to TKSR portal, as presented in **Figure 3.3** and **Figure 3.4**. "No objection in principle" on the schematic TTA at TYNCR access has been sought from TD and no adverse comments from other stakeholder. Nevertheless, the detailed design of the TTA would subject to further investigation in subsequent construction/operation phases.

3.2.4 Given that there are approx. 750m and 700m (including tunnel section) of internal access road adjoining the NKW portal and TKSR portal respectively (see in-text drawing below), which could accommodate vehicle waiting and queuing without disrupting development operations, it is deemed that any traffic queues from the Site extending to the public road (i.e. NWTYI and TKSR) is not anticipated.

Drawing 1 Possible Vehicle Waiting and Queuing Area



3.3 Trip generation and Attraction of Proposed Underground Quarrying Site

3.3.1 The anticipated trip generation and attraction assumptions on the proposed Underground Quarrying Site is presented in **Table 3.2**.

Table 3.2 Trip Generations and Attractions

Vehicle Type	Trip End (in pcu/hr)(4)					
	AM Peak		PM Peak		Logistic Peak	
	Gen.	Att.	Gen.	Att.	Gen.	Att.
HGV-Concrete Truck(1)	125	125	125	125	125	125
HGV-Asphalt Truck(2)	40	40	40	40	40	40
Private Car	4	4	4	4	4	4
LGV	3	3	3	3	3	3
HGV-Others(3)/Shuttle Service	5	5	5	5	5	5
Total	177	177	177	177	177	177

Remark:
(1) Assuming the peak production of concrete of 5 production lines is 500m^3/hr and 10 trucks (assumed carrying capacity is 10m^3 per truck) per production line per hour. (e.g.5x10x2.5=125pcu/hr)
(2) Assuming the peak production of asphalt is 208 t/hr and carrying capacity of 13 tonnes per truck. (e.g.208/13x2.5=40pcu/hr)
(3) To facilitate operation such as tanker and waste disposal truck
(4) PCU factor of 2.5 is adopted for Truck and HGV, 1.5 is adopted for LGV and 1.0 is adopted for private car.

3.3.2 Given that barging point is available at the site, it has been considered that the majority of raw materials for concrete and asphalt production (e.g. aggregates and cement etc.), will be delivered to the site by barge under normal operation. As such, the marine delivery could help reduce the vehicular traffic burden on the road.

3.3.3 It has been coordinated with the existing occupant of Ngau Kok Wan - Relocation of Sha Tin Sewage Treatment Works to Cavern Project that their existing rock processing facilities at Ngau Kok Wan would cease operation and they will hand over the site to this project upon commencement of the construction of TYNUQ. Consequently, no operational traffic from the existing facilities is anticipated during the construction and operation phases of this project.

3.4 Routing for Proposed Underground Quarrying Site Traffic

Routing for Operational Traffic in 2028-2031

(before the implementation of tunnel at TKSR portal)

3.4.1 The end-users of the rock products are distributed across various regions of Hong Kong, including Hong Kong Island, Kowloon, New Territories and Lantau Island. For the purpose of assessment, the traffic routings proposed for travel to these regions are detailed in the table below. As the tunnel to TKSR portal would be implemented in phases, operational traffic would continue to use the site access at NWTYI until the commissioning of the tunnel at TKSR portal.

Table 3.3 Routing for Operational Traffic in 2028-2031

Route	Outbound Traffic	Inbound Traffic
Route A1 (Tsing Ma Bridge Bound)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Tsing Ma Bridge WB	Tsing Ma Bridge EB → NWTYI NB → Site Access at NWTYI
Route A2 (Ting Kau Bridge)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Ting Kau Bridge NB	Ting Kau Bridge SB → NWTYI SB → NWTYI NB → Site Access at NWTYI
Route A3 (Tsing Tsuen Road)	Site Access at NWTYI → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tsing Tsuen Road EB	Tsing Tsuen Road WB → Tam Kon Shan Interchange Flyover WB → TYNCR WB → NWTYI SB → NWTYI NB → Site Access at NWTYI
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Cheung Tsing Highway SB→ Cheung Tsing Tunnel EB	Cheung Tsing Tunnel WB / Nam Wan Tunnel WB → Cheung Tsing Highway NB→ NWTYI NB → Site Access at NWTYI

3.4.2 Routings for the operational traffic in 2028-2031 are also presented in **Figure 3.5** to **Figure 3.8**.

3.4.3 In addition, the percentage split and trip generation of the proposed Underground Quarrying Site presented in **Table 3.4** are adopted for the operation phase of design year 2031 before the implementation of TKSR portal.

Table 3.4 Trip Generation and Percentage Split of Traffic Operation Traffic in 2028-2031

Route	Outbound Traffic		Inbound Traffic	
	Traffic Flow in peak (in pcu/hr)	Split of Route (in %)	Traffic Flow in peak (in pcu/hr)	Split of Route (in %)
Route A1 (Tsing Ma Bridge Bound)	18	10%	18	10%
Route A2 (Ting Kau Bridge)	106	60%	106	60%
Route A3 (Tsing Tsuen Road)	35	20%	35	20%
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	18	10%	18	10%

Routing for Operation Traffic in 2031 and onward

(After the implementation of tunnel to TKSR portal)

3.4.4 Following the implementation of the tunnel to TKSR portal, ingress traffic would be directed to the off-slip of TYNCR WB for access, while the egress would be maintained at TYNCR. In addition, inbound of Routes B1, B2 and B4 shall be prohibited during AM and PM peaks (i.e. 07:00 to 09:30 and 17:00 to 19:00) to mitigate further deterioration of traffic conditions at Tam Kon Shan Interchange, which experiences heavy traffic during the commuting peak traffic periods. Under this restriction, inbound traffic from Tsing Ma Bridge, Ting Kau Bridge and Cheung Tsing Tunnel / Nam Wan Tunnel shall be rerouted via Tsuen Kam Interchange, Texaco Road, Tsing Tsuen Road flyover and Tsing Yi North Coastal Road flyover to access the site. The proposed routing details are presented in the following table.

Table 3.5 Routing for Operational Traffic from 2031 and onwards

Route	Outbound Traffic	Inbound Traffic
Route B1 (Tsing Ma Bridge Bound)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Tsing Ma Bridge WB	Tsing Ma Bridge EB → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tam Kon Shan Interchange → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR
Route B2 (Ting Kau Bridge)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Ting Kau Bridge NB	Ting Kau Bridge SB → NWTYI SB → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tam Kon Shan Interchange → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR
Route B3 (Tsing Tsuen Road)	Site Access at NWTYI → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tsing Tsuen Road EB	Tsing Tsuen Road WB → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR

Route	Outbound Traffic	Inbound Traffic
Route B4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Cheung Tsing Highway SB→ Cheung Tsing Tunnel EB	Cheung Tsing Tunnel / Nam Wan Tunnel → Cheung Tsing Highway → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tam Kon Shan Interchange → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR

3.4.5 Routings for the operation traffic from 2031 and onwards are also presented in **Figure 3.9** to **Figure 3.12**.

3.4.6 In addition, the percentage split and traffic demand of the proposed Underground Quarrying Site traffic presented in **Table 3.6** and **Table 3.7** are adopted for design year 2031 after the implementation of TKSR access.

Table 3.6 Trip Generation and Percentage Split of Traffic from 2031 and onwards (AM peak and PM peak)

Route	Outbound Traffic		Inbound Traffic	
	Traffic Flow (in pcu/hr)	Split of Route (in %)	Traffic Flow (in pcu/hr)	Split of Route (in %)
Route B1 (Tsing Ma Bridge Bound)[1]	18	10%	0	0
Route B2 (Ting Kau Bridge) [1]	106	60%	0	0
Route B3 (Tsing Tsuen Road)	35	20%	177	100%
Route B4 (Cheung Tsing Tunnel / Nam Wan Tunnel) [1]	18	10%	0	0

Remark:
(1) Prohibition for inbound is proposed during AM and PM peaks, with the assumption that the traffic demand of the corresponding routes would be zero during these periods

Table 3.7 Trip Generation and Percentage Split of Traffic from 2031 and onwards (outside AM and PM peaks)

Route	Outbound Traffic		Inbound Traffic	
	Traffic Flow (in pcu/hr)	Split of Route (in %)	Traffic Flow (in pcu/hr)	Split of Route (in %)
Route B1 (Tsing Ma Bridge Bound)	18	10%	18	10%
Route B2 (Ting Kau Bridge)	106	60%	106	60%
Route B3 (Tsing Tsuen Road)	35	20%	35	20%
Route B4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	18	10%	18	10%

3.5 Traffic Management Plan to the Site Traffic

3.5.1 The Traffic Management Plan and traffic control proposals shall be prepared and submitted by the Contractor to minimize traffic impacts during both construction and operation phases.

3.5.2 The Contractor shall prepare and submit swept path analysis at critical turning locations to demonstrate sufficient space for vehicles maneuvering of the types of vehicles allowed within the development in the Traffic Management Plan.

3.5.3 In response to the public concern about traffic conditions at Tam Kon Shan Interchange and Tsuen Tsing Interchange during peak hours, site traffic should be prohibited from accessing the Site via Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks (i.e. 07:00 to 09:30 and 17:00 to 19:00). Site traffic would be rerouted to Tsuen Kam Interchange, Texaco Road, Tsing Tsuen Road flyover and Tsing Yi North Coastal Road flyover. The details of the routing arrangement are provided in **Section 3.4**.

3.5.4 The percentage split of site traffic during construction and operation phases (presented in **Table 3.4** and **Table 3.6**) should be reviewed regularly by the Contractor. Traffic distributions and diversions involving Tsing Ma Bridge, Ting Kau Bridge, Tsing Tsuen Road and Cheung Tsing Tunnel / Nam Wan Tunnel should be monitored and adjusted based on prevailing traffic conditions. The Contractor shall monitor (i.e. GPS tracking, on-site random checking etc.) site traffic in real time and ensure strict adherence to the designated ingress and egress routes.

3.5.5 The Contractor shall submit a detailed Traffic Management Plan and traffic control proposals during construction/operation phases for review and approval. The Traffic Management Plan shall contain traffic control proposals on operation procedure, real-time positioning, site traffic queue and junction restriction measures.

3.6 Contingency Plan for Facilities Failure and Associated Mitigation Measures

3.6.1 The Contractor shall prepare a Contingency Plan for facilities failure, together with mitigation measures to minimize disruption and ensure safety. During the failure, excess site traffic shall be diverted to temporary waiting areas to maintain a controlled and efficient flow of operations.

3.6.2 The plan shall include the following elements:

- Activation criteria and procedures for the contingency plan
- Temporary reassignment procedures for excess site traffic
- Safety and traffic management measures, including traffic rerouting, continuous monitoring and communication protocols
- Maintenance and repair response procedures
- Evaluation of consequences and mitigation measures
- Recovery procedures and resume normal operations

3.7 Non-Conformance, Incident Investigation and Auditing Mechanism for Traffic Management Plan and Traffic Control Requirements

3.7.1 The Contractor shall establish procedures to manage non-conformance, investigate incidents and conduct audits to ensure continuous compliance with the Traffic Management Plan and Contingency Plan.

Non-Conformance Management

3.7.2 Any deviation from established procedures shall be treated as a non-conformance and documented immediately using a standardized report form. The control center shall review reports, assign corrective actions, and ensure recurring issues are addressed through procedural updates or additional staff training.

3.7.3 Enforcement measures shall be applied for significant non-conformances or traffic violations to strengthen compliance and deter recurrence. In-house measures may include fines, contract penalty clauses, and other disciplinary actions as appropriate.

3.7.4 The enforcement mechanism leaves no ambiguity about the consequences of non-compliance and encourages all personnel and contractors to adhere strictly to the traffic rules in place.

Incident Investigation

3.7.5 In the event of an incident (e.g. near-miss, collision, or other safety-related events), the investigation process shall be initiated without delay. The investigation shall include immediate response, data collection, root cause analysis, implementation of corrective actions, and reporting.

Auditing Mechanism

3.7.6 Regular audits shall be conducted to ensure ongoing compliance and continuous improvement. Audit activities shall include scheduled audits, random inspections, audit reporting, feedback loops, and enforcement reviews.

3.8 Provision of Parking and Loading/Unloading Facilities

3.8.1 In consideration of ancillary parking and loading / unloading (L/UL) spaces, it should be in general provided as much as possible unless deemed infeasible by site constraints. In Hong Kong Planning Standards and Guidelines (HKPSG), there is no parking standard specifically for quarrying. Therefore, the proposed provision of ancillary parking and loading/unloading facilities on the Site referred to the standards for Industrial Use (I) under General Industrial Use (GIU).

3.8.2 **Table 3.8** and **Figure 3.13** summarize the required number of parking and L/UL spaces with respect to the GFA 8,520 m^2 of the Site at Ngau Kok Wan.

Table 3.8 Provision of Parking and Loading/Unloading Facilities

Parking and L/UL Facilities	Standard(1)	Required Number of Parking and L/UL Provision	Proposed Number of Parking and L/UL Provision
Quarrying with concrete batching and asphalt production			
Parking Facilities			
Motorcycle	-	Nil	5(2)
Private Car (PC)	1 space per 1000 - 1200m² GFA	8-10	10
Light Goods Vehicle (LGV)[2]	1 goods vehicle bay per 700-900m2 GFA, 50% of which should be for parking of goods vehicles	4-5	5
Heavy Goods Vehicle (HGV)(3)		2-3	3
L/UL Facilities			
Goods Vehicle	1 goods vehicle bay per 700-900m2 GFA, 50% of which should be for parking of goods vehicles	6-7	7
Container Vehicle Loading / Unloading Bay	1 container vehicle loading/unloading bay with turning circle of 11.6m outer radius should be provided for a site with dimensions not less than 45m x 40m	1	1

Remark:
(1) Parking standard refers to Industrial Use (I) under General Industrial Use (GIU) in Chapter 8, HKPSG (January 2024 Edition)
(2) Additional provisions of motorcycle parking due to the remote location of the Site
(3) Goods vehicle parking and loading/unloading provision is divided into 65% light goods vehicle and 35% medium/heavy goods vehicle

3.8.3 In addition to the above, parking and loading/unloading facilities for employee shuttle services (i.e. coach) are offered within the Site for delivery of an estimated 100 workers. With the above arrangement, no significant impact is anticipated on public transport services.

3.9 Public Transport Arrangement

3.9.1 Currently, only one GMB route (i.e. 88A) serves the area within a 500m catchment of the Site, operating from 09:00 to 19:00 on normal weekdays with additional morning service from 06:30 to 09:00. Since pedestrian access to the Site would not be permitted and employee shuttle services are anticipated to be provided, PT service is not considered necessary for the development. Nevertheless, the details and arrangement of shuttle services for employees are subject to operational needs of the contractor.

4 TRAFFIC IMPACT ASSESSMENT DURING OPERATION PHASE

4.1 Design Year

4.1.1 The commission year of the development is tentatively targeted in Year 2028. With reference to TD's TIA Guidelines of Department Circular 1/2011, the design year for the traffic forecast is proposed to be set at least 3 years after the planned commission of the development. Therefore, the proposed design year is 2031 for the TTIA.

4.2 Assessment Scenario

4.2.1 In view of the development nature (i.e. quarry), it is proposed the assessment scenario consists of AM peak, logistic peak and PM peak on normal Weekday, including:-

- Reference Case (without the proposed development);
- **Design Case Scenario A** (with the proposed development, before implementation of the tunnel to TKSR portal); and
- **Design Case Scenario B** (with the proposed development, after implementation of the tunnel to TKSR portal)

4.3 Vehicular Traffic Demand Forecasts

4.3.1 With reference to Clause 6.15 of the Brief, a traffic model has been developed. In order to produce robust traffic forecasts that would be responsive to dynamic changes in future land use and infrastructure development, a two-tier modelling approach is proposed. The two-tier model structure comprises a Strategic Transport Model (STM) in the upper tier and a Local Area Traffic Model (LATM) in the lower tier. The upper tier STM follows a 4-stage multi-modal modelling process to produce the vehicular cordoned matrices for input into the lower tier LATM.

Model Structure and Coverage

Strategic Transport Model (STM)

4.3.2 AECOM's in-house STM (in EMME platform) that covers the entire Hong Kong Special Administrative Region (HKSAR) has been applied. This model has the architecture of a conventional 4-stage transport model that involves the four basic stages of Trip Generation, Trip Distribution, Modal Split and Assignment.

4.3.3 For this Study, the STM incorporated the Task Force Planning Dataset (TFPD) consolidated by TD complying the proposed township developments under the Northern Metropolis Development Strategy (NMDS) and Kau Yi Chau Artificial Island development. The STM was validated to year 2023 traffic conditions based on Annual Traffic Census (ATC) 2023 for forecasting different scenarios in different design years. For future year traffic forecasting, the planning data, highway and railway network assumptions and other strategic planning assumptions were incorporated into the STM.

Local Area Traffic Model (LATM)

4.3.4 The latest NTW2 2019 Base District Traffic Model (BDTM) was adopted as a starting point to develop a modified LATM for this project. The zoning system primarily adopted the BDTM zoning system, but suitably adjusted and refined to reflect the newly planned developments in the vicinity. Subject to the model validation results and specific local requirements, the zoning system within the AOI was reviewed and refined to better replicate the local traffic movements and to improve the accuracy of the modelled results within the AOI. The traffic route choice patterns and any congestion or access issues in the relevant area were accounted for in the traffic assignment process.

4.3.5 The LATM was developed to validate the traffic conditions in base year and forecast the traffic conditions in design years representing the morning peak (AM) and afternoon peak (PM) in relation to the proposed AOI.

4.3.6 It is worth noting that BDTM only models traffic conditions in AM peak and PM peak on Weekday and therefore LATM also model AM peak and PM peak only. In this connection, the traffic forecast for logistic peak was estimated by growth factor method based on the traffic growth of the study road links from LATM.

Base Year Modelling Development

4.3.7 The STM was validated to year 2023 conditions as base year on the latest available input data, including land use and planning data, transport infrastructure, road network assumptions, socio-economic data, and other transport policy assumptions. For LATM development, year of traffic surveys (i.e. 2025) was adopted as the base year. The overall process for developing the base year model involves the following key steps:

- Collection of relevant data;
- Validation of the STM for the year 2023;
- Model run of the STM for the base year to obtain vehicular cordoned matrices for the LATM;
- Aggregation of the cordoned matrices into two vehicle classes, i.e. private vehicles and goods vehicles, for LATM;
- Disaggregation of matrices from STM zoning system (i.e. same as PDZ system) to LATM zoning system;
- Update and refinement of LATM Network; and
- Validation of the LATM for the base year.

Design Year Modelling Development

4.3.8 The STM was run to project the future transport demand for design years. Similarly, the initial vehicular cordoned matrices were prepared for inputted to LATM. The main tasks are summarized as follows:

- Updating STM highway and railway networks for design years by incorporating committed/planned new highway and railway infrastructure;
- Preparation and full STM runs for design years;
- Checking of STM assignments and results including whether it has selected the reasonable route choice and whether the amount of traffic volume on the major road links is within a reasonable range between various modelled scenarios;
- Preparation of vehicular cordoned matrices from the respective design years of STMs for derivation of zone-to-zone traffic changes by user class (PV and GV) between base / design years;
- Application of “changes” derived above to the validated LATM base year/design year matrices;
- Preparation of LATM highway networks for design years by incorporating committed/planned new highway infrastructure and local traffic improvement schemes; and
- Checking of LATM traffic assignments and results.

Model Validation Criteria

Strategic Transport Model (STM)

4.3.9 The base year STM has been validated to year 2023 observed vehicular flows across the major Annual Traffic Census (ATC) screenlines for the AM and PM peak periods as well as daily basis, see **Appendix C**. The validation of STM covers the ATC screenlines as listed below:

- Hong Kong External Cordon
- Hong Kong Internal Cordon
- Kowloon External Cordon
- Tsing Yi External Cordon
- Lantau External Cordon
- Shatin External Cordon
- Ma On Shan External Cordon
- TKO External Cordon
- Screenline A-A
- Screenline C-C
- Screenline F-F
- Screenline G-G
- Screenline H-H
- Screenline I-I
- Screenline K-K
- Screenline R-R
- Screenline S-S
- Screenline T-T
- Screenline Y-Y
- Cross Harbour

4.3.10 The 2023 validation data was based on the ATC traffic count data. The ATC count data provides breakdowns of total vehicle flows by direction, by hour and by vehicle classification. The validation guidelines for the STM are shown in **Table 4.1**.

Table 4.1 Validation Guidelines for Strategic Transport Model

Validation Parameter at Screenline	Mean Error		80% Error(1)		Max Error	
	1-way	2-way	1-way	2-way	1-way	2-way
Daily Total Vehicles	N/A(2)	3%	N/A(2)	8%	N/A(2)	15%
AM Peak Total Vehicles	10%	5%	15%	10%	30%	20%
AM Peak Car	15%	10%	25%	15%	50%	30%
AM Peak Taxi	15%	10%	25%	15%	50%	30%
AM Peak GV(3)	15%	10%	25%	15%	50%	30%
PM Peak Total Vehicles	10%	5%	15%	10%	30%	20%
PM Peak Car	15%	10%	25%	15%	50%	30%
PM Peak Taxi	15%	10%	25%	15%	50%	30%
PM Peak GV(3)	15%	10%	25%	15%	50%	30%

Remark:
(1) - "80% error" - the difference of observed and synthesized volume of each screen line should be achieved within the specified value. The number of successful screen lines should achieve 80% of total number of screenline.
(2) - N/A stands for "not applicable"
(3) - GV include Light Van, Light Goods Vehicle, Medium Goods Vehicle, Heavy Goods Vehicle and Tractor Unit.

4.3.11 The STM synthesized PT passenger flows were also compared against major PT passenger statistics available to check that the model reasonably represents the overall trip generation and modal choice characteristics within the AOI. The validation guidelines for total daily boarding by broad PT mode and passenger screen line flows are shown in **Table 4.2** and **Table 4.3**.

Table 4.2 Validation Guidelines for Total Daily Boarding by Broad PT Mode

Public Transport Mode	Maximum Allowable Variation
Heavy Rail	±20%
Light Rail Transit / Tram	±20%
Bus (Franchised Bus and Residential Coach Service)	±20%
PLB (RMB and GMB)	±20%
Ferry	±20%
Total PT	**±20%**

Table 4.3 Validation Guidelines for Passenger Screen line Flows

Daily Screenline Flows	Mean Error	80% Error(1)	Maximum Error
Rail	±8%	±10%	±20%
Bus	±5%	±15%	±30%
PLB	±10%	±25%	±50%
PT	±3%	±8%	±15%

Note:
(1) - "80% error" - the difference of observed and synthesized volume of each screen line should be achieved within the specified value. The number of successful screen lines should achieve 80% of total number of screenline.

4.3.12 The 2023 validation performance of STM has been presented in the following **Tables 4.4** to **4.6**. It shows that the STM has fulfilled the validation criteria as specified in **Table 4.1** to **Table 4.3**. Detailed validation results of STM are presented in **Appendix C**.

Table 4.4 STM Validation Performance

Validation Parameter at Screenline	Mean Error		80% Error		Max Error	
	1-way(1)	2-way(1)	1-way(2)	2-way(2)	1-way(3)	2-way(3)
Daily Total Vehicles		1%		85%		13%
AM Peak Total Vehicles	3%	3%	88%	90%	18%	14%
AM Peak Car	3%	3%	98%	100%	31%	15%
AM Peak Taxi	8%	7%	93%	80%	34%	29%
AM Peak GV	4%	3%	98%	90%	33%	17%
PM Peak Total Vehicles	3%	3%	95%	90%	21%	12%
PM Peak Car	5%	4%	98%	100%	28%	13%
PM Peak Taxi	6%	5%	93%	90%	29%	25%
PM Peak GV	5%	4%	93%	80%	34%	25%

Note:
(1) The numbers presented represent the mean difference between observed and synthesized screenline volumes.
(2) The numbers presented represent the percentages of screenlines satisfying the respective criteria.
(3) The numbers presented represent the maximum difference between observed and synthesized screenline volumes.

Table 4.5 Validation Performance for Total Daily Boarding by Broad PT Mode

Public Transport Mode	Daily Boardings (1,000)			
	Observed	Modelled	Mod/Obs	Accepted
Rail	4,918	4,944	1.01	Y
LRT/ Tram	580	638	1.10	Y
Ferry	113	121	1.07	Y
PLB	1,540	1,659	1.08	Y
Bus	4,297	4,438	1.03	Y
Total PT	11,448	11,800	1.03	Y

Table 4.6 Validation Performance for Passenger Screen Line Flows

Parameters	Daily Validation Performance								
	Mean Error			80% Error			Maximum Error		
	Target	(Mod-Obs)/Obs	Accepted?	Target	(Mod-Obs)/Obs	Accepted?	Target	(Mod-Obs)/Obs	Accepted?
Daily Rail Passengers	±8%	+1%	Y	±10%	95%	Y	±20	+11%	Y
Daily Bus Passengers	±5%	+4%	Y	±15%	85%	Y	±30	+21%	Y
Daily PLB Passengers	±10%	+5%	Y	±25%	90%	Y	±50	+28%	Y
Daily Total Passengers	±3%	+1%	Y	±8%	85%	Y	±15	+10%	Y

Note:
(1) The numbers presented represent the percentages of screenlines satisfying the respective criteria.

Local Area Traffic Model (LATM)

4.3.13 The LATM serves to facilitate the detailed traffic forecasts and assessments in the proposed AOI to be carried out under this Assignment. Hence, the base year LATM has to be validated against the observed traffic data comprising screenlines, road link and junction flows within AOI in two distinctive AM and PM peak hours.

4.3.14 The LATM validation guidelines adopted the same as the BDTM, as set out in **Table 4.7**. A combination of percentage difference and Geoffrey E. Havers (GEH) statistics is suggested for use to assess model validation. Validation summary is presented in **Table 4.8** and detailed results are attached in **Appendix C**.

Table 4.7 Validation Guidelines for Local Area Traffic Model

Validation Criteria	Validation Target
1. Screenline Link Flows	85% within ± 10% 100% within ± 20%
2. All Count Locations (including key road links and key junction entry/exit arm flows)	GEH of 5 or less on 85% of links GEH of 10 or less on 100% of links

4.3.15 Recognizing that percentage difference between the observed and modelled link flows only assesses relative error and can often be misleading due to numbers of relatively small magnitude, the GEH statistic is primarily employed to assess validation. GEH is a modified form of chi-square statistic defined as:

$$\sqrt{\frac{(V_2 - V_1)^2}{\frac{1}{2}(V_1 + V_2)}}$$

where V1 and V2 are the observed and modelled flows on a specific link. It is used in order to reflect importance of a difference based on the total volume on a link. If percentages alone are examined, then there is a risk of very large percentage differences in small flow volumes appearing important when they are not. Use of the GEH statistic would remove this risk by reducing the significance of relatively large percentage differences between two small numbers.

Table 4.8 Validation Summary for Local Area Traffic Model

Validation Criteria	Target Values	Percentage satisfying the Criteria	
		AM Peak	PM Peak
		Total (PV + GV +PT) (1)	
Percentage Difference between Observed and Modelled Screenline Link Flows			
% of links within ± 10%	85%	100%	99%
% of links within ± 20%	100%	100%	100%
Percentage of GEH Statistics for key road links and key junction entry/exit arm flows			
% of links with GEH 5 or less	85%	100%	99%
% of links with GEH 10 or less	100%	100%	100%

Note:
(1) PV stands for private vehicles, GV stands for goods vehicles, PT stands for public transport services.

Planning Data Assumptions

4.3.16 The TFPD was taken as the basis of the territorial planning data assumptions in the various design years for this Study. The TFPD has considered the major committed/planned developments near the development including:

- Public Housing Development at Ching Hong Road North;
- Public Housing Development at Tsing Yi Road West.

4.3.17 Apart from the above, advice has been sought from PlanD for the other committed/planned developments within and near the AOI (i.e. not included in the TFPD) as listed below, to facilitate a conservative forecast of traffic flows for 2031 design year.

- Agreement No. CE 85/2017 (GE) – Technical Study on the Potential Quarry Sites at Tsing Yi Southwest – Feasibility Study (commissioned by CEDD)
- Agreement No. CE 14/2016 (CE) – Study on Multi-Storey Complex for Container Storage and Cargo Handling in Tsing Yi – Feasibility Study (commissioned by CEDD)
- Agreement No. CE WQ/216/22 – Traffic Impact Assessment (TIA) (Proposed Advanced Construction Industry Building commissioned by Development Bureau (DEVB))
- Agreement No. FSD/ DLS/22 (70) – Traffic Impact Assessment (TIA) (Proposed Government Dangerous Goods Warehouse and a Government Owned Rental Dangerous Goods Warehouse to the Fire Services Department (FSD) commissioned by FSD)

Trip Generation/Attraction

4.3.18 The trip generation/attraction of planned/committed developments not included in the TFPD within and near the AOI followed TIA/traffic study reports of each project. In case such reports are not available, the additional traffic flows were estimated from the trip rates in TPDM, BDTM or Trip Generation Survey 2006 (TGS2006) by TD.

4.3.19 For the development itself, the main operation traffic of the Tsing Yi North Underground Quarry was suggested to be estimated by considering the hourly maximum daily production capacity of the ancillary operation and the capacity of truck (e.g. concrete truck and dump truck for concrete batching facilities and asphalt production facilities respectively).

4.3.20 Apart from the above, other operation traffic (e.g. private cars and light goods vehicles) was considered with reference to quarry site(s) with similar nature in terms of production scale and number of staff (e.g. Lam Tei Underground Quarry).

Planned and Committed Road and Rail Infrastructure Projects in the Vicinity Highway Project

4.3.21 The highway network assumptions adopted are shown in **Table 4.9** below.

Table 4.9 Road Network Assumptions

Road Network Assumptions (in addition to 2023 network)	Configuration	To be Incorporated in Transport Model of Design Year in
Kowloon		
Route 6 – Central Kowloon Route	D3	2031
Route 6 – Trunk Road T2 (Kai Tak – Cha Kwo Ling Link)	D2	2031
New Territories		
Widening of section of Lin Ma Hang Road between Tsung Yuen Ha and Lin Ma Hang	S2	2031
Widening of Castle Peak Road (Castle Peak Bay Section)	D2	2031
Widening of Fuk Hang Tsuen Road	S2	2031
Improvement of Fan Kam Road	S2	2031
Widening of Tai Po Road (Sha Tin Section)	D3	2031
Fanling Bypass Eastern Section (under Fanling North NDA)	D2	2031
Flyover from Kwai Tsing Interchange Up Ramp to Kwai Chung Road	S1	2031
Upgrading of remaining sections of Kam Tin Road and Lam Kam Road	S2	2031
North Lantau Road P1 (Tung Chung east to Tai Ho Section)	D2	2031
Revised Trunk Road T4 in Sha Tin	D2	2031
Dualling of Hiram's Highway between Marina Cove and Sai Kung Town (Hiram's Highway Improvement Stage 2)	D2	2031
Fanling Bypass Western Section (under Fanling North NDA)	S2	2031
Improvement of Tai Tau Leng Roundabout and Fanling Highway (Kwu Tung Section)	D4	2031
North-South Link(s) as Alternative to So Kwun Po (Kai Leng) Roundabout	S1	2031
Slip Road connecting Lok Ma Chau Road to Fanling Highway Eastbound	S1	2031
Flyover connecting Lok Ma Chau Road to San Tin Highway Westbound	S1	2031
Road P2 for Kwu Tung North New Development Area	D2	2031
Road D2 for Kwu Tung North New Development Area	S4/S2	2031
Road D3 for Kwu Tung North New Development Area	S4/S2	2031
Road Improvement Works in Hung Shui Kiu New Development Area	Various	2031
Road Improvement Works in Yuen Long South Development	Various	2031
Widening of T6 Bridge of Tate's Cairn Highway	D3	2031
Lantau Road P1 between Tai Ho Interchange and Sunny Bay	D2	2031

Railway Project

4.3.22 The railway network assumptions adopted are shown in **Table 4.10** below.

Table 4.10 Railway Network Assumptions

Railway network assumptions (in addition to 2023 network)	To be Incorporated in Transport Model of Design Year in
Northern Link (NOL) Phase 1 Kwu Tung (KTU) Station	2031
Tung Chung Line (TCL) Extension	2031
Oyster Bay (OYB) Station	2031
Hung Shui Kiu (HSK) Station	2031
Tuen Mun South (TMS) Extension	2031

Traffic Growth of Study Road Link

4.3.23 As discussed in **para. 4.3.6**, the traffic forecast for logistic peak was estimated using the growth factor method based on the traffic growth of the study road links from LATM. The forecasted traffic flows of study road links for the design year 2031 are extracted from LATM and presented in the following table.

Table 4.11 Growth Factor of Study Road Links

Link Index	Link Name	Direction	AM Peak			PM Peak		
			2025 Obs(1)	2031 Mod(1)	Grow Factor	2025 Obs(1)	2031 Mod(1)	Grow Factor
			Flow (pcu/hr)		p.a.	Flow (pcu/hr)		p.a.
L1	Tsing Ma Bridge	EB	3,370	4,560	+5.2%	4,460	6,285	+5.9%
		WB	4,445	6,370	+6.2%	3,175	4,855	+7.3%
L2	Ting Kau Bridge	NB	3,160	4,480	+6.0%	4,690	5,660	+3.2%
		SB	6,840	7,175	+0.8%	3,650	4,325	+2.9%
L3	Unnamed access road near Lantau Link Visitors Centre	NB	195	0	-	190	0	-
		SB	125	0	-	140	0	-
L4	Tam Kon Shan Road	EB	325	450	+5.6%	335	460	+5.4%
		WB	105	105	0%	105	105	0%
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	220	345	+7.8%	195	320	+8.6%
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	155	280	+10.4%	170	295	+9.6%
L7	Tsing Yi North Coastal Road	EB	1,200	1,435	+3.0%	1,115	1,385	+3.7%
		WB	1,600	2,435	+7.3%	1,045	1,420	+5.2%
L8	Cheung Tsing Tunnel	EB	4,360	4,940	+2.1%	3,540	4,375	+3.6%
		WB	2,930	3,545	+3.2%	2,930	3,645	+3.7%
L9	Nam Wan Tunnel	EB	2,910	3,935	+5.2%	1,755	3,005	+9.2%
		WB	1,795	3,765	+13.1%	2,345	3,745	+8.1%
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	1,360	1,330	-0.4%	1,365	1,375	+0.1%
		SB	1,230	1,275	+0.6%	1,010	970	-0.7%
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	1,000	1,005	+0.1%	945	950	+0.1%
		SB	805	825	+0.4%	710	660	-1.2%

Link Index	Link Name	Direction	AM Peak			PM Peak		
			2025 Obs(1)	2031 Mod(1)	Grow Factor	2025 Obs(1)	2031 Mod(1)	Grow Factor
			Flow (pcu/hr)		p.a.	Flow (pcu/hr)		p.a.
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	675	660	-0.4%	715	720	+0.1%
		SB	750	805	+1.2%	570	560	-0.3%
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	615	625	+0.3%	510	515	+0.2%
		WB	625	685	+1.5%	550	570	+0.6%
L14	Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	490	470	-0.7%	615	585	-0.8%
		WB	790	780	-0.2%	575	570	-0.2%
Total Traffic Flow			42,075	52,280	+3.7%	37,405	47,355	+4.0%

Remark:
(1) – "Obs" denotes as observed flow, while "Mod" demotes as modelled flow extracted from LATM

4.3.24 **Table 4.11** details the growth factors for the study road links during the AM and PM peak periods respectively based on the LATM. The data reveal variable annual growth rates among the links. Collectively, the overall annual growth rate indicates an increase of 3.7% and 4.0% for AM and PM peak periods respectively.

4.3.25 Apart from the traffic growth of the study road links from LATM in AM and PM peak periods, reference has also been made to the TFPD to establish the growth rate. The average annual growth rates in terms of population and employment from 2019 to 2031 are tabulated in **Table 4.12**.

Table 4.12 Population and Employment of PDZ within AOI in TFPD

PDZ	Projection Year					
	2019		2026		2031	
	Population	Employment	Population	Employment	Population	Employment
152	25,450	2,200	25,400	2,300	25,427	3,377
153	37,250	7,950	35,500	7,400	34,392	7,236
155	50	3,250	50	2,600	52	2,103
359	3,050	600	2,700	650	2,307	542
428	50,400	5,350	49,750	5,500	50,016	7,177
450	33,450	5,850	34,750	5,600	35,126	6,293
Total	**149,650**	**25,200**	**148,150**	**24,050**	**147,320**	**26,728**
Annual Growth Rate			From 2019 to 2026: -0.22%		From 2026 to 2031: +0.21%	

4.3.26 As shown in **Table 4.12**, the projection planning data in TFPD suggest that the annual growth rates between 2019 and 2026 is -0.22% and between 2026 and 2031 is +0.21%.

4.3.27 For a conservative approach, it is recommended that a growth factor of +4.0% be applied to the logistic peak traffic flows observed in 2025 to forecast the corresponding flows for the 2031 design year.

4.3.28 Results of traffic forecast for the scenario of "Without" and "With" the proposed development are shown from **Figure 4.1** to **Figure 4.5** respectively.

Planned / Committed Traffic Improvement Scheme

4.3.29 The reference scenarios also considered the planned/ committed local traffic improvement schemes within the Study Area. The planned/ committed traffic improvement scheme is listed below whilst the scheme layout plan is provided in **Appendix D**.

- J6 - Fung Shue Wo Road / Tsing Yi Road West under Infrastructure Works for Public Housing developments at Ching Hong Road North, Tsing Yi

4.3.30 The above-mentioned traffic improvement scheme was included in the traffic impact assessment and the results are summarized in the following section.

4.4 Assessment of Study Junctions and Road Links for Design Year 2031

4.4.1 To gauge the traffic impact due to the development, performance of the study junctions and road links is assessed for design year 2031 according to the criteria from **paragraphs 2.3.2** to **2.3.4**. The results are summarized from **Table 4.13** to **Table 4.18** below.

Table 4.13 Junction Capacity Assessment for Design Year (2031) – Reference Case

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.36	0.30	0.36
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	-(1)	-(1)	-(1)
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.29	0.27	0.18
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.17
J5	Tam Kon Shan Interchange	Roundabout	0.64	0.58	0.64
J6(2)	Fung Shue Wo Road / Tsing Yi Road West	Signal	42%	50%	44%
J7	Liu To Road / Tsing Yi Road West	Signal	30%	34%	21%
J8	Ching Hong Road / Tsing Yi Road West	Signal	63%	91%	46%
J9	Ching Hong Road / Chung Mei Road	Signal	91%	>100%	87%
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal	64%	64%	19%
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal	52%	73%	17%

Remark:
(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.
(2) Taking into account the proposed junction improvement works under other projects.

Table 4.14 Road Link Capacity Assessment for Design Year (2031) - Reference Case

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	4,560	0.75	6,285	**1.03**	4,620	0.76
		WB	6,100	6,370	**1.04**	4,855	0.80	4,350	0.71
L2	Ting Kau Bridge	NB	6,100	4,480	0.73	5,660	0.93	4,740	0.78
		SB	6,100	7,175	**1.18**	4,325	0.71	6,405	**1.05**
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	-(1)	-(1)	-(1)	-(1)	0	0.00
		SB	500	-(1)	-(1)	-(1)	-(1)	0	0.00
L4	Tam Kon Shan Road	EB	900	450	0.50	460	0.51	240	0.27

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
		WB	900	105	0.12	105	0.12	80	0.09
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	345	0.19	320	0.18	220	0.12
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	280	0.16	295	0.16	130	0.07
L7	Tsing Yi North Coastal Road	EB	5,600	1,435	0.26	1,385	0.25	1,385	0.25
		WB	3,600	2,435	0.68	1,420	0.39	1,490	0.41
L8	Cheung Tsing Tunnel	EB	5,400	4,940	0.91	4,375	0.81	4,220	0.78
		WB	5,400	3,545	0.66	3,645	0.68	2,990	0.55
L9	Nam Wan Tunnel	EB	5,400	3,935	0.73	3,005	0.56	3,785	0.70
		WB	5,400	3,765	0.70	3,745	0.69	3,250	0.60
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050	1,330	0.44	1,375	0.45	1,390	0.46
		SB	4,850	1,275	0.26	970	0.20	1,120	0.23
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050	1,005	0.33	950	0.31	965	0.32
		SB	3,050	825	0.27	660	0.22	720	0.24
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800	660	0.24	720	0.26	910	0.33
		SB	2,800	805	0.29	560	0.20	745	0.27
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920	625	0.68	515	0.56	730	0.79
		WB	920	685	0.74	570	0.62	675	0.73
L14	Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	1,250	470	0.38	585	0.47	1,020	0.82
		WB	1,250	780	0.62	570	0.46	900	0.72
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,560	0.64	1,660	0.42	1,665	0.42
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	335	0.19	340	0.19	210	0.12
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800	165	0.09	65	0.04	290	0.16
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	1,100	0.61	1,275	0.71	1,240	0.69
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road	NB	1,700	330	0.19	240	0.14	285	0.17

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	near Lantau Link Visitors Centre								
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	4,230	0.69	5,020	0.82	4,460	0.73
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,400	0.39	1,500	0.42	1,525	0.42
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	250	0.14	415	0.23	270	0.15
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	1,040	0.55	615	0.32	695	0.37
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	2,330	0.65	1,520	0.42	1,545	0.43
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	3,370	0.55	2,130	0.35	2,235	0.37
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	810	0.43	470	0.25	575	0.30
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	475	0.25	130	0.07	360	0.19
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	5,755	0.70	6,070	0.74	5,445	0.66
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	2,405	0.60	2,120	0.53	1,820	0.46
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,915	0.48	2,550	0.64	1,605	0.40
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,900	0.96	5,660	0.69	7,575	0.92

Remark:
(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.

Design Case Scenario A

Table 4.15 Junction Capacity Assessment for Design Year (2031) – Design Case Scenario A

Index	Junction	Type	RC/DFC		
			AM Peak[3]	PM Peak[3]	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.55	0.49	0.56

Index	Junction	Type	RC/DFC		
			AM Peak(3)	PM Peak(3)	Logis Peak
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	0.42	0.49	0.48
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.29	0.27	0.18
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.17
J5	Tam Kon Shan Interchange	Roundabout	0.64	0.58	0.64
J6(2)	Fung Shue Wo Road / Tsing Yi Road West	Signal	42%	50%	44%
J7	Liu To Road / Tsing Yi Road West	Signal	30%	34%	21%
J8	Ching Hong Road / Tsing Yi Road West	Signal	63%	91%	46%
J9	Ching Hong Road / Chung Mei Road	Signal	91%	>100%	87%
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal	64%	64%	19%
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal	52%	73%	17%

Remark:
(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.
(2) Taking into account the proposed junction improvement works under other projects.
(3) Taking into account the restriction to site traffic accessing Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks

Table 4.16 Road Link Capacity Assessment for Design Year (2031) – Design Case Scenario A

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak(1)		PM Peak(1)		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	4,575	0.75	6,305	**1.03**	4,640	0.76
		WB	6,100	6,385	**1.05**	4,870	0.80	4,365	0.72
L2	Ting Kau Bridge	NB	6,100	4,585	0.75	5,765	0.95	4,845	0.79
		SB	6,100	7,285	**1.19**	4,430	0.73	6,510	**1.07**
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	175	0.35	175	0.35	175	0.35
		SB	500	175	0.35	175	0.35	175	0.35
L4	Tam Kon Shan Road	EB	900	450	0.50	460	0.51	240	0.27
		WB	900	105	0.12	105	0.12	80	0.09
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	345	0.19	320	0.18	220	0.12
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	280	0.16	295	0.16	130	0.07
L7	Tsing Yi North Coastal Road	EB	5,600	1,470	0.26	1,420	0.25	1,420	0.25
		WB	3,600	2,470	0.69	1,455	0.40	1,525	0.42
L8	Cheung Tsing Tunnel	EB	5,400	4,960	0.92	4,395	0.81	4,235	0.78
		WB	5,400	3,555	0.66	3,655	0.68	3,000	0.56
L9	Nam Wan Tunnel	EB	5,400	3,935	0.73	3,005	0.56	3,785	0.70
		WB	5,400	3,775	0.70	3,755	0.70	3,260	0.60
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050	1,330	0.44	1,375	0.45	1,390	0.46
		SB	4,850	1,275	0.26	970	0.20	1,120	0.23

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak(1)		PM Peak(1)		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050	1,005	0.33	950	0.31	965	0.32
		SB	3,050	825	0.27	660	0.22	720	0.24
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800	660	0.24	720	0.26	910	0.33
		SB	2,800	805	0.29	560	0.20	745	0.27
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920	625	0.68	515	0.56	730	0.79
		WB	920	685	0.74	570	0.62	675	0.73
L14	Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	1,250	470	0.38	585	0.47	1,020	0.82
		WB	1,250	780	0.62	570	0.46	900	0.72
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,580	0.65	1,680	0.42	1,680	0.42
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	585	0.33	590	0.33	460	0.26
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800	180	0.10	85	0.05	305	0.17
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	1,120	0.62	1,295	0.72	1,255	0.70
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	485	0.29	400	0.24	445	0.26
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	4,335	0.71	5,125	0.84	4,565	0.75
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,580	0.44	1,675	0.47	1,700	0.47
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	395	0.22	555	0.31	410	0.23
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	1,150	0.61	720	0.38	800	0.42
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	2,505	0.70	1,695	0.47	1,720	0.48

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak(1)		PM Peak(1)		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	3,655	0.60	2,415	0.40	2,520	0.41
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	1,075	0.57	735	0.39	840	0.44
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	490	0.26	150	0.08	380	0.20
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	5,770	0.70	6,090	0.74	5,460	0.67
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	2,405	0.60	2,120	0.53	1,820	0.46
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,915	0.48	2,550	0.64	1,605	0.40
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,920	0.97	5,675	0.69	7,590	0.93

Remark:

(1) Taking into account the restriction to site traffic accessing Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks.

Design Case Scenario B

Table 4.17 Junction Capacity Assessment for Design Year (2031) – Design Case Scenario B

Index	Junction	Type	RC/DFC		
			AM Peak(3)	PM Peak(3)	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.44	0.37	0.53
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	0.40	0.46	0.45
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.29	0.27	0.18
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.17
J5	Tam Kon Shan Interchange	Roundabout	0.64	0.58	0.75
J6(2)	Fung Shue Wo Road / Tsing Yi Road West	Signal	42%	50%	44%
J7	Liu To Road / Tsing Yi Road West	Signal	30%	34%	21%
J8	Ching Hong Road / Tsing Yi Road West	Signal	63%	91%	46%
J9	Ching Hong Road / Chung Mei Road	Signal	91%	>100%	87%
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal	64%	64%	19%
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal	52%	73%	17%

Remark:
(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.
(2) Taking into account the proposed junction improvement works under other projects.
(3) Taking into account the restriction to site traffic accessing Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks.

Table 4.18 Road Link Capacity Assessment for Design Year (2031) – Design Case Scenario B

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak(1)		PM Peak(1)		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	4,560	0.75	6,285	**1.03**	4,640	0.76
		WB	6,100	6,385	**1.05**	4,870	0.80	4,365	0.72
L2	Ting Kau Bridge	NB	6,100	4,585	0.75	5,765	0.95	4,845	0.79
		SB	6,100	7,175	**1.18**	4,325	0.71	6,510	**1.07**
L3	Unnamed access road near Lantau Link Visitors Centre	SB	500	175	0.35	175	0.35	175	0.35
L4	Tam Kon Shan Road	EB	900	450	0.50	460	0.51	240	0.27
		WB	900	105	0.12	105	0.12	80	0.09
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	525	0.29	500	0.28	395	0.22
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	280	0.16	295	0.16	130	0.07
L7	Tsing Yi North Coastal Road	EB	5,600	1,470	0.26	1,420	0.25	1,560	0.28
		WB	3,600	2,610	0.73	1,600	0.44	1,670	0.46
L8	Cheung Tsing Tunnel	EB	5,400	4,960	0.92	4,395	0.81	4,235	0.78
		WB	5,400	3,545	0.66	3,645	0.68	3,000	0.56
L9	Nam Wan Tunnel	EB	5,400	3,935	0.73	3,005	0.56	3,785	0.70
		WB	5,400	3,765	0.70	3,745	0.69	3,260	0.60
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050	1,330	0.44	1,375	0.45	1,390	0.46
		SB	4,850	1,275	0.26	970	0.20	1,120	0.23
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050	1,005	0.33	950	0.31	965	0.32
		SB	3,050	825	0.27	660	0.22	720	0.24
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800	660	0.24	720	0.26	910	0.33
		SB	2,800	805	0.29	560	0.20	745	0.27
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920	625	0.68	515	0.56	730	0.79
		WB	920	685	0.74	570	0.62	675	0.73
L14	Sai Tso Wan Road between Tsing Yi Road West and local access	EB	1,250	470	0.38	585	0.47	1,020	0.82
		WB	1,250	780	0.62	570	0.46	900	0.72

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak(1)		PM Peak(1)		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	for Yiu Lian Dockyards Limited								
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,580	0.65	1,680	0.42	1,680	0.42
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	440	0.24	445	0.25	425	0.24
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800	165	0.09	65	0.04	305	0.17
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	1,100	0.61	1,275	0.71	1,255	0.70
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	330	0.19	240	0.14	410	0.24
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	4,335	0.71	5,125	0.84	4,565	0.75
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,580	0.44	1,675	0.47	1,845	0.51
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	395	0.22	555	0.31	410	0.23
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	1,040	0.55	615	0.32	800	0.42
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	2,470	0.69	1,660	0.46	1,685	0.47
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	3,515	0.58	2,275	0.37	2,485	0.41

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak(1)		PM Peak(1)		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	935	0.49	595	0.31	805	0.42
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	490	0.26	150	0.08	380	0.20
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	5,755	0.70	6,070	0.74	5,460	0.67
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	2,405	0.60	2,120	0.53	1,820	0.46
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,915	0.48	2,550	0.64	1,605	0.40
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,920	0.97	5,675	0.69	7,590	0.93

Remark:

(1) Taking into account the restriction to site traffic accessing Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks.

4.4.2 The results in **Table 4.13** to **Table 4.18** above show that the performance of all study junctions and road links in Scenarios A and B would operate within capacity during AM, PM and logistic peak hours on weekdays for design year 2031, with the exceptions of Tsing Ma Bridge (L1) eastbound during PM peak hour, westbound during AM peak hour and Ting Kau Bridge southbound (L2) during both AM and logistic peak hours. Nevertheless, it is considered the traffic impact induced by the development at the concerned road links is insignificant since the change of V/C ratio is minimal (i.e. at most 0.02 increase of V/C ratio) and the road links would still operate with V/C ratio below 1.2. In addition, it is anticipated that the completion of Tsing Lung Bridge and Tsing Yi - Lantau Link would further improve the traffic conditions at L1 and L2. The details of the junction capacity calculation can be found in **Appendix A**.

4.4.3 Since the traffic impact on J1 and J5 is considered to be most significant due to the location close to the access of the Site, the anticipated traffic queue at the approach arms of J1 and J5 were analysed. The extent of the queues for the commuting peaks and logistic peak under scenarios of 2031 reference, 2031 design case Scenario A and 2031 design case Scenario B are presented in **Table 4.19** to **4.22**.

Table 4.19 Queue Length Analysis for NWTYI Roundabout (J1) – Design Case Scenario A

Junction Arm	Approx. Buffer Distance (1)	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario A)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
NWTYI SB	145m	0(2)	0(2)	0(2)	0(2)	0(2)	0(2)
NWTYI NB	70m	4	3	4	8	6	8

Notes:
(1) Buffer distance refers to road distance to the upstream junction / mainline.
(2) The average queuing length is negligible.

Table 4.20 Queue Length Analysis for NWTYI Roundabout (J1) – Design Case Scenario B

Junction Arm	Approx. Buffer Distance (1)	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario B)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
NWTYI SB	145m	0(2)	0(2)	0(2)	0(2)	0(2)	0(2)
NWTYI NB	70m	4	3	4	5	7	4

Notes:
(1) Buffer distance refers to road distance to the upstream junction / mainline.
(2) The average queuing length is negligible.

Table 4.21 Queue Length Analysis for Tam Kon Shan Interchange (J5)–Design Case Scenario A

Junction Arm	Approx. Buffer Distance (1)	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario A)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
Tan Kon Shan Road SB	100m	7	4	8	7	4	8
Tsing King Road SB	165m	6	4	5	6	4	5
TYNCR WB	260m	4	3	6	4	3	6
Fung Shue Wo Road NB	180m	9	9	11	9	9	11
TYNCR EB	135m	11	5	8	11	5	8

Notes:
(1) Buffer distance refers to road distance to the upstream junction / mainline.

Table 4.22 Queue Length Analysis for Tam Kon Shan Interchange (J5)–Design Case Scenario B

Junction Arm	Approx. Buffer Distance (1)	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario B)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
Tan Kon Shan Road SB	100m	7	4	8	7	4	8
Tsing King Road SB	165m	6	4	5	6	4	6
TYNCR WB	260m	4	3	6	4	3	6

Junction Arm	Approx. Buffer Distance (1)	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario B)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
Fung Shue Wo Road NB	180m	9	9	11	9	9	12
TYNCR EB	135m	11	5	8	11	5	18

Notes:
(1) Buffer distance refers to road distance to the upstream junction / mainline.

4.4.4 Based on the above, there is a low chance of traffic tailing back to the upstream junctions during both commuting peak and logistic peak hours at J1 and J5 in design case scenarios.

5 SENSITIVITY TEST SCENARIO

5.1 Alternative Site Access Arrangements

5.1.1 As noted in **para. 3.2.3**, the proposed site access would be relocated from NWTYI to the slip road of TYNCR near the existing TKSR roundabout (J3) once the tunnel to the TKSR portal is implemented in 2031 tentatively. Concurrently, the unnamed access road at NWTYI would be converted into a one-way outbound road, requiring all development traffic to reroute to the TKSR portal to enter the Site.

5.1.2 Relocating vehicular access to the TKSR portal forces inbound traffic from Tsing Ma Bridge, Ting Kau Bridge and Cheung Tsing Tunnel / Nam Wan Tunnel to detour. Outside of AM and PM peak periods, these traffic must route via Tsing Yi North Coastal Road and turn around at Tam Kon Shan Interchange before reaching the TKSR portal. Moreover, during the commuting peaks, inbound traffic from these bounds shall be rerouted to Tsuen Kam Interchange, Texaco Road, Tsing Tsuen Road flyover and Tsing Yi North Coastal Road flyover due to proposed access restriction for site traffic at Tam Kon Shan Interchange and Tsuen Tsing Interchange. While these routings (under Design Case Scenario B) are technically acceptable regarding road link and junction performances as presented in **Section 4.4**, the longer travel distance may reduce operational efficiency. Therefore, subject to the contractor's operational needs, an alternative site access arrangement in operation phase is explored. This alternative maintains both ingress and egress at the NKW portal, even after the tunnel leading to TKSR portal is implemented, to minimize the traffic detours.

5.1.3 A sensitivity test scenario was developed to evaluate traffic conditions using this alternative site access arrangement for the design year 2031.

5.1.4 Under this alternative site access arrangement, the ingress and egress at NWTYI would remain open and the new run-in near TKSR roundabout would operate simultaneously to further disperse traffic demand. The anticipated routing details are summarized in **Table 5.1** below.

Table 5.5.1 Routing for Alternative Site Access Arrangement

Route	Outbound Traffic	Inbound Traffic	Reference Figure
Route A1 (Tsing Ma Bridge Bound)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Tsing Ma Bridge WB	Tsing Ma Bridge EB → NWTYI NB → Site Access at NWTYI	Figure 3.1
Route A2 (Ting Kau Bridge)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Ting Kau Bridge NB	Ting Kau Bridge SB → NWTYI SB → NWTYI NB → Site Access at NWTYI	Figure 3.2
Route B3 (Tsing Tsuen Road)	Site Access at NWTYI → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tsing Tsuen Road EB	Tsing Tsuen Road WB → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR	Figure 3.11
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Cheung Tsing Highway SB → Cheung Tsing Tunnel EB	Cheung Tsing Tunnel WB / Nam Wan Tunnel WB → Cheung Tsing Highway NB → NWTYI NB → Site Access at NWTYI	Figure 3.4

5.1.5 As shown in **Table 5.1,** the alternative access routings are primarily based on Design Case Scenario A. Because the NKW portal provides shorter ingress routes, traffic from Tsing Ma Bridge, Ting Kau Bridge and Cheung Tsing Tunnel / Nam Wan Tunnel bounds would likely utilize the NKW portal for accessing the Site (Route A1, Route A2 and Route A4). Nevertheless, traffic from Tsing Tsuen Road benefits from a more direct path via the TKSR portal, therefore, it is anticipated to use the TKSR portal access and its associated route (Route B3).

5.1.6 Trip generation and percentage splits for each route remain identical to Design Cases Scenarios A and B, as the end-user origins/destinations and total traffic volumes are unchanged. These assumptions are detailed in **Table 5.2**.

Table 5.5.2 Trip Generation and Percentage Split of Routing for Alternative Site Access Arrangement

Route	Outbound Traffic		Inbound Traffic	
	Traffic Flow in peak (in pcu/hr)	Split of Route (in %)	Traffic Flow in peak (in pcu/hr)	Split of Route (in %)
Route A1 (Tsing Ma Bridge Bound)	18	10%	18	10%
Route A2 (Ting Kau Bridge)	106	60%	106	60%
Route B3 (Tsing Tsuen Road)	35	20%	35	20%
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	18	10%	18	10%

5.1.7 Compared to Design Case Scenario A, the only routing deviation is inbound traffic from Tsing Tsuen Road. This traffic will shift to Route B3 (entering via the TKSR portal run-in) instead of using Route A3 (entering via the NKW portal). Routes and traffic volumes for all other approaches (Routes A1, A2 and A4) remain exactly as modeled in Design Case Scenario A. Thus, the traffic impact of this sensitivity test can be evaluated solely by swapping Route A3 for Route B3.

5.1.8 Shifting Tsing Tsuen Road bound traffic to Route B3 eliminates its need to traverse NWTYI and NWTYI Roundabout (J1), providing direct access from TYNCR instead. This could reduce traffic loads at NWTYI and its roundabout, positively impacting their performance. Since all other routes (Routes A1, A2 and A4) are unchanged, no other assessed junctions or road links from Design Case Scenario A would be affected.

5.1.9 Based on this analysis, the alternative access arrangement will not degrade traffic conditions at any study junctions or road links compared to Design Case Scenario A.

5.1.10 Nevertheless, in order to address public concerns regarding congestion, peak period access restrictions (i.e. 07:00 to 09:30 and 17:00 to 19:00) for development traffic at Tam Kon Shan and Tsuen Tsing Interchanges should be maintained under this alternative site access arrangement.

5.1.11 Consistent with the arrangements in **Section 3.4**, the Contractor shall regularly review site traffic percentage splits. Traffic distributions and diversion across Tsing Ma Bridge, Ting Kau Bridge, Tsing Tsuen Road and Cheung Tsing Tunnel / Nam Wan Tunnel should be monitored and adjusted based on prevailing traffic conditions. These proposed routing arrangements should be explicitly detailed in the Traffic Management Plan and traffic control proposals for review and approval.

6 CONSTRUCTION TRAFFIC IMPACT ASSESSMENT

6.1 Peak Construction Year and Estimation of Construction Traffic

6.1.1 Construction vehicles are expected to travel to the development via the unnamed local access road and NWTYI during the construction phase. To be conservative, peak construction year (i.e. 2028) was adopted for subsequent road links and junction capacity assessment.

6.1.2 With reference to the construction works and preliminary construction programme, the estimation of construction traffic during the peak construction year (i.e. 2028) is shown in **Table 6.1** below.

Table 6.1 Estimation of Construction Traffic

Construction Traffic Routings	Number of Vehicles	
	Generation	Attraction
Via Tsing Ma Bridge	2	2
Via Ting Kau Bridge	2	2
Via Tsing Tsuen Road	4	4

Remark:
(1) Assuming 25% of traffic to/from Tuen Mun Area 38 Fill Bank or NENT via Tsing Ma Bridge
(2) Assuming 25% of traffic to/from Tuen Mun Area 38 Fill Bank or NENT via Ting Kau Bridge
(3) Assuming 50% of excavated material from TKS Portal Site Formation

6.1.3 Based on the latest information, it is proposed that the excavated materials would generally be transported to North East New Territories (NENT) Landfill and Tuen Mun Area 38 Fill Bank via Lantau Link, Tsing Long Highway and Tsing Tsuen Road. Construction materials (e.g. concrete and steel) are also assumed using Lantau Link, Tsing Long Highway and Tsing Tsuen Road to be transported to the Site.

6.1.4 As for vehicular traffic demand forecast for construction traffic impact assessment, it is expected that future traffic condition (i.e. 2028) of local road network surrounding the development would not explicate dynamic changes due to no major transport infrastructure works is anticipated to be completed within and near Tsing Yi. Therefore, the background traffic forecasts for 2028 design year were derived by applying a traffic growth rate to the surveyed traffic flows, excluding PT flows which considered to be operated on the same schedule, to project the traffic flows for reference case scenario (i.e. without construction traffic). With reference to the population and employment projection of TFPD, a total growth rate of 1.51% (from 11,771,500 in Year 2025 to 11,949,800 in Year 2028) is proposed. Construction traffic was then be assigned on top of the reference traffic flows according to the routings in **Table 5.1** to produce the traffic flows for design case scenario (i.e. with construction traffic).

6.2 Assessment of Study Junctions and Road Links for Design Year 2028

6.2.1 To gauge the construction traffic impact due to the development, performance of the concerned junctions and road links along the construction traffic routings has been assessed for peak construction year 2028 according to the criteria from **paragraphs 2.3.2** to **2.3.4**.

6.2.2 Assessment results of junctions and road links along the construction traffic routings are presented in **Tables 6.2** to **6.5** below.

Table 6.2 Junction Capacity Assessment for Design Year (2028) – Reference Case (Without Construction Traffic)

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.36	0.32	0.29
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	-(1)	-(1)	-(1)
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.19	0.17	0.14
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.13

Remark:
(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.

Table 6.3 Road Link Capacity Assessment for Design Year (2028) – Reference Case (Without Construction Traffic)

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	3,300	0.54	4,415	0.72	3,700	0.61
		WB	6,100	4,505	0.74	3,195	0.52	3,480	0.57
L2	Ting Kau Bridge	NB	6,100	3,205	0.53	4,760	0.78	3,790	0.62
		SB	6,100	6,865	**1.13**	3,630	0.60	5,125	0.84
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	-(1)	-(1)	-(1)	-(1)	-(1)	-(1)
		SB	500	-(1)	-(1)	-(1)	-(1)	-(1)	-(1)
L4	Tam Kon Shan Road	EB	900	330	0.37	340	0.38	195	0.22
		WB	900	110	0.12	105	0.12	65	0.07
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	225	0.13	200	0.11	175	0.10
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	160	0.09	175	0.10	100	0.06
L7	Tsing Yi North Coastal Road	EB	5,600	1,100	0.20	1,020	0.18	1,105	0.20
		WB	3,600	1,625	0.45	1,065	0.30	1,195	0.33
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,025	0.51	1,320	0.33	1,330	0.33
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	335	0.19	365	0.20	170	0.09
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi	NB	1,800	165	0.09	70	0.04	230	0.13

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	Administration Building northbound								
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	930	0.52	1,025	0.57	990	0.55
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	300	0.18	255	0.15	230	0.14
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	3,030	0.50	4,350	0.71	3,570	0.59
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,195	0.33	1,260	0.35	1,220	0.34
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	255	0.14	415	0.23	215	0.12
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	970	0.51	535	0.28	555	0.29
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	1,650	0.46	1,280	0.36	1,235	0.34
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	2,625	0.43	1,815	0.30	1,790	0.29
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	600	0.32	495	0.26	460	0.24
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	260	0.14	130	0.07	290	0.15
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	4,405	0.54	5,050	0.62	4,360	0.53
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,200	0.30	1,145	0.29	1,455	0.36
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,155	0.29	1,565	0.39	1,285	0.32
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,205	0.88	4,635	0.57	6,065	0.74

Remark:

(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist

Table 6.4 Junction Capacity Assessment for Design Year (2028) – Design Case (With Construction Traffic)

Index	Junction	Type	RC/DFC		
			AM Peak(1)	PM Peak(1)	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.37	0.32	0.30
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	0.02	0.02	0.02
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.20	0.18	0.15
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.22	0.23	0.14

Remark:
(1) Taking into account the restriction to site traffic accessing Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks.

Table 6.5 Road Link Capacity Assessment for Design Year (2028) – Design Case (With Construction Traffic)

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak(1)		PM Peak(1)		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	3,305	0.54	4,420	0.72	3,705	0.61
		WB	6,100	4,510	0.74	3,200	0.52	3,485	0.57
L2	Ting Kau Bridge	NB	6,100	3,210	0.53	4,765	0.78	3,795	0.62
		SB	6,100	6,870	**1.13**	3,635	0.60	5,130	0.84
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	10	0.02	10	0.02	10	0.02
		SB	500	10	0.02	10	0.02	10	0.02
L4	Tam Kon Shan Road	EB	900	340	0.38	350	0.39	205	0.23
		WB	900	110	0.12	105	0.12	65	0.07
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	235	0.13	210	0.12	185	0.10
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	170	0.09	185	0.10	110	0.06
L7	Tsing Yi North Coastal Road	EB	5,600	1,110	0.20	1,030	0.18	1,115	0.20
		WB	3,600	1,635	0.45	1,075	0.30	1,205	0.33
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,030	0.51	1,325	0.33	1,335	0.33
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	345	0.19	375	0.21	180	0.10
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to	NB	1,800	165	0.09	70	0.04	230	0.13

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak(1)		PM Peak(1)		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	Tsing Yi Administration Building northbound								
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	935	0.52	1,030	0.57	995	0.55
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	305	0.18	260	0.15	235	0.14
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	3,035	0.50	4,355	0.71	3,575	0.59
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,205	0.33	1,270	0.35	1,230	0.34
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	265	0.15	425	0.24	225	0.13
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	975	0.51	540	0.28	560	0.29
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	1,660	0.46	1,290	0.36	1,245	0.35
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	2,640	0.43	1,830	0.30	1,805	0.30
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	610	0.33	505	0.27	470	0.25
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	260	0.14	130	0.07	290	0.15
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	4,405	0.54	5,050	0.62	4,360	0.53
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,200	0.30	1,145	0.29	1,455	0.36
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,155	0.29	1,565	0.39	1,285	0.32

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak(1)		PM Peak(1)		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,205	0.88	4,635	0.57	6,065	0.74

Remark:

(1) Taking into account the restriction to site traffic accessing Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks.

6.2.3 The results in **Table 6.2** to **Table 6.5** above show that the performance of all study junctions and road links along construction traffic routings would be operating within capacity during AM, PM and logistic peak hours on normal weekdays for construction peak year 2028, with the exception of Ting Kau Bridge southbound (L2) during AM peak. Nevertheless, it is considered the traffic impact induced by the construction traffic at the concerned road link is insignificant given that the V/C ratio remains unchanged or shows only a negligible difference compared to the reference case scenario.

7 MITIGATION MEASURES ON TRAFFIC IMPACT

7.1 Proposed Site Access Arrangement and Traffic Management Measure

7.1.1 The commission year of the development is tentatively targeted in Year 2028. With reference to TD's TIA Guidelines of Department Circular 1/2011, the design year for the traffic forecast is proposed to be set at least 3 years after the planned commission of the development. Therefore, the proposed design year is 2031 for the TTIA.

7.1.2 In view of the development nature (i.e. quarry), it is proposed that the assessment scenario consists of AM peak, logistic peak and PM peak on normal Weekday, including:-

- **Reference Case** (without the proposed development);
- **Design Case Scenario A** (with the proposed development, before implementation of the tunnel to TKSR portal); and
- **Design Case Scenario B** (with the proposed development, after implementation of the tunnel to TKSR portal)

7.1.3 Regarding the site access arrangement, before the commissioning of the tunnel to Tam Kon Shan Road (TKSR) portal, site traffic would use the unnamed access road at North West Tsing Yi Interchange (NWTYI) for both ingress and egress. The proposed run-in/out located at NWTYI is shown in **Figure 3.2**.

7.1.4 As stated in **para. 3.2.3**, upon the implementation of the tunnel to TKSR portal at the northeast of the Site in 2031, site access would be provided to the south of the existing roundabout (J3) at the western end of TKSR. The vehicular access, in term of run-in, leading to the tunnel to TKSR portal is proposed to be located at the off-slip of TYNCR WB. Furthermore, to further disperse the traffic demand generated by the development onto the nearby road network, the access near TKSR would serve ingress only, as the TKSR portal would operate as a one-way inbound route for vehicles accessing the Site. Meanwhile, the unnamed access road at NWTYI would also be converted into a one-way outbound road, with all development traffic entering via the TKSR portal and exiting via the NKW portal. The proposed run-in located at the off-slip of TYNCR WB is shown in **Figure 3.3**.

7.1.5 In response to the public concern about traffic conditions at Tam Kon Shan Interchange and Tsuen Tsing Interchange during peak hours, site traffic should be prohibited from accessing the Site via Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks (i.e. 07:00 to 09:30 and 17:00 to 19:00).

7.1.6 Relocating vehicular access to the TKSR portal forces inbound traffic from Tsing Ma Bridge, Ting Kau Bridge and Cheung Tsing Tunnel / Nam Wan Tunnel to detour. Outside of AM and PM peak periods, these traffic must route via Tsing Yi North Coastal Road and turn around at Tam Kon Shan Interchange before reaching the TKSR portal. Moreover, during the commuting peaks, inbound traffic from these bounds shall be rerouted to Tsuen Kam Interchange, Texaco Road, Tsing Tsuen Road flyover and Tsing Yi North Coastal Road flyover due to proposed access restriction for site traffic at Tam Kon Shan Interchange and Tsuen Tsing Interchange. While these routings (under Design Case Scenario B) are technically acceptable regarding road link and junction performances, the longer travel distance may reduce operational efficiency. Therefore, subject to the contractor's operational needs, an alternative site access arrangement in operation phase is explored. Under this alternative site access arrangement as detailed in **Section 5**, the ingress and egress at NWTYI would remain open and the new run-in at off-slip of TYNCR WB for ingress would operate simultaneously to further disperse traffic demand.

Table 7.1 Summary of Site Access Arrangements for Operational Traffic

Site Access Location	Before 2031(1)	After 2031(1)	
		Proposed	Alternative
Unnamed access road at North West Tsing Yi Interchange (NWTYI)	Ingress and Egress	Egress Only	Ingress and Egress
Off-slip of TYNCR WB	-	Ingress Only	Ingress Only

Remark:
(1) Tunnel to TKSR portal is anticipated to be commissioned by 2031 tentatively

7.1.7 Site observations indicated that the western section of TKSR mainly serves industrial developments alongside, carrying a significant proportion of heavy vehicles. This condition is anticipated to continue through future design years. The proposed site access arrangement for operational traffic at the off-slip of TYNCR WB (ingress only) demonstrated that traffic generated by the Site **will not traverse TKSR and the adjacent roundabout (J3)** at its western end, thereby preventing further deterioration on traffic conditions on TKSR.

7.1.8 In addition, given that there are approx. 750m and 700m (including tunnel section) of internal access road adjoining the NKW portal and TKSR portal respectively, which could accommodate vehicle waiting and queuing without disrupting development operations, it is deemed that any traffic queues from the Site extending to the public road is not anticipated.

7.1.9 Routings for the operation traffic are presented in **Figure 3.5** to **Figure 3.12**. Detailed routing arrangements for site traffic are set out below:

Routing for Operational Traffic in 2028-2031

(Before the implementation of tunnel at TKSR portal)

7.1.10 As the tunnel to TKSR portal would be implemented in phases, operational traffic would continue to use the site access at NWTYI until the commissioning of the tunnel at TKSR portal.

Table 7.2 Routing for Operational Traffic in 2028-2031

Route	Outbound Traffic	Inbound Traffic
Route A1 (Tsing Ma Bridge Bound)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Tsing Ma Bridge WB	Tsing Ma Bridge EB → NWTYI NB → Site Access at NWTYI
Route A2 (Ting Kau Bridge)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Ting Kau Bridge NB	Ting Kau Bridge SB → NWTYI SB → NWTYI NB → Site Access at NWTYI
Route A3 (Tsing Tsuen Road)	Site Access at NWTYI → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tsing Tsuen Road EB	Tsing Tsuen Road WB → Tam Kon Shan Interchange Flyover WB → TYNCR WB → NWTYI SB → NWTYI NB → Site Access at NWTYI
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Cheung Tsing Highway SB→ Cheung Tsing Tunnel EB	Cheung Tsing Tunnel WB / Nam Wan Tunnel WB → Cheung Tsing Highway NB→ NWTYI NB → Site Access at NWTYI

Routing for Operational Traffic in 2031 and onward

(After the implementation of tunnel to TKSR portal)

7.1.11 Following the implementation of the tunnel to TKSR portal, ingress traffic would be directed to the off-slip of TYNCR WB for access, while the egress would be maintained at TYNCR. In addition, **inbound of Routes B1, B2 and B4 shall be prohibited during AM and PM peaks (i.e. 07:00 to 09:30 and 17:00 to 19:00)** to mitigate further deterioration of traffic conditions at Tam Kon Shan Interchange, which experiences heavy traffic during the commuting peak traffic periods. Under this restriction, inbound traffic from Tsing Ma Bridge, Ting Kau Bridge and Cheung Tsing Tunnel / Nam Wan Tunnel shall be rerouted via Tsuen Kam Interchange, Texaco Road, Tsing Tsuen Road flyover and Tsing Yi North Coastal Road flyover to access the site. The proposed routing details are presented in the following table.

Table 7.3 Routing for Operational Traffic from 2031 and onwards

Route	Outbound Traffic	Inbound Traffic
Route B1 (Tsing Ma Bridge Bound)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Tsing Ma Bridge WB	Tsing Ma Bridge EB → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tam Kon Shan Interchange → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR
Route B2 (Ting Kau Bridge)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Ting Kau Bridge NB	Ting Kau Bridge SB → NWTYI SB → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tam Kon Shan Interchange → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR
Route B3 (Tsing Tsuen Road)	Site Access at NWTYI → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tsing Tsuen Road EB	Tsing Tsuen Road WB → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR
Route B4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Cheung Tsing Highway SB→ Cheung Tsing Tunnel EB	Cheung Tsing Tunnel / Nam Wan Tunnel → Cheung Tsing Highway → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tam Kon Shan Interchange → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR

Alternative Routing for Operational Traffic in 2031 and onward

(After the implementation of tunnel to TKSR portal)

7.1.12 The alternative access routings are primarily based on Design Case Scenario A. Because the NKW portal provides shorter ingress routes, traffic from Tsing Ma Bridge, Ting Kau Bridge and Cheung Tsing Tunnel / Nam Wan Tunnel bounds would likely utilize the NKW portal for accessing the Site (Route A1, Route A2 and Route A4). Nevertheless, traffic from Tsing Tsuen Road benefits from a more direct path via the TKSR portal, therefore, it is anticipated to use the TKSR portal access and its associated route (Route B3).

Table 7.4 Routing for Alternative Site Access Arrangement

Route	Outbound Traffic	Inbound Traffic	Reference Figure
Route A1 (Tsing Ma Bridge Bound)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Tsing Ma Bridge WB	Tsing Ma Bridge EB → NWTYI NB → Site Access at NWTYI	Figure 3.1
Route A2 (Ting Kau Bridge)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Ting Kau Bridge NB	Ting Kau Bridge SB → NWTYI SB → NWTYI NB → Site Access at NWTYI	Figure 3.2
Route B3 (Tsing Tsuen Road)	Site Access at NWTYI → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tsing Tsuen Road EB	Tsing Tsuen Road WB → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR	Figure 3.11
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Cheung Tsing Highway SB → Cheung Tsing Tunnel EB	Cheung Tsing Tunnel WB / Nam Wan Tunnel WB → Cheung Tsing Highway NB → NWTYI NB → Site Access at NWTYI	Figure 3.4

7.1.13 Based on the proposed site access arrangements and traffic management measures abovementioned, V/C ratios on TKSR and TYNCR have been assessed to determine the traffic impact of the development. The results are summarised below in **Table 7.5** and detailed calculations can be found in **Tables 4.14**, **4.16**, and **4.18**.

Table 7.5 Road Link Capacity Assessment

Link Index	Link Name	Direction	V/C Ratio(1)		
			2031 Reference Case	2031 Design Case Scenario A	2031 Design Case Scenario B
L4	Tam Kon Shan Road	EB	0.50 (0.51) [0.27]	0.50 (0.51) [0.27]	0.50 (0.51) [0.27]
		WB	0.12 (0.12) [0.09]	0.12 (0.12) [0.09]	0.12 (0.12) [0.09]
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	0.19 (0.18) [0.12]	0.19 (0.18) [0.12]	0.29 (0.28) [0.22]
L7	Tsing Yi North Coastal Road	EB	0.26 (0.25) [0.25]	0.26 (0.25) [0.25]	0.26 (0.25) [0.28]
		WB	0.68 (0.39) [0.41]	0.69 (0.40) [0.42]	0.73 (0.44) [0.46]

Notes:
(1) V/C ratios are presented in AM peak (PM peak) [Logistic Peak]

7.1.14 The results illustrated that the road link performance of TKSR and TYNCR in Scenarios A and B would operate within capacity during AM, PM and logistic peak hours on weekdays for design year 2031. Given that development traffic will not use TKSR under both Scenarios A and B, traffic conditions on TKSR would be maintained at the reference case scenario level.

7.1.15 Regarding the alternative site access arrangement, shifting Tsing Tsuen Road bound traffic to Route B3 eliminates its need to traverse NWTYI and NWTYI Roundabout (J1), providing direct access from TYNCR instead. This could reduce traffic loads at NWTYI and its roundabout, positively impacting their performance. Since all other routes (Routes A1, A2 and A4) are unchanged, no other assessed junctions or road links from Scenario A would be affected. In view of that, the alternative access arrangement will not degrade traffic conditions at any study junctions or road links compared to Scenario A.

7.1.16 As mentioned in **para. 4.4.2**, the V/C ratio of Tsing Ma Bridge (L1) eastbound during PM peak hour, westbound during AM peak hour and Ting Kau Bridge southbound (L2) during both AM and logistic peak hours is anticipated to exceed 1.0. Nevertheless, it is considered the traffic impact induced by the development at the concerned road links is insignificant since the change of V/C ratio is minimal (i.e. at most 0.02 increase of V/C ratio) and the road links would still operate with V/C ratio below 1.2. In addition, as parallel routes to Tsing Ma Bridge and Ting Kau Bridge would be constructed under the planned Route 11 and Tsing Yi–Lantau Link projects (i.e. Tsing Lung Bridge and Tsing Yi-Lantau Link), traffic conditions at L1 and L2 are anticipated to improve further upon its completion.

Construction Traffic

7.1.17 During the construction phase of tunnel to TKSR portal (i.e. before completion of tunnel to TKSR portal), the corresponding construction vehicle would inevitably travel to TKSR EB to leave the site from the site access at off-slip of TYNCR WB. Nevertheless, it is considered that the traffic impact induced by the construction traffic at the concerned road link and associated junction is insignificant given that the V/C ratio and RC remain unchanged, showing only a negligible difference compared to the reference case scenario. The results can be found in **Table 6.2** to **Table 6.5**.

7.2 Traffic Management Plan to the Site Traffic and Contingency Plan

7.2.1 The Traffic Management Plan and traffic control proposals shall be prepared and submitted by the Contractor to minimize traffic impacts during both construction and operation phases. The Contractor shall submit a detailed Traffic Management Plan and traffic control proposals during construction/operation phases for review and approval. The Traffic Management Plan shall contain traffic control proposals on operation procedure, real-time positioning, site traffic queue and junction restriction measures.

7.2.2 The Contractor shall prepare a Contingency Plan for facilities failure, together with mitigation measures to minimize disruption and ensure safety. During the failure, excess site traffic shall be diverted to temporary waiting areas to maintain a controlled and efficient flow of operations.

7.2.3 The plan shall include the following elements:

- Activation criteria and procedures for the contingency plan
- Temporary reassignment procedures for excess site traffic
- Safety and traffic management measures, including traffic rerouting, continuous monitoring and communication protocols
- Maintenance and repair response procedures
- Evaluation of consequences and mitigation measures
- Recovery procedures and resume normal operations

8 SUMMARY OF FINDINGS

8.1.1 This Assignment presents the findings of a Traffic and Transport Impact Assessment (TTIA) for the proposed underground quarry at Tsing Yi North.

8.1.2 The operation hour of the proposed development is anticipated to have two cases. Case 1 comprises concrete production at a rate of 500 m³/hr from 07:00 to 19:00 and asphalt production at a rate of 208 t/hr on a 24-hour basis. Case 2 comprises concrete production at a rate of 550 m³/hr from 07:00 to 19:00, followed by concrete production at a rate of 50 m³/hr from 19:01 to 06:59, with no asphalt production all day. Both case 1 and case 2 are anticipated operational scenarios. As the hourly development traffic generated under case 1 is higher than that under case 2, case 1 has been adopted for the impact assessment.

8.1.3 Given that barging point is available at the site, it has been considered that the majority of raw materials for concrete and asphalt production (e.g. aggregates and cement etc.), will be delivered to the site by barge under normal operation. As such, the marine delivery could help reduce the vehicular traffic burden on the road.

8.1.4 At present, the performance of all the study junctions and road links are currently operating within sufficient capacity during AM, PM and logistic peak hours on weekdays, with the exception of J/O Fung Shue Wo Road / Tsing Yi Road West (J6) and Ting Kau Bridge southbound (L2). The V/C ratio between 1.0 to 1.2 indicates that L2 SB operates in unstable flow condition during AM peak hour on weekday.

8.1.5 The proposed development would be an underground quarry. Vehicular access to the portal area would be provided at NWTYI or the off-slip of TYNCR WB which is considered acceptable from traffic engineering point of view in terms of location and access arrangement.

8.1.6 Since there are no parking standards specifically for quarrying in HKPSG, the provision of the ancillary parking and L/UL facilities is proposed to follow the requirements for Industrial Use development stipulated in HKPSG (January 2024 Edition) with respect to GFA of 8,520m^2 at Ngau Kok Wan site.

8.1.7 Since the tunnel to TKSR portal and the Site access road connecting NWTYI would not permit pedestrians access, all staffs and visitors would be required to access the Site solely by private vehicles during both construction and operation phases. As such, the impact on the existing public transport operations is not anticipated.

8.1.8 A TTA has been proposed at the intersection of the unnamed access road and NWTYI to facilitate the development traffic entering and leaving the Site. In addition, the proposed run-in leading to TKSR portal will be relocated to the off-slip of TYNCR WB after the implementation of the tunnel to TKSR portal. Meanwhile, the unnamed access road at NWTYI would be converted into a one-way outbound road, with all development traffic entering via the TKSR portal and exiting via the NKW portal. Following the implementation of the tunnel to TKSR portal, development traffic would be directed to the off-slip of TYNCR WB for access.

8.1.9 To mitigate further deterioration of traffic conditions at Tam Kon Shan Interchange and Tsuen Tsing Interchange, the site traffic would be prohibited from traveling through Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks (i.e. 07:00 to 09:30 and 17:00 to 19:00).

8.1.10 The Traffic Management Plan and traffic control proposals shall be prepared to minimize traffic impacts during both construction and operation phases. The contractor shall submit a detailed Traffic Management Plan, Contingency Plan, and Non-Conformance, Incident Investigation and Auditing Mechanism during construction/operation phases to TD for review and approval.

8.1.11 Future year traffic conditions have been forecasted for the scenario of “With” and “Without” the development during operation and construction phases. The traffic forecast results have been used for the assessment of the traffic impacts arising from the development of the Site.

8.1.12 During operation phase, the performance of all the study junctions and road links would be operating within capacity during AM and PM peak hours on Weekday for design year 2031, with the exceptions of Tsing Ma Bridge (L1) eastbound during PM peak hour, westbound during AM peak hour and Ting Kau Bridge southbound (L2) during both AM and logistic peak hours.

8.1.13 Nevertheless, it is considered the traffic impact induced by the development at the concerned road links is insignificant since the change of V/C ratio is minimal (i.e. at most 0.02 increase

of V/C ratio) and the road links would still operate with V/C ratio below 1.2. In addition, it is anticipated that the completion of Tsing Yi - Lantau Link would further improve the traffic conditions at Tsing Ma Bridge and Ting Kau Bridge.

8.1.14 The results of queue length assessment illustrated that there is a low chance of traffic tailing back to the upstream junctions during both commuting peak and logistic peak hours at J1 and J5 in design case scenarios.

8.1.15 Subject to the contractor's operational needs, alternative site access arrangement was explored to further minimize traffic detours due to the relocation of vehicular access to the TKSR portal upon the implementation of tunnel leading to the TKSR portal. Under this alternative arrangement, the ingress and egress at NWTYI would remain open, while the new run-in near TKSR roundabout would operate simultaneously to disperse the development traffic.

8.1.16 The sensitivity test scenario for the alternative site access arrangement demonstrated that, compared to Design Case Scenario A, the only routing deviation is inbound traffic from Tsing Tsuen Road. This traffic will shift to Route B3 (entering via the TKSR portal run-in) instead of using Route A3 (entering via the NKW portal). Hence, this arrangement could reduce traffic loads at NWTYI and its roundabout. Since all other routes are unchanged, the alternative access arrangement will not degrade traffic conditions at any study junctions or road links compared to Design Case Scenario A.

8.1.17 Construction vehicles are expected to travel to the Site during the construction phase. The performance of all junctions and road links along construction traffic routings would be operating within capacity during AM, PM and logistic peak hours on normal weekdays for construction peak year 2028, with the exception of Ting Kau Bridge southbound (L2) during AM peak. Nevertheless, it is considered the traffic impact induced by the construction traffic at the concerned road links are insignificant given that the V/C ratio remains unchanged compared to the reference case scenario.

8.1.18 In view of the minimal effect on the critical road links and sufficient capacity of all other study junctions and road links during both the operation and construction phases of the proposed underground quarry at Tsing Yi North, the traffic impact is considered insignificant. In this regard, the proposed development is acceptable from a traffic perspective.

Figures

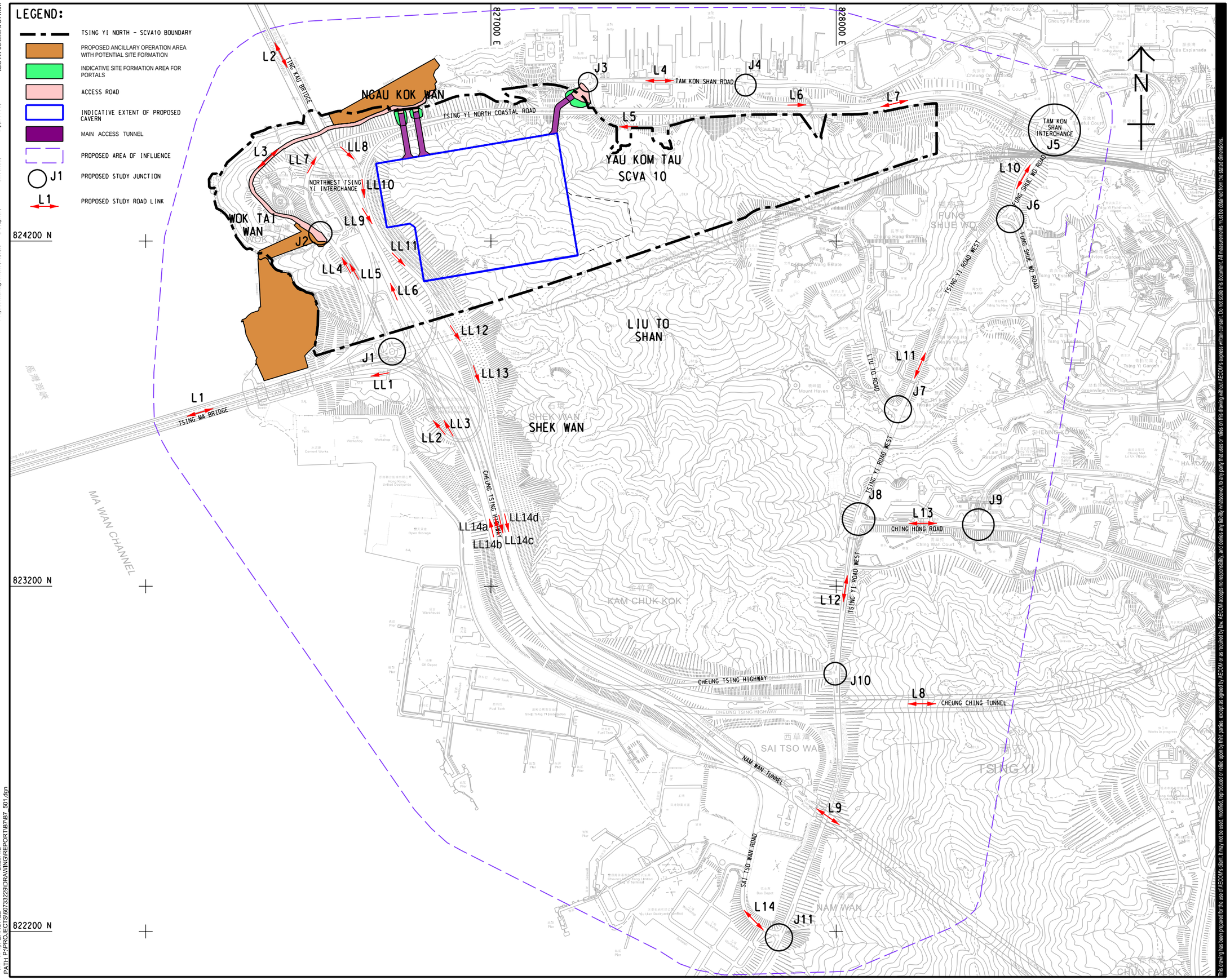
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Approved:

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Designer:

Project Management Initials:



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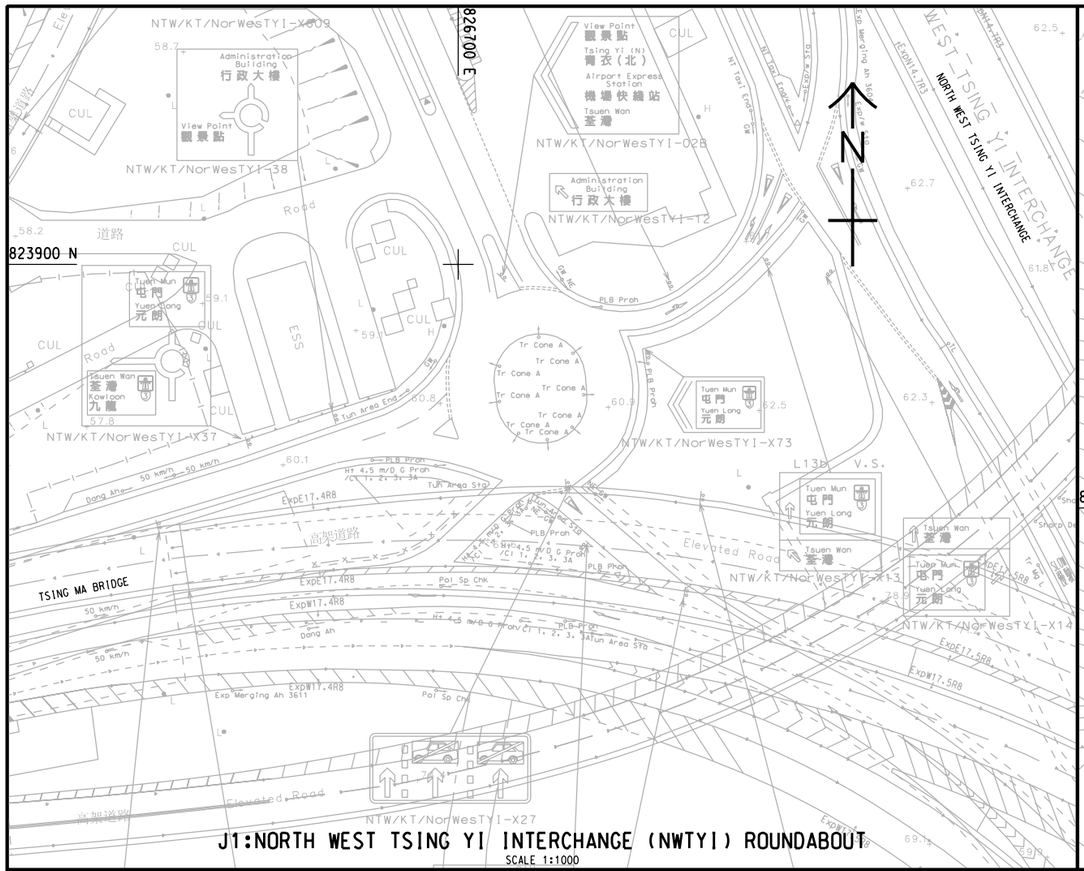
AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
LOCATION OF STUDY JUNCTIONS AND ROAD LINKS

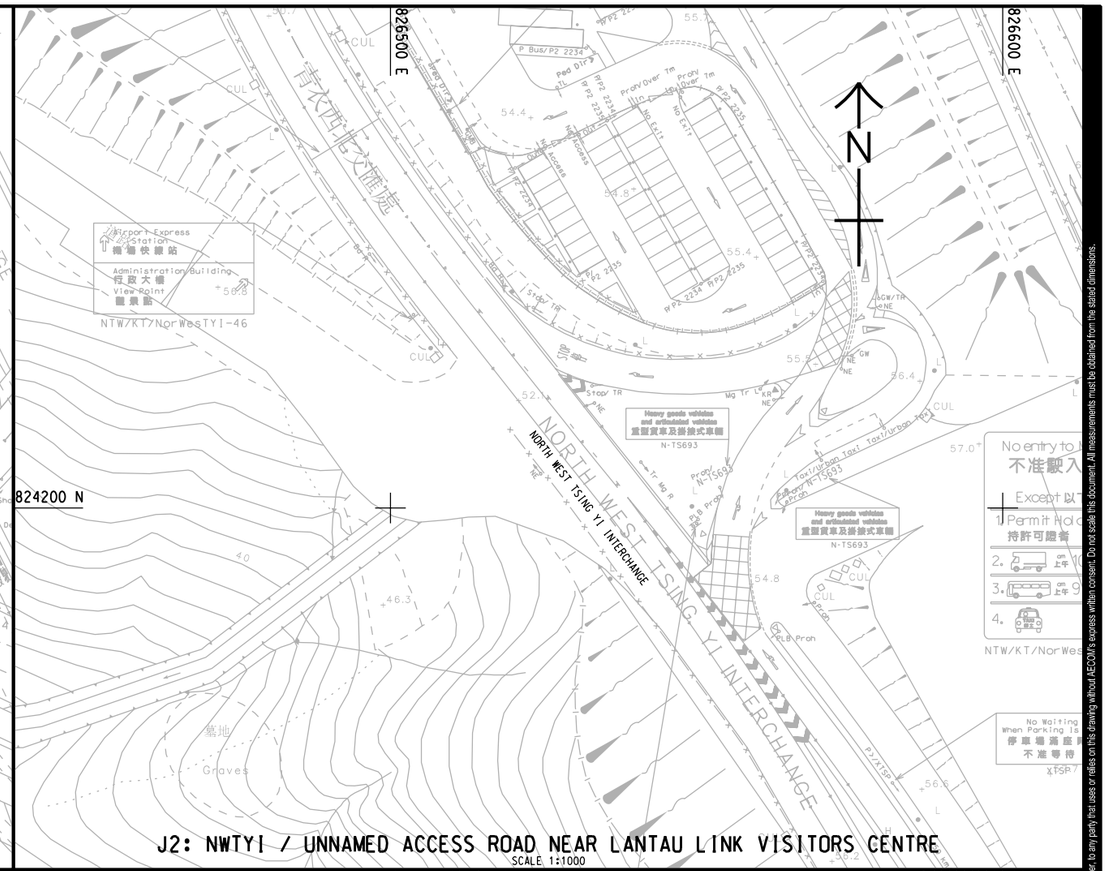
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圖紙號碼
60733229/A20/Figure 2.1

Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm

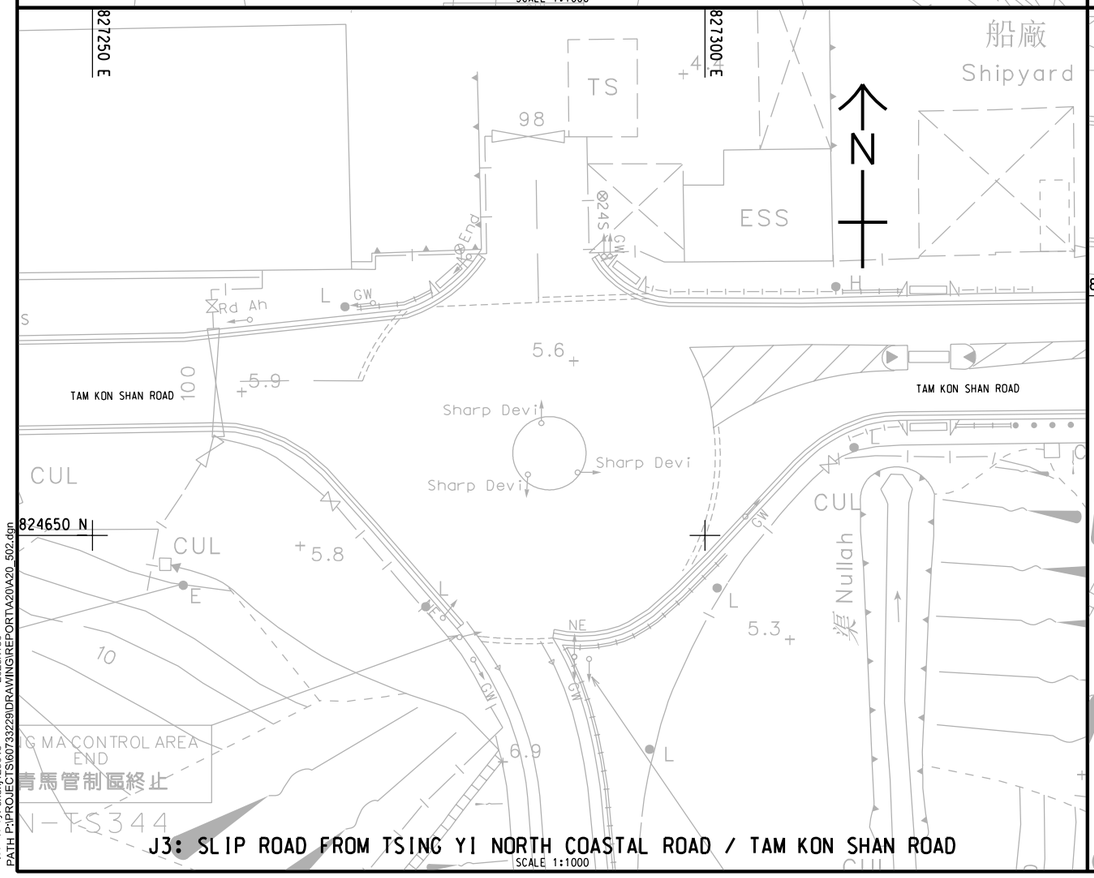
J1:NORTH WEST TSING YI INTERCHANGE (NWTYI) ROUNDABOUT
SCALE 1:1000



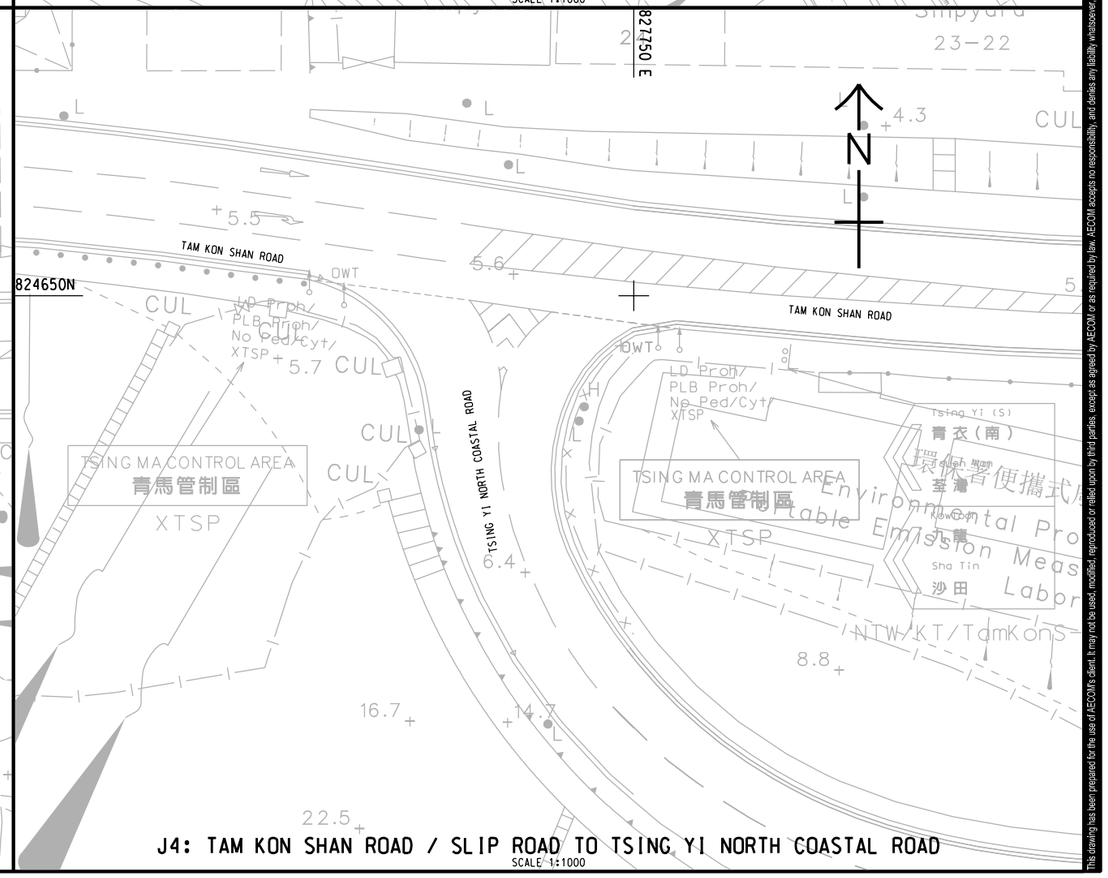
J2: NWTYI / UNNAMED ACCESS ROAD NEAR LANTAU LINK VISITORS CENTRE
SCALE 1:1000



J3: SLIP ROAD FROM TSING YI NORTH COASTAL ROAD / TAM KON SHAN ROAD
SCALE 1:1000



J4: TAM KON SHAN ROAD / SLIP ROAD TO TSING YI NORTH COASTAL ROAD
SCALE 1:1000



V:\BAK\US95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot Date: 20251730
Plot File by: chenj1125046
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
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STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 AS SHOWN	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

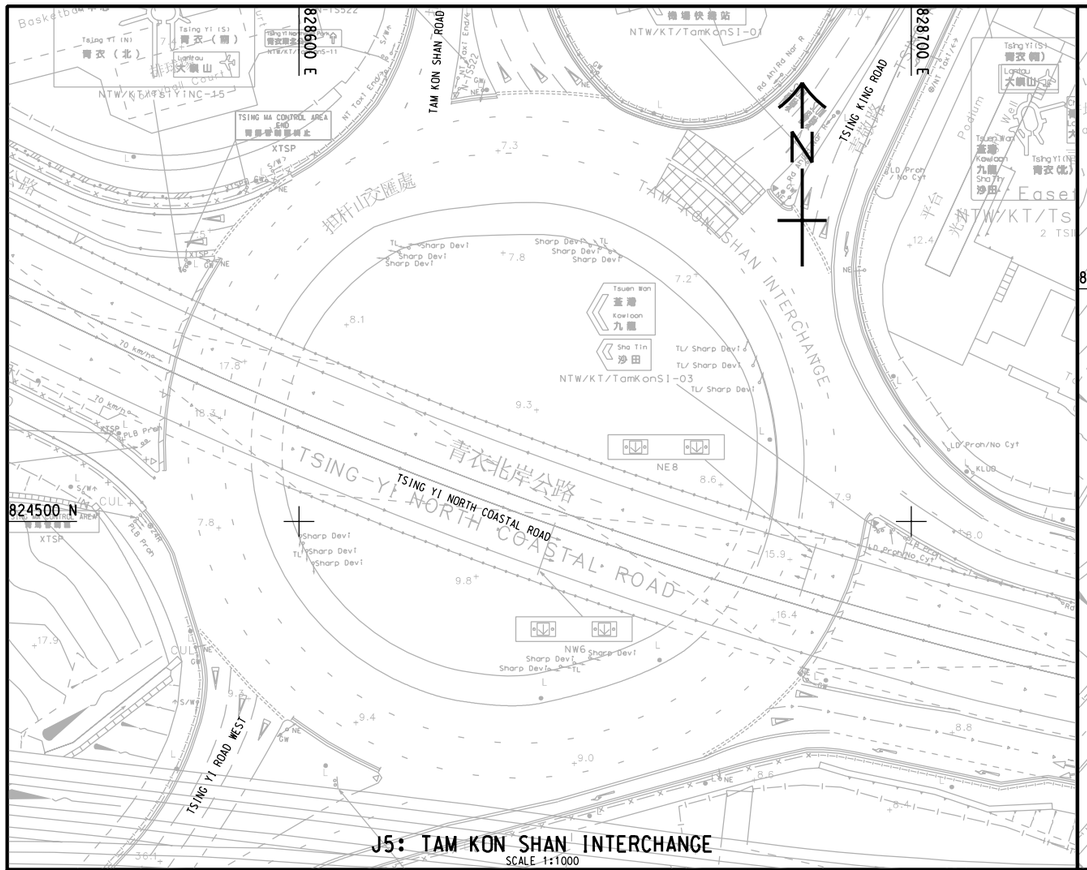
EXISTING JUNCTION LAYOUTS

Sheet 1 of 3

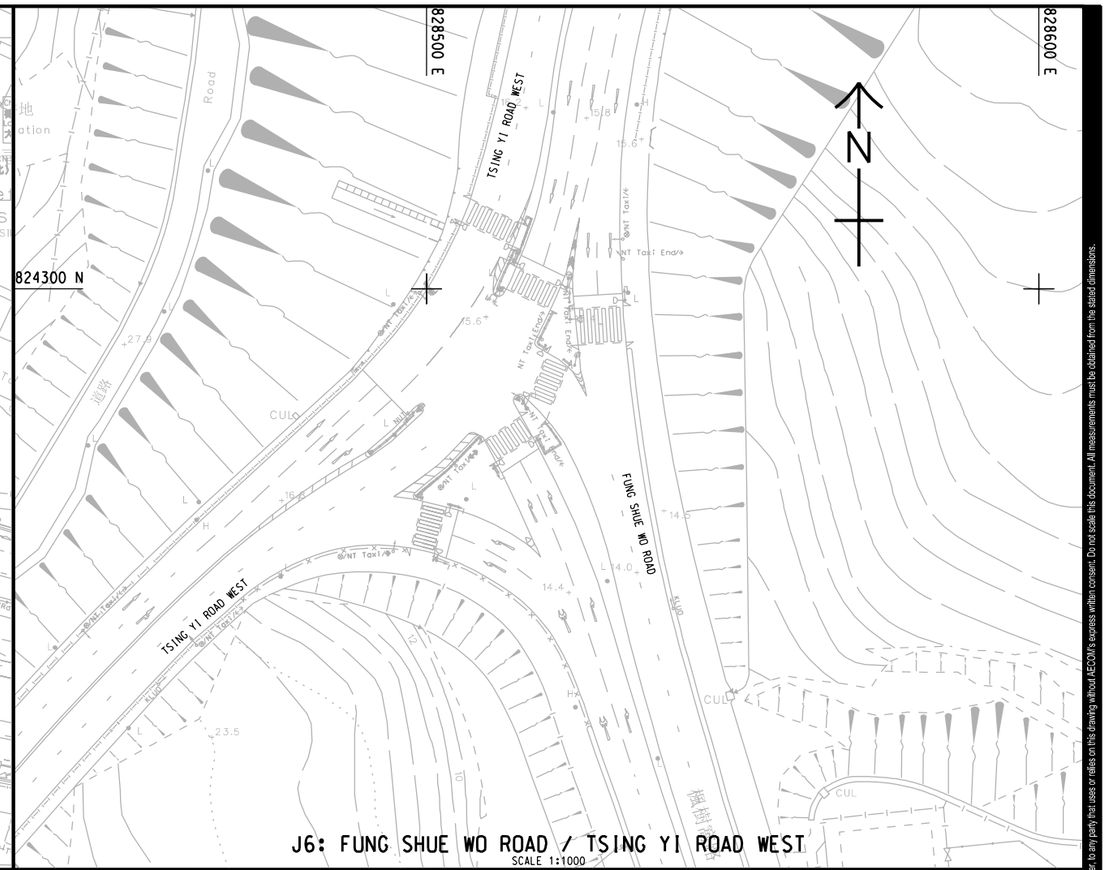
SHEET NUMBER
圖紙編號

60733229/A20/Figure 2.2

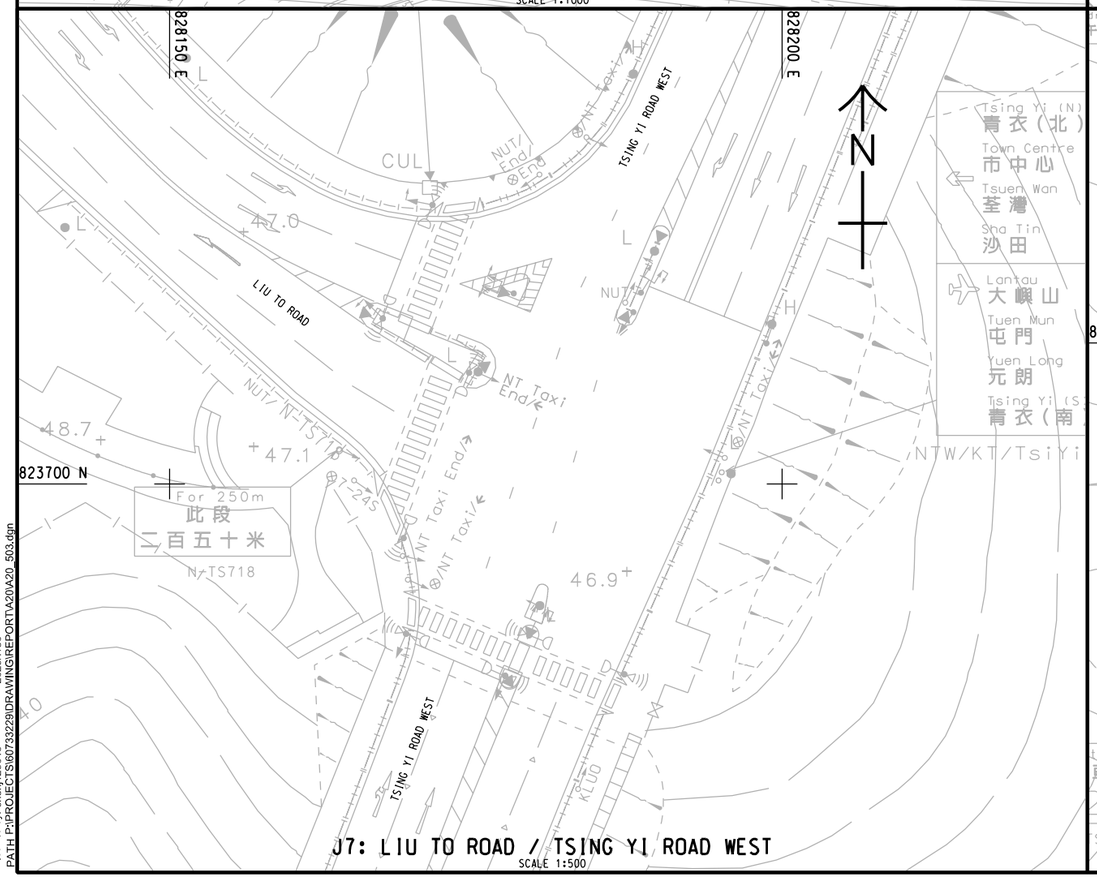
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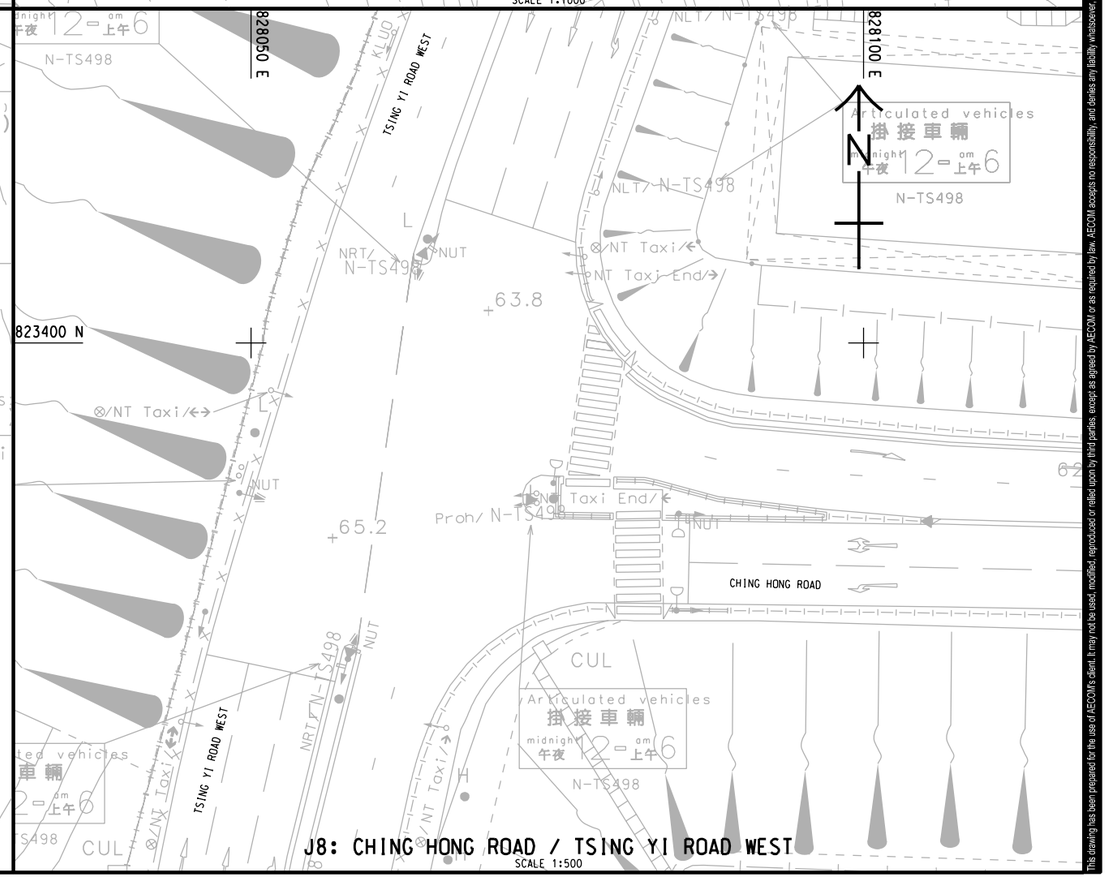
J5: TAM KON SHAN INTERCHANGE
SCALE 1:1000



J6: FUNG SHUE WO ROAD / TSING YI ROAD WEST
SCALE 1:1000



J7: LIU TO ROAD / TSING YI ROAD WEST
SCALE 1:500



J8: CHING HONG ROAD / TSING YI ROAD WEST
SCALE 1:500

V:\BAKUS95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltPlot File by: chenj1125946 2025/7/30
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\A20\A20_503.dgn

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STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 AS SHOWN	METRES

KEY PLAN
索引圖

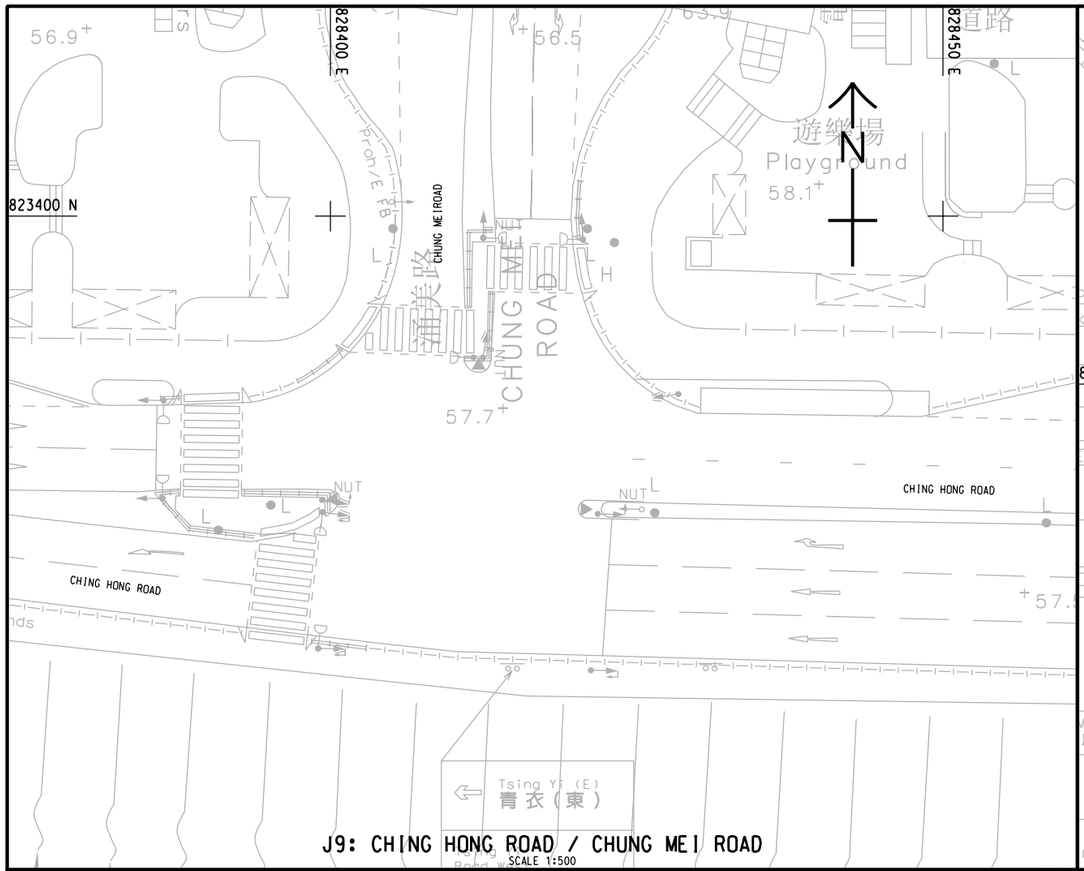
PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

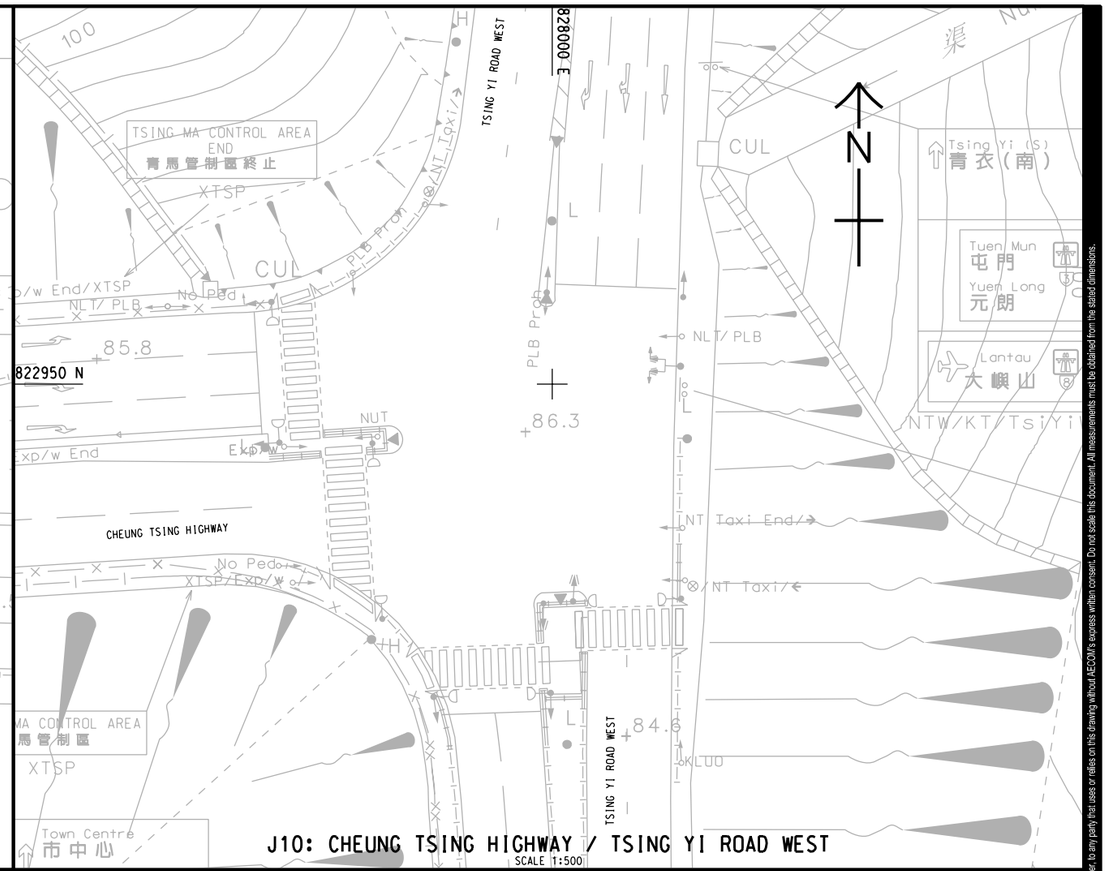
EXISTING JUNCTION LAYOUTS

SHEET NUMBER
圖紙編號

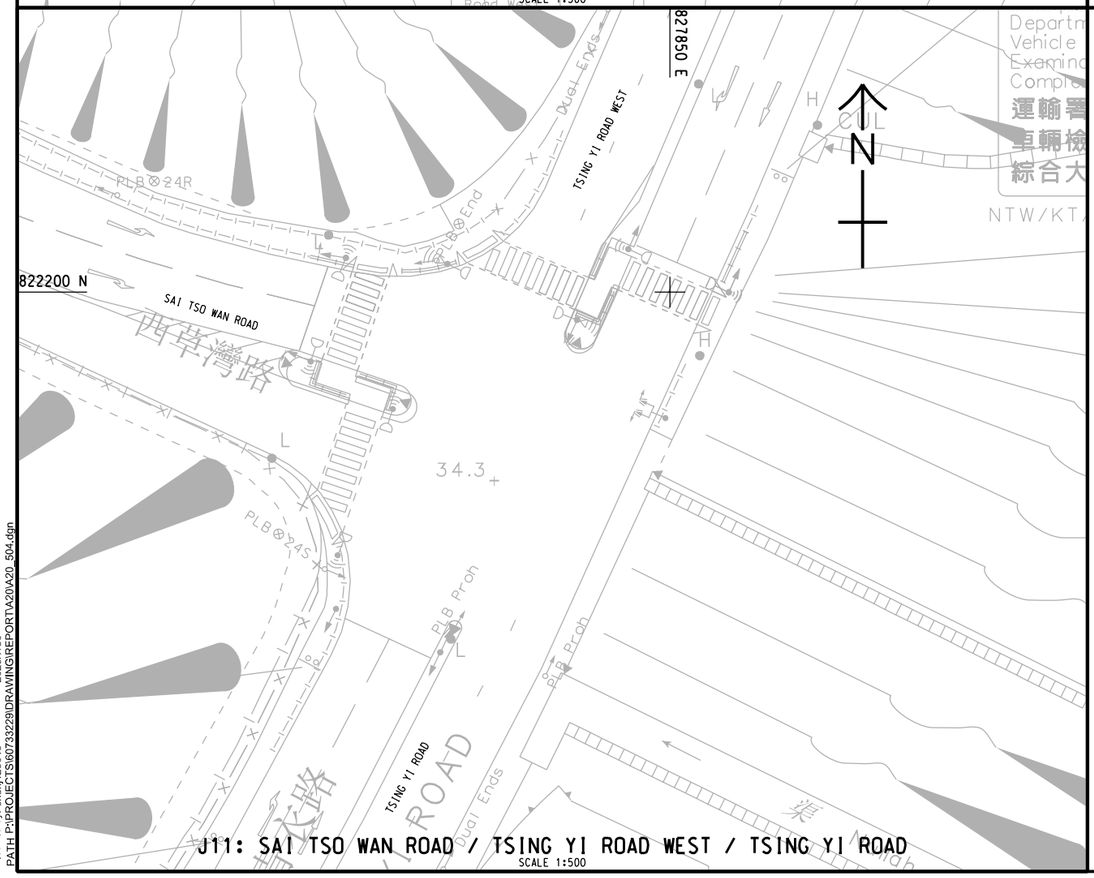
60733229/A20/Figure 2.3



J9: CHING HONG ROAD / CHUNG MEI ROAD
SCALE 1:500



J10: CHEUNG TSING HIGHWAY / TSING YI ROAD WEST
SCALE 1:500



J11: SAI TSO WAN ROAD / TSING YI ROAD WEST / TSING YI ROAD
SCALE 1:500

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot Date: 2025/7/30Plot File by: chenj1225046PATH: P:\PROJECTS\60733229\DRAWING\REPORT\A20\A20_504.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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階段

SCALE
比例
A3 AS SHOWN

DIMENSION UNIT
尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號
60733229

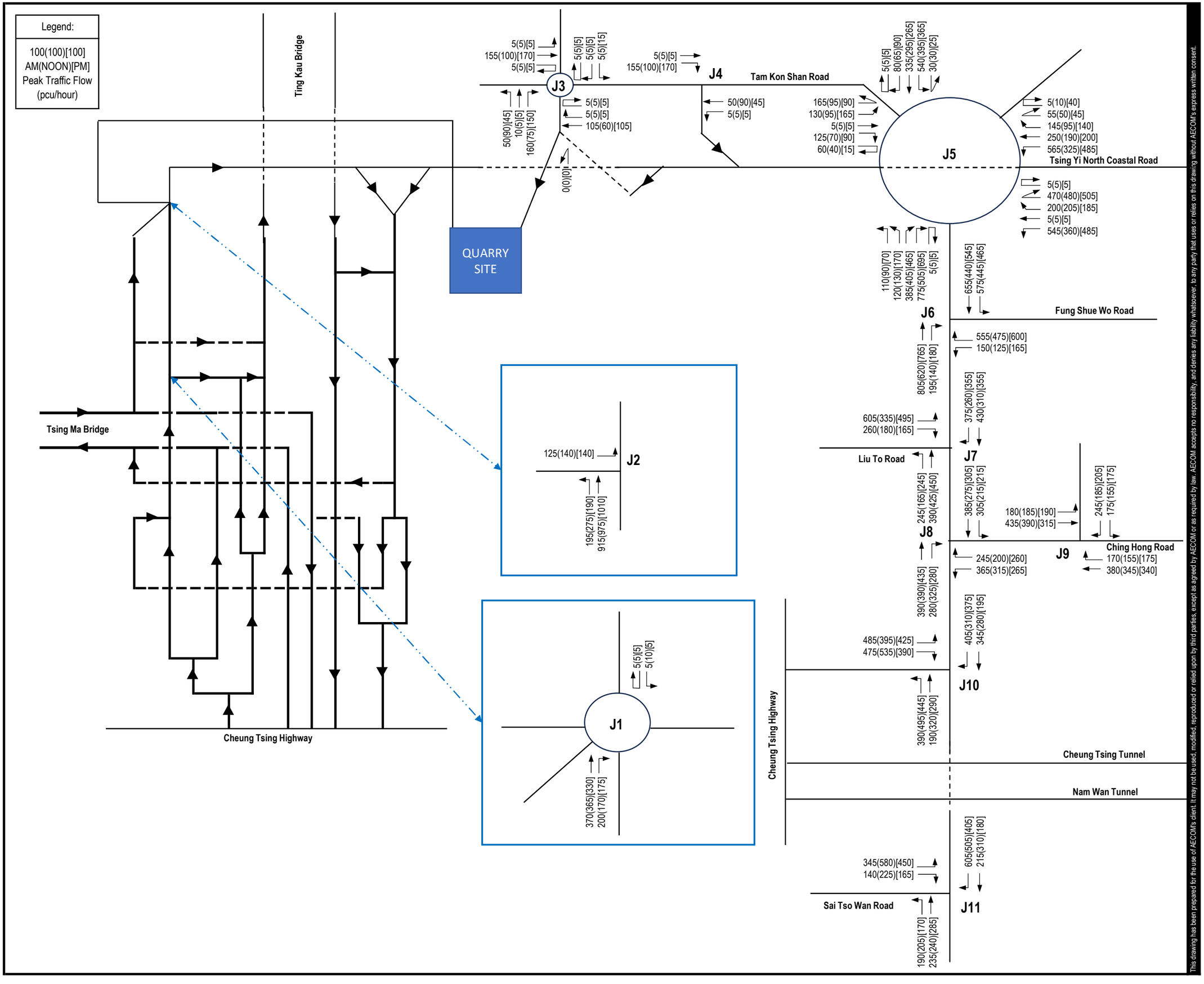
AGREEMENT NO.
協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
EXISTING JUNCTION LAYOUTS

Sheet 3 of 3

SHEET NUMBER
圖紙編號
60733229/A20/Figure 2.4

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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CEDD Civil Engineering and Development Department

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ISSUE/REVISION

STATUS

SCALE **DIMENSION UNIT**
Not to Scale

KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2025 OBSERVED TRAFFIC FLOWS

SHEET NUMBER
60733229/A20/Figure 2.5

826100 E
827100 E
828100 E
825200 N
824200 N
823200 N

N

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- MAIN ACCESS TUNNEL
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- POTENTIAL CAVERN EXPANSION

NGAU KOK WAN SURFACE LAND
NGAU KOK WAN PORTAL
TAM KON SHAN PORTAL
TAM KON SHAN ROAD
YAU KOM TAU
NORTHWEST TSING YI INTERCHANGE
WOK TAI WAN
WOK TAI WAN WORKS AREA
WOK TAI WAN SURFACE LAND
SCVA 10
FUNG SHUE WO
LIU TO SHAN
SHEK WAN
KAM CHUK KOK
TSING MA BRIDGE
CHEUNG TSING HIGHWAY

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:

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Plot File by: WangG2
11/3/2025
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B13\B13_321.dgn

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
狀況

SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
PRELIMINARY CAVERN LAYOUT

SHEET NUMBER
圖紙編號
60733229/A20/Figure 3.1

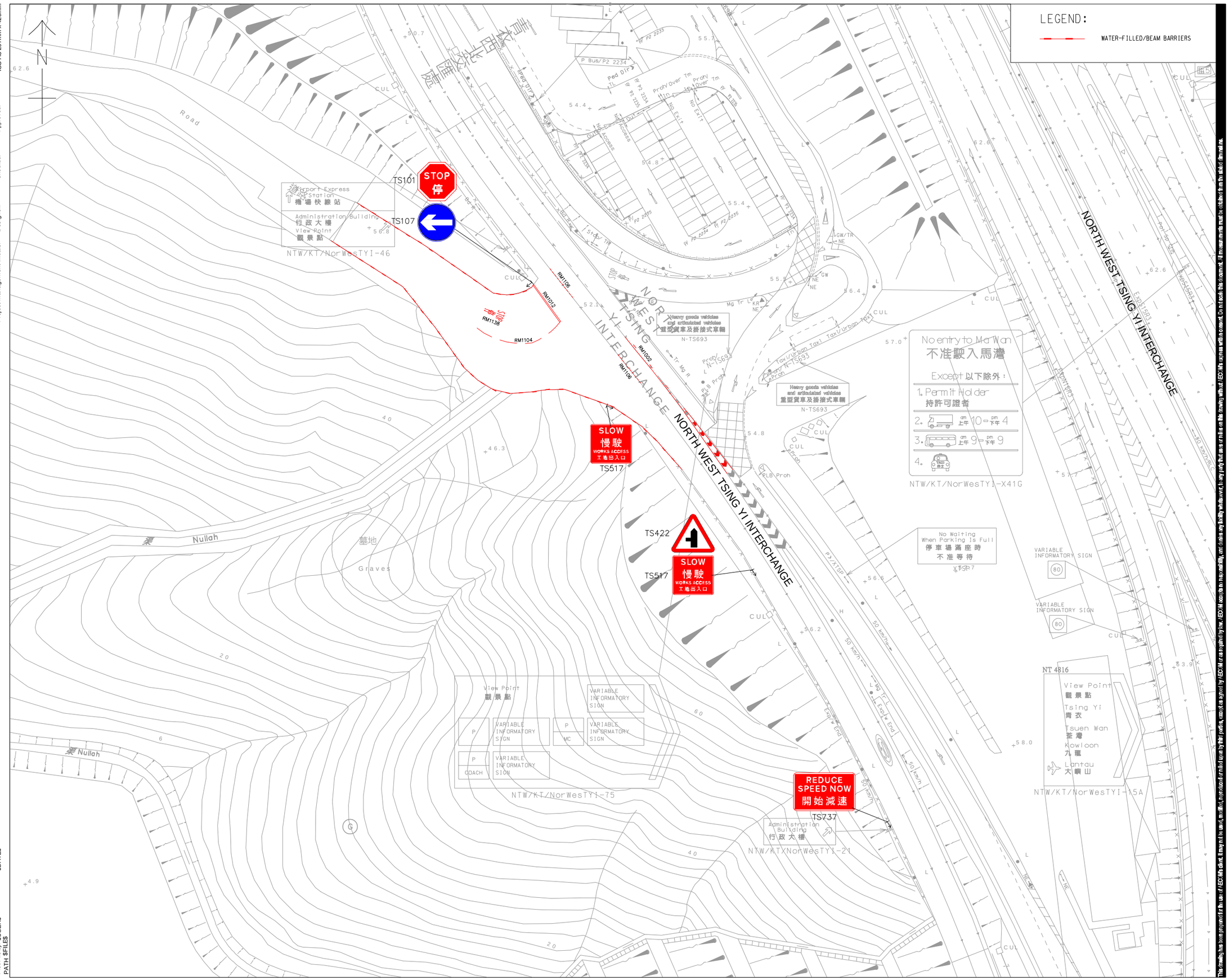
ISO A3 297mm x 420mm

Approved:

Checked:

Designer:

Project Management Initials:



$DATES

$PLTDRV4.S
Plot File by $USER$
PATH $FILES

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STATUS
狀況

SCALE
比例
A3 1 : 800

DIMENSION UNIT
尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號
60733229

AGREEMENT NO.
協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
TEMPORY TRAFFIC ARRANGMENT FOR SITE ACCESS AT J/O NWTYI / UNNAMED ACCESS ROAD NEAR LANTAU LINK VISITORS CENTRE (J2)

SHEET NUMBER
圖紙編號
60733229/A20/Figure 3.2

ISO A3 297mm x 420mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

PROPOSED RUN-IN/OUT

TAM KON SHAN ROAD

担杆山路

TSING MA CONTROL AREA END
青馬管制區終止
N-TS344

TS101 STOP 停

TS107

34m

14.0m

RM1138 STOP

RM1102

RM1104

TUNNEL TO TKS PORTAL

To Tsing Yi Town Centre
往青衣市中心
1km

NTW/KL TSIYINC-G11

TS517 SLOW 慢駛 WORKS ACCESS 工地出入口

高架道路

TSING YI NORTH COASTAL ROAD

青衣北岸公路

CH. 16 +00.00

CH. 15 +00.00

CH. 14 +00.00

70 km/h/RLC

Elevated Road

TSING YI NORTH COASTAL ROAD

TS422 SLOW 慢駛 WORKS ACCESS 工地出入口

TS517

REDUCE SPEED NOW 開始減速

TS737

8 am - 11 pm
由上午六時至下午十一時
At other times
其他時間則准泊車
N-TS931

船廠 Shipyard

工場 Workshop

Nullah

Sharp Devil

CUL

TS

ESS

SWEPT PATH ANALYSIS FOR of 11m LONG VEHICLE

$DATE$

$PLTDRIVE$
Plot File by: $USER$
PATH: $FILE$

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
狀況

SCALE 比例
A3 1 : 800

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

TEMPORY TRAFFIC ARRANGEMENT FOR SITE ACCESS AT SLIP ROAD FROM TSING YI NORTH COASTAL ROAD (CONSTRUCTION PHASE OF TUNNEL TO TKSR PORTAL)

SHEET NUMBER
圖紙編號

60733229/A20/Figure 3.3

ISO A3 297mm x 420mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

PROPOSED RUN-IN

TAM KON SHAN ROAD

担杆山路

TSING MA CONTROL AREA END 青馬管制區終止 N-TS344

N-TS931

8 am - 11 pm 由上午八時至下午十一時 At other times 其他時間禁止泊車

TS115

34m

8.0m

WATER FILLED BARRIER

SLOW 慢駛 WORKS ACCESS 工地出入口

TS517

TS422

TS737

REDUCE SPEED NOW 開始減速

TUNNEL TO TKS PORTAL

Tsing Yi Town Centre 青衣市中心

1km

TSING YI NORTH COASTAL ROAD

Elevated Road

高架道路

青衣北岸公路

TSING YI NORTH COASTAL ROAD

船廠 Shipyard

工場 Workshop

Nullah

Sharp Devil

CUL

ESS

TS

SWEPT PATH ANALYSIS FOR of 16m LONG VEHICLE

$DATE$

$PLTDRV$
Plot File by: $USER$
PATH $FILES

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SCALE 比例

A3 1 : 800

DIMENSION UNIT 尺寸單位

METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號

60733229

AGREEMENT NO. 協議編號

CE 79/2023 (GE)

SHEET TITLE 圖紙名稱

TEMPORY TRAFFIC ARRANGEMENT FOR SITE ACCESS AT SLIP ROAD FROM TSING YI NORTH COASTAL ROAD (AFTER THE IMPLEMENTATION OF TUNNEL TO TKSR PORTAL)

SHEET NUMBER 圖紙編號

60733229/A20/Figure 3.4

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- **VEHICULAR INGRESS (ROUTE A1)**
- VEHICULAR EGRESS (ROUTE A1)

827000 E

828000 E

824200 N

823200 N

822200 N

NGAU KOK WAN

TSING KAU BRIDGE

TSING YI NORTH COASTAL ROAD

TAM KON SHAN ROAD

TAM KON SHAN INTERCHANGE

YAU KOM TAU SCVA 10

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO SHAN

LIU TO ROAD

SHEK WAN

TSING MA BRIDGE

CHEUNG TSING HIGHWAY

CHING HONG ROAD

MA WAN CHANNEL

KAM CHUK KOK

CHEUNG CHING TUNNEL

SAI TSO WAN

NAM WAN TUNNEL

SAI TSO WAN ROAD

TSING YI

NAM WAN

CHUN FAI CHOK

N

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Plot File by: ZHAOHG2
2025/4/2
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STATUS
階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SITE ACCESS ARRANGEMENT (ROUTE A1)

SHEET NUMBER
圖紙編號

60733229/A20/Figure 3.5

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- **VEHICULAR INGRESS (ROUTE A2)**
- VEHICULAR EGRESS (ROUTE A2)

827000 E

828000 E

824200 N

823200 N

822200 N

N

NGAU KOK WAN

TSING KAU BRIDGE

TAM KON SHAN ROAD

TSING YI NORTH COASTAL ROAD

TAM KON SHAN INTERCHANGE

YAU KOM TAU SCVA 10

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO SHAN

LIU TO ROAD

SHEK WAN

TSING MA BRIDGE

MA WAN CHANNEL

CHEUNG TSING HIGHWAY

CHING HONG ROAD

KAM CHUK KOK

CHEUNG CHING TUNNEL

SAI TSO WAN

NAM WAN TUNNEL

SAI TSO WAN ROAD

TSING YI

NAM WAN

CHUN FAI CHOK

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Plot File by: ZHAOHG2
2025/4/2
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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
工程顧問公司

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STATUS
階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SITE ACCESS ARRANGEMENT (ROUTE A2)

SHEET NUMBER
圖紙編號

60733229/A20/Figure 3.6

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- **VEHICULAR INGRESS (ROUTE A3)**
- VEHICULAR EGRESS (ROUTE A3)

827000 E

828000 E

824200 N

823200 N

822200 N

NGAU KOK WAN

TSING KAU BRIDGE

TAM KON SHAN ROAD

TSING YI NORTH COASTAL ROAD

TAM KON SHAN INTERCHANGE

YAU KOM TAU SCVA 10

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

FUNG SHUE WO

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO SHAN

LIU TO ROAD

TSING MA BRIDGE

SHEK WAN

CHEUNG TSING HIGHWAY

CHING HONG ROAD

MA WAN CHANNEL

KAM CHUK KOK

CHEUNG CHING TUNNEL

SAI TSO WAN

NAM WAN TUNNEL

SAI TSO WAN ROAD

TSING YI

NAM WAN

CHUN FAI CHOK

N

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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階段

SCALE 比例 — **DIMENSION UNIT** 尺寸單位

A3 1 : 10000 — METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號 — **AGREEMENT NO.** 協議編號

60733229 — CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SITE ACCESS ARRANGEMENT (ROUTE A3)

SHEET NUMBER
圖紙編號

60733229/A20/Figure 3.7

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- **VEHICULAR INGRESS (ROUTE A4)**
- VEHICULAR EGRESS (ROUTE A4)

827000 E

828000 E

824200 N

823200 N

822200 N

NGAU KOK WAN

TSING KAU BRIDGE

TAM KON SHAN ROAD

TSING YI NORTH COASTAL ROAD

YAU KOM TAU SCVA 10

TAM KON SHAN INTERCHANGE

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO SHAN

LIU TO ROAD

TSING MA BRIDGE

SHEK WAN

CHING HONG ROAD

MA WAN CHANNEL

CHEUNG TSING HIGHWAY

KAM CHUK KOK

CHEUNG CHING TUNNEL

SAI TSO WAN

TSING YI

NAM WAN TUNNEL

SAI TSO WAN ROAD

NAM WAN

CHUN FALOK

N

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SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SITE ACCESS ARRANGEMENT (ROUTE A4)

SHEET NUMBER
圖紙編號

60733229/A20/Figure 3.8

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- **VEHICULAR INGRESS (ROUTE B1)**
- VEHICULAR EGRESS (ROUTE B1)

NOTE:

The use of Inbound Routes B1, B2 and B4, together with Tusen Tsing Interchange, is prohibited during AM and PM peak periods (i.e. 07:00 to 09:30 and 17:00 to 19:00)

824200 N

823200 N

822200 N

827000 E

828000 E

N

NGAU KOK WAN

TSING KAU BRIDGE

TSING YI NORTH COASTAL ROAD

TAM KON SHAN ROAD

TAM KON SHAN INTERCHANGE

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU SCVA 10

WOK TAI WAN

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO SHAN

LIU TO ROAD

TSING MA BRIDGE

SHEK WAN

CHEUNG TSING HIGHWAY

CHING HONG ROAD

MA WAN CHANNEL

KAM CHUK KOK

CHEUNG TSING TUNNEL

SAI TSO WAN

NAM WAN TUNNEL

SAI TSO WAN ROAD

TSING YI

NAM WAN

CHUN FAI CHOK

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SCALE 比例 — **DIMENSION UNIT** 尺寸單位

A3 1 : 10000 — METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號 — **AGREEMENT NO.** 協議編號

60733229 — CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SITE ACCESS ARRANGEMENT (ROUTE B1)

SHEET NUMBER
圖紙編號

60733229/A20/Figure 3.9

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2025/4/2
PATH P:\PROJECTS\60733229\DRAWING\REPORT\B7\B7_503.dgn

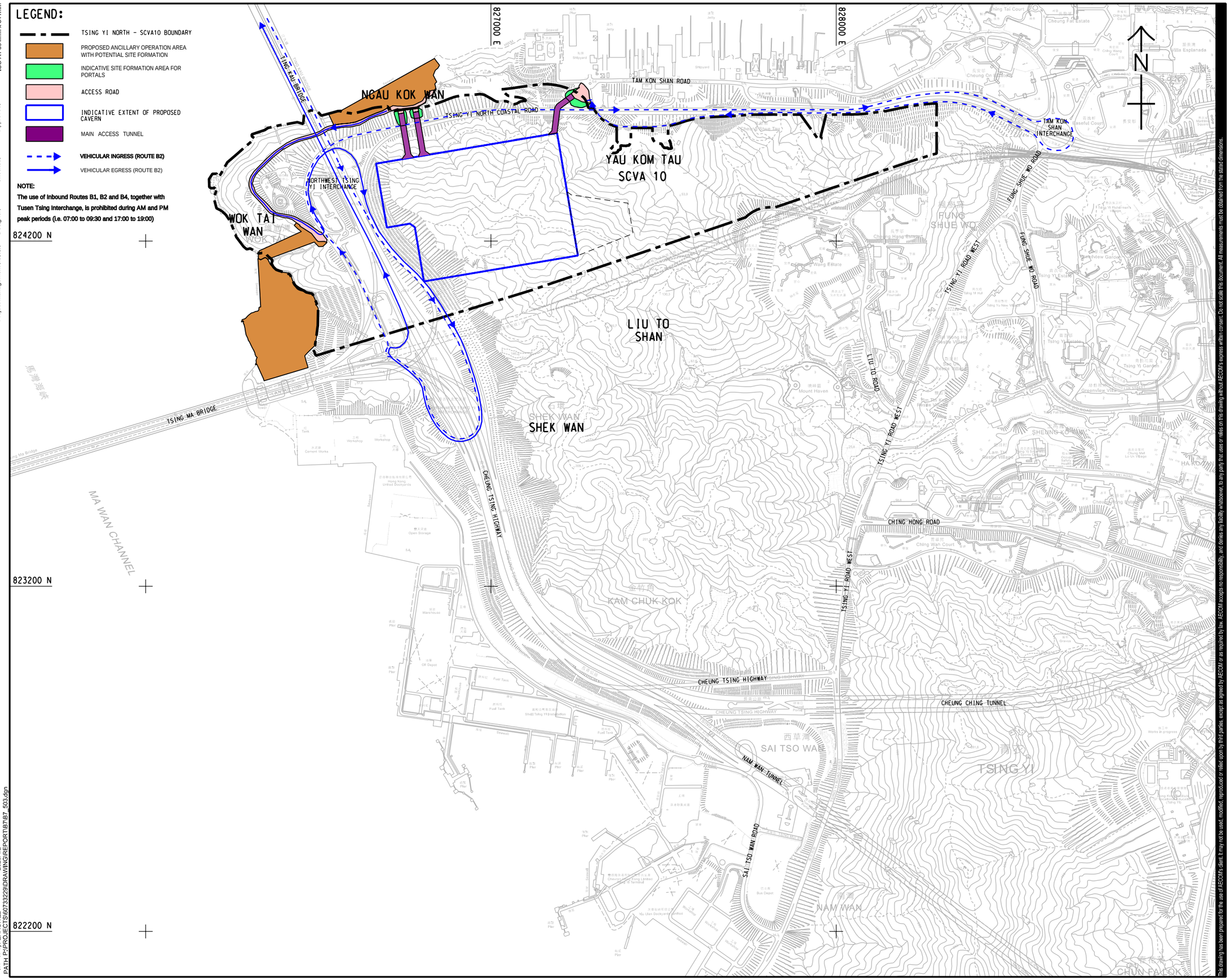
ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



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2025/4/2
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階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SITE ACCESS ARRANGEMENT (ROUTE B2)

SHEET NUMBER
圖紙編號

60733229/A20/Figure 3.10

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- **VEHICULAR INGRESS (ROUTE B3)**
- VEHICULAR EGRESS (ROUTE B3)

NOTE:

The use of Inbound Routes B1, B2 and B4, together with Tusen Tsing Interchange, is prohibited during AM and PM peak periods (i.e. 07:00 to 09:30 and 17:00 to 19:00)

824200 N

823200 N

822200 N

827000 E

828000 E

N

NGAU KOK WAN

WOK TAI WAN

TSING KAU BRIDGE

TSING YI NORTH COASTAL ROAD

TAM KON SHAN ROAD

NORTHWEST TSING YI INTERCHANGE

TAM KON SHAN INTERCHANGE

YAU KOM TAU SCVA 10

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO SHAN

LIU TO ROAD

SHEK WAN

TSING MA BRIDGE

MA WAN CHANNEL

CHEUNG TSING HIGHWAY

CHING HONG ROAD

KAM CHUK KOK

CHEUNG CHING TUNNEL

SAI TSO WAN

NAM WAN TUNNEL

SAI TSO WAN ROAD

TSING YI

NAM WAN

CHUN FAI CHOK

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SITE ACCESS ARRANGEMENT (ROUTE B3)

SHEET NUMBER
圖紙編號

60733229/A20/Figure 3.11

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- **VEHICULAR INGRESS (ROUTE B4)**
- VEHICULAR EGRESS (ROUTE B4)

NOTE:

The use of Inbound Routes B1, B2 and B4, together with Tusen Tsing Interchange, is prohibited during AM and PM peak periods (i.e. 07:00 to 09:30 and 17:00 to 19:00)

824200 N

823200 N

822200 N

827000 E

828000 E

NGAU KOK WAN

TSING KAU BRIDGE

TSING YI NORTH COASTAL ROAD

TAM KON SHAN ROAD

TAM KON SHAN INTERCHANGE

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU SCVA 10

WOK TAI WAN

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO SHAN

LIU TO ROAD

SHEK WAN

TSING MA BRIDGE

CHING HONG ROAD

MA WAN CHANNEL

CHEUNG TSING HIGHWAY

KAM CHUK KOK

CHEUNG CHING TUNNEL

SAI TSO WAN

NAM WAN TUNNEL

SAI TSO WAN ROAD

TSING YI

NAM WAN

CHUN FALOK

N

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階段

SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SITE ACCESS ARRANGEMENT (ROUTE B4)

SHEET NUMBER
圖紙編號

60733229/A20/Figure 3.12

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Plot File by: ZHAOHQ2
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B7\B7_503.dgn

826600 E

826700 E

824700 N

824600 N

N

LEGEND:

PARKING FACILITIES
- MOTORCYCLE
- PRIVATE CAR (PC)
- LIGHT GOODS VEHICLE (LGV)
- HEAVY GOODS VEHICLE (HGV)

LOADING/UNLOADING FACILITIES
- GOODS VEHICLE (GV)
- CONTAINER VEHICLE (CV)

- INDICATIVE AREA FOR CONCRETE BATCHING OPERATIONS
- PROPOSED PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE AREA FOR ASPHALT PRODUCTION OR CONCRETE BATCHING OPERATIONS
- INDICATIVE STRUCTURE
- INDICATIVE INTERNAL CIRCULATION
- INDICATIVE AREA FOR ROCK PROCESSING OPERATIONS
- INDICATIVE RETAINING STRUCTURE
- PROPOSED MAIN ACCESS TUNNEL
- INDICATIVE CONVEYOR BELT SYSTEM

* THE SCHEMATIC LAYOUT ARRANGEMENTS OF THE ANCILLARY OPERATIONS AND PARKING FACILITIES AT NGAU KOK WAN SURFACE LAND ARE INDICATIVE ONLY, SUBJECT TO THE CONTRACTOR'S DESIGN IN THE CONSTRUCTION / OPERATION PHASES.

INDICATIVE ARRANGEMENT OF ROCK CRUSHING COMPLEX (R1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

ROCK PROCESSING OPERATIONS (MAX. 35m OR +40mPD HIGH)

INDICATIVE ARRANGEMENT OF CONCRETE BATCHING COMPLEX (C1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

INDICATIVE ARRANGEMENT OF CONCRETE BATCHING COMPLEX (C1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

CONCRETE BATCHING OPERATIONS (MAX. 35m OR +40mPD HIGH)

ASPHALT PRODUCTION OR CONCRETE BATCHING OPERATIONS (MAX. 35m OR +40mPD HIGH)

INDICATIVE ARRANGEMENT OF ASPHALT/CONCRETE PRODUCTION COMPLEX (A1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

RETAINING WALL (APPROX. 20m HIGH)

RETAINING WALL (APPROX. 10m HIGH)

NGAU KOK WAN PORTAL

MAIN ACCESS TUNNEL OF 10m (H) x 16m (W)

TSING YI NORTH COASTAL ROAD

Elevated Road

Nullah

Sea wall

HGV (1-3)

GV-L/UL (1)

PC (1-8)

PC (9-10)

MOTOR (1-5)

LGV(1)

GV-L/UL (5-6)

LGV(2)

LGV(3)

LGV(4)

LGV(5)

GV-L/UL (7)

GV-L/UL (2-4)

GV-L/UL (1)

R1

C1

A1

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階段

SCALE 比例
A3 1 : 1000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

INDICATIVE LAYOUT AT NGAU KOK WAN PORTAL

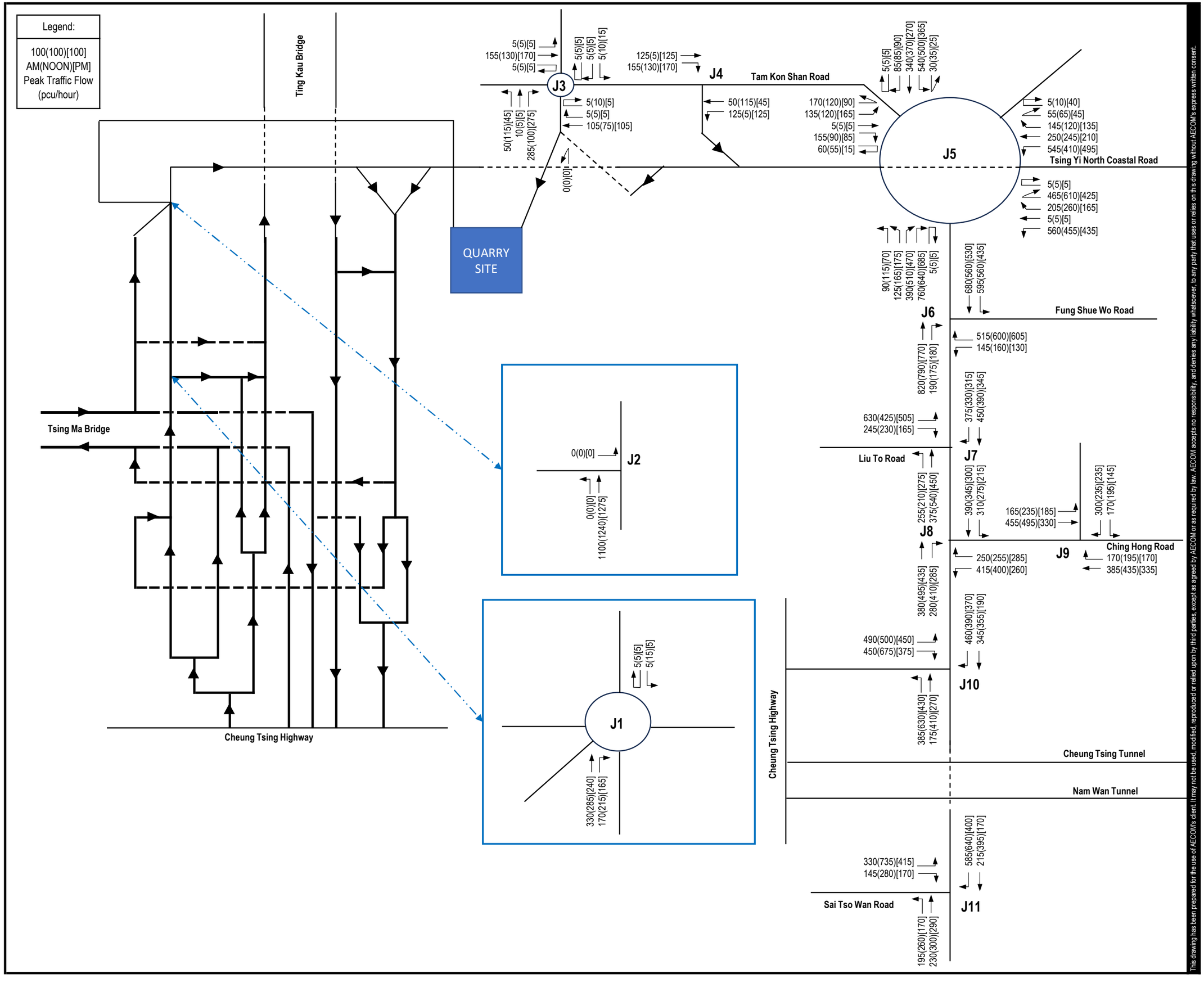
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圖紙編號

60733229/A20/Figure 3.13

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Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm

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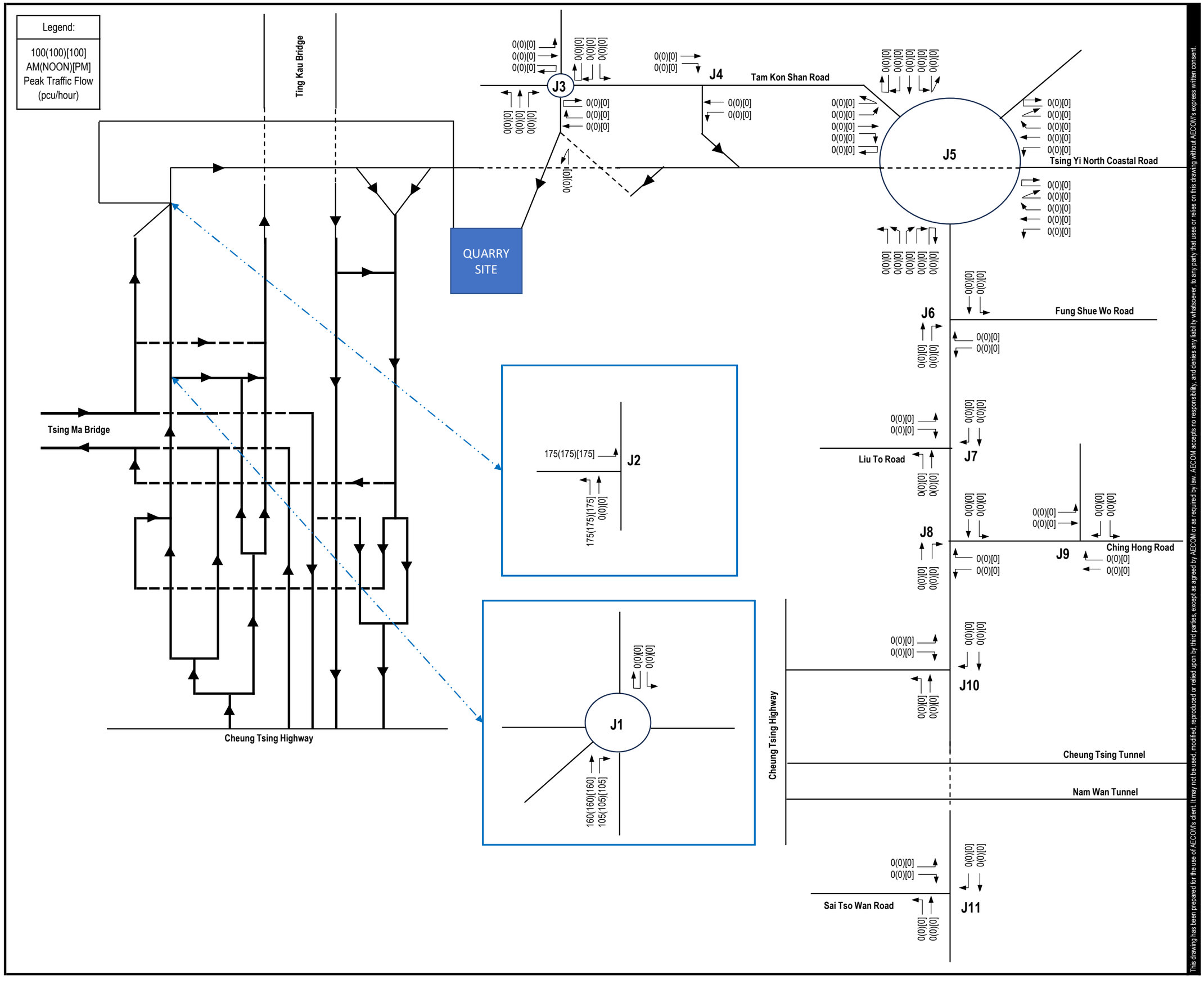
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KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2031 REFERENCE SCENARIO TRAFFIC FLOWS

SHEET NUMBER
60733229/A20/Figure 4.1



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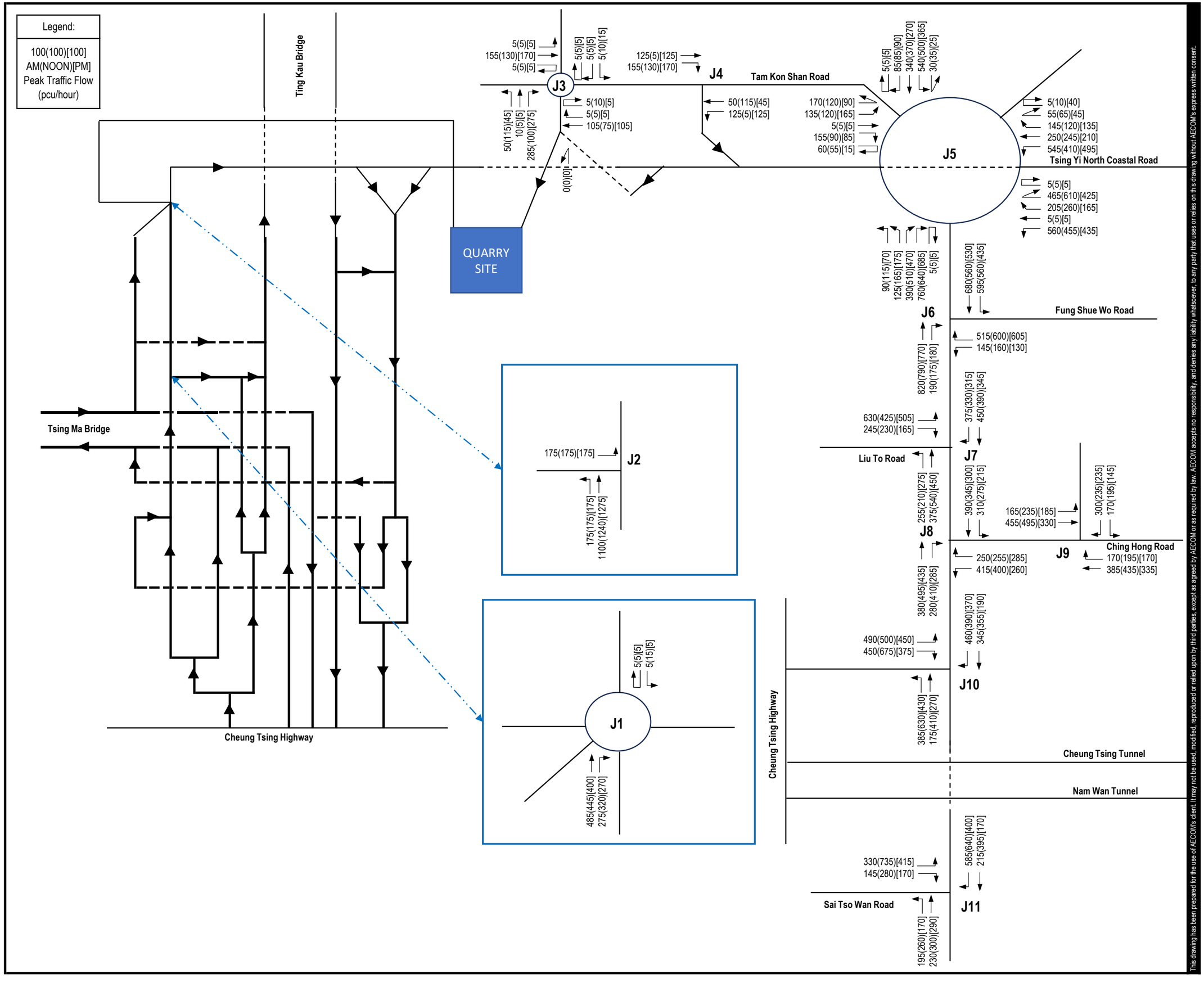
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KEY PLAN

PROJECT NO. 60733229
CONTRACT NO. CE 79/2023 (GE)

SHEET TITLE
2031 DEVELOPMENT TRAFFIC FLOWS – SCENARION A (BEFORE IMPLEMENTATION OF TUNNEL TO TKSR PORTAL)

SHEET NUMBER
60733229/A20/Figure 4.2



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PROJECT
UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
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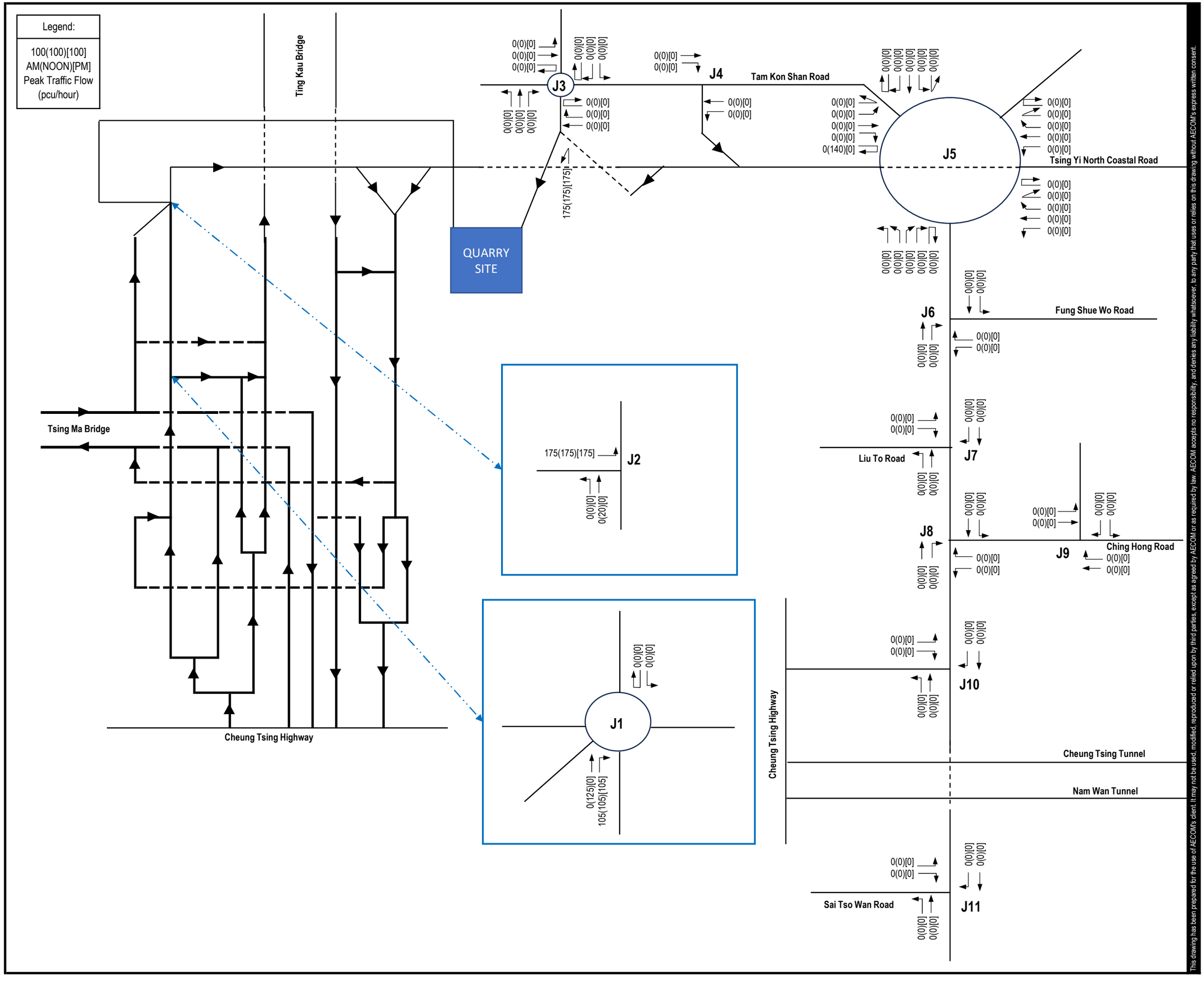
KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2031 DESIGN SCENARIO TRAFFIC FLOWS – SCENARION A (BEFORE IMPLEMENTATION OF TUNNEL TO TKSR PORTAL)

SHEET NUMBER
60733229/A20/Figure 4.3

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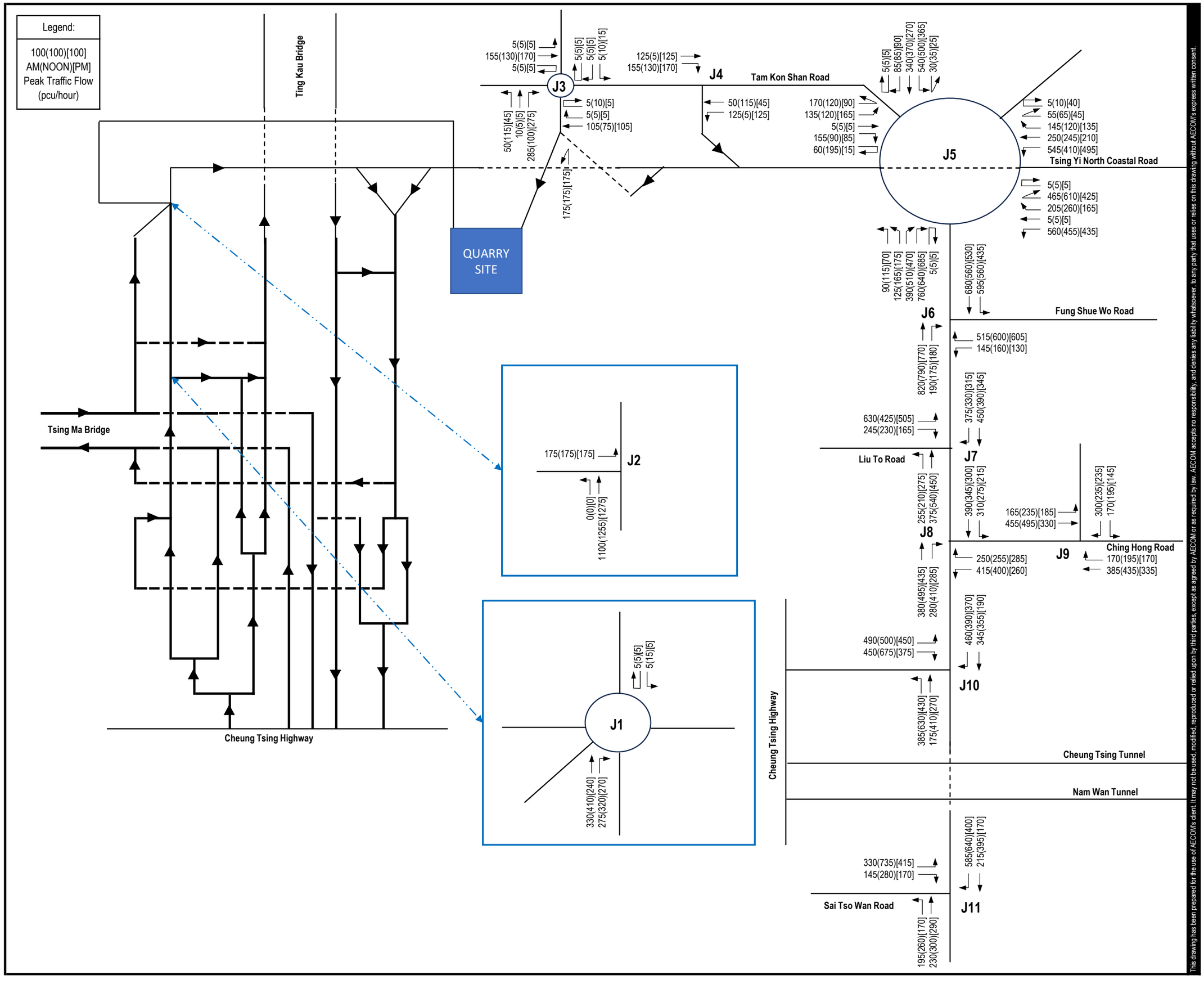
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KEY PLAN

PROJECT NO. 60733229
CONTRACT NO. CE 79/2023 (GE)

SHEET TITLE
2031 DEVELOPMENT TRAFFIC FLOWS – SCENARION B (AFTER IMPLEMENTATION OF TUNNEL TO TKSR PORTAL)

SHEET NUMBER
60733229/A20/Figure 4.4



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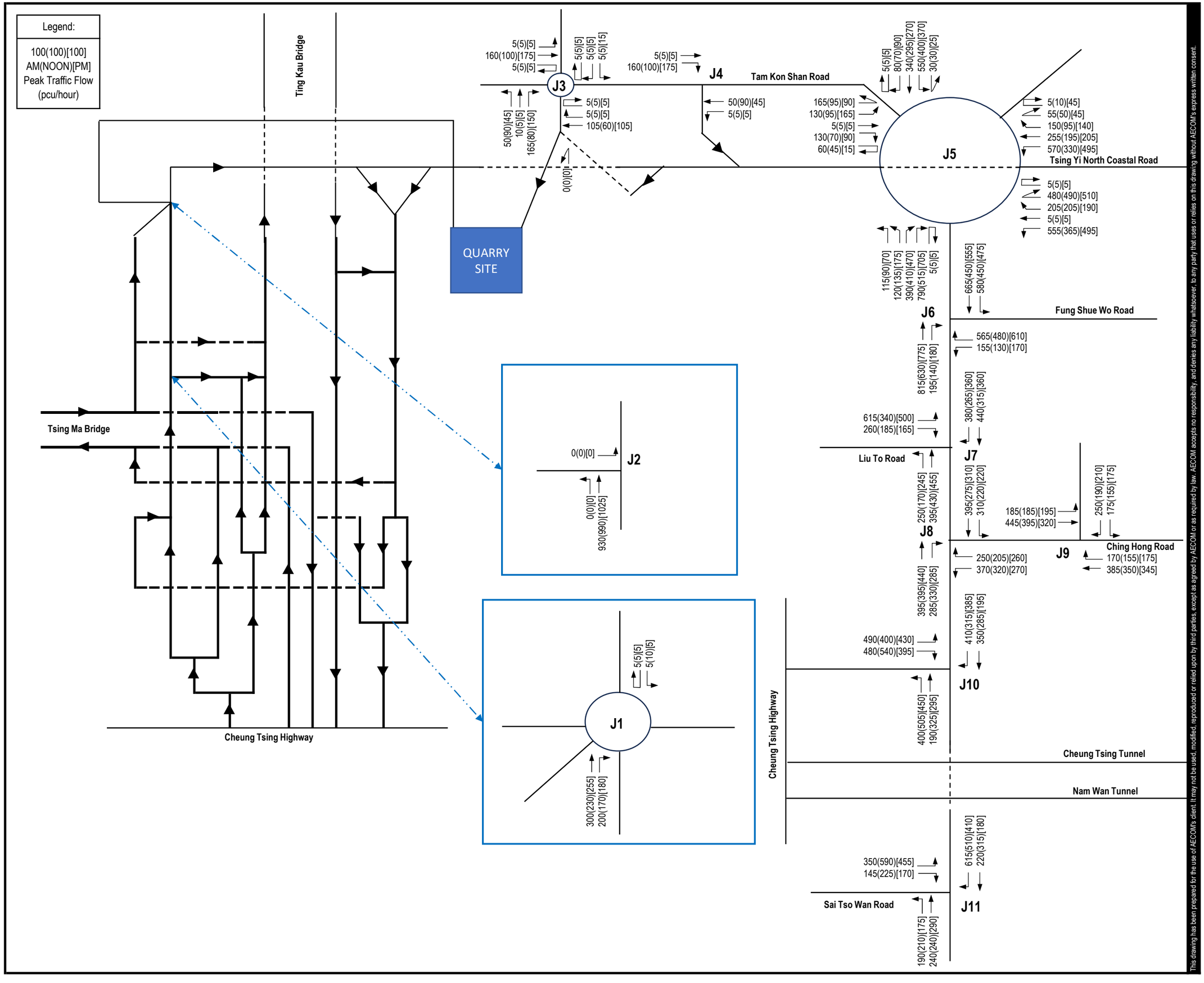
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KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2031 DESIGN SCENARIO TRAFFIC FLOWS – SCENARION B (AFTER IMPLEMENTATION OF TUNNEL TO TKSR PORTA)

SHEET NUMBER
60733229/A20/Figure 4.5



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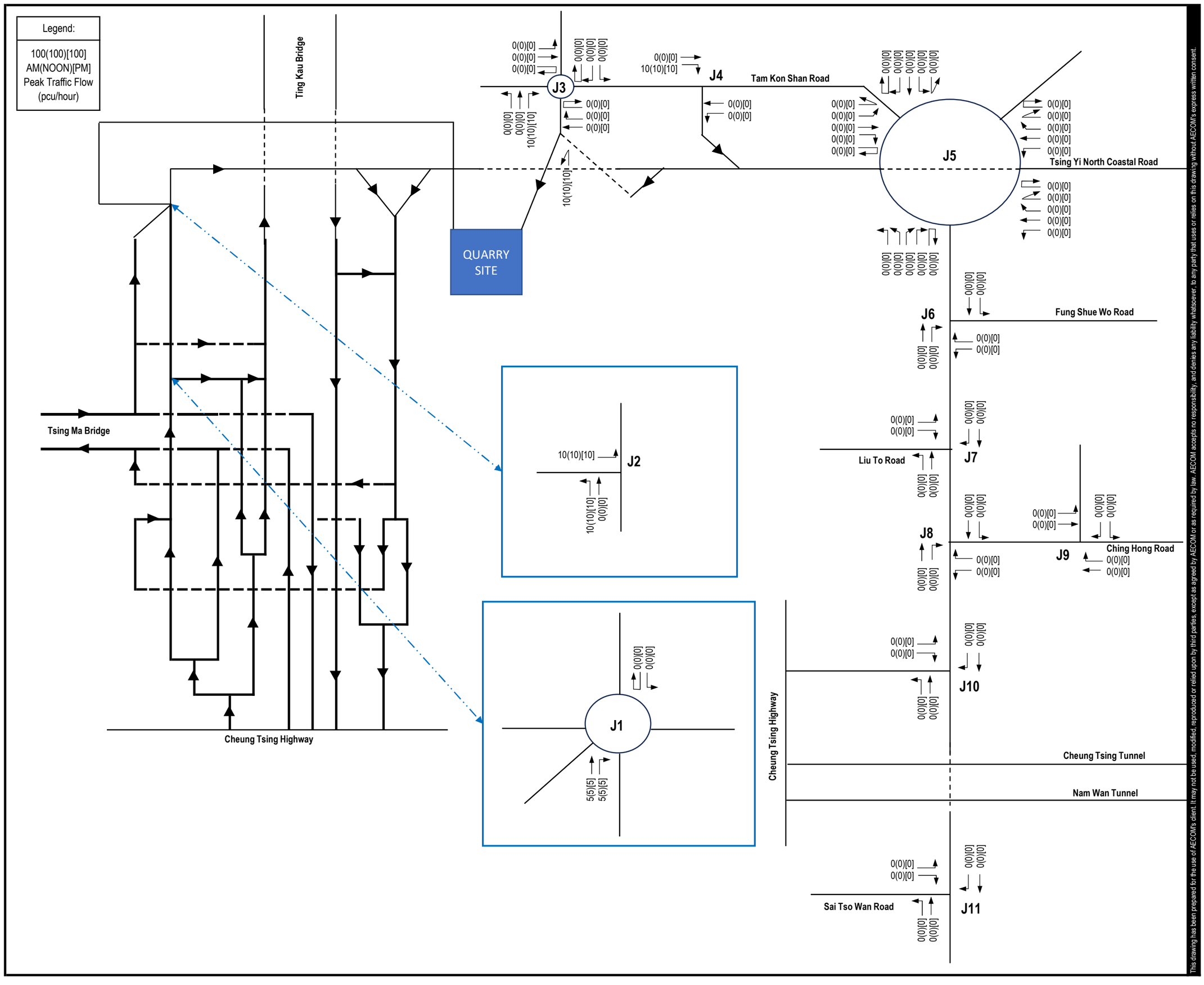
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KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2028 REFERENCE SCENARIO TRAFFIC FLOWS (WITHOUT CONSTRUCTION TRAFFIC)

SHEET NUMBER
60733229/A20/Figure 5.1



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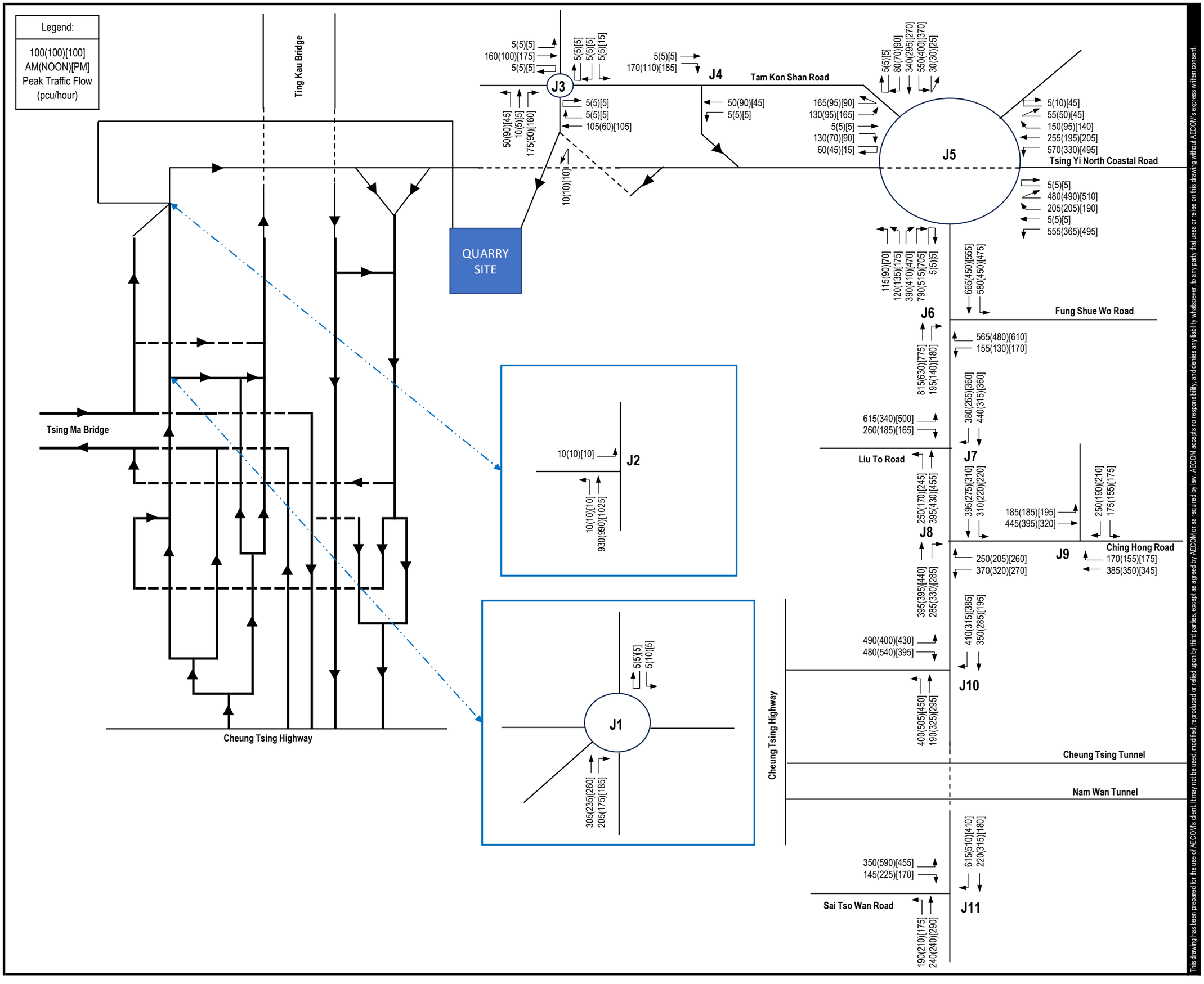
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KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2028 CONSTRUCTION TRAFFIC FLOWS

SHEET NUMBER
60733229/A20/Figure 5.2



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KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2028 DESIGN SCENARIO TRAFFIC FLOWS (WITH CONSTRUCTION TRAFFIC)

SHEET NUMBER
60733229/A20/Figure 5.3

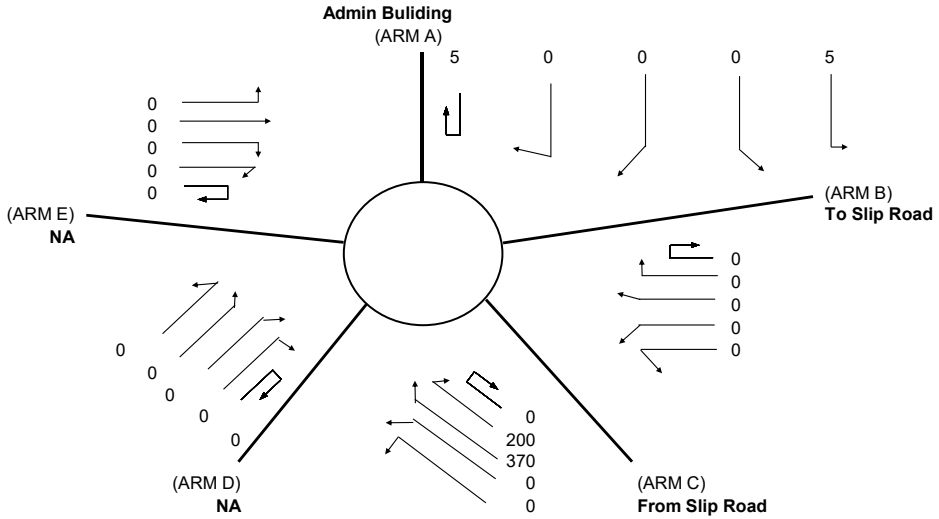
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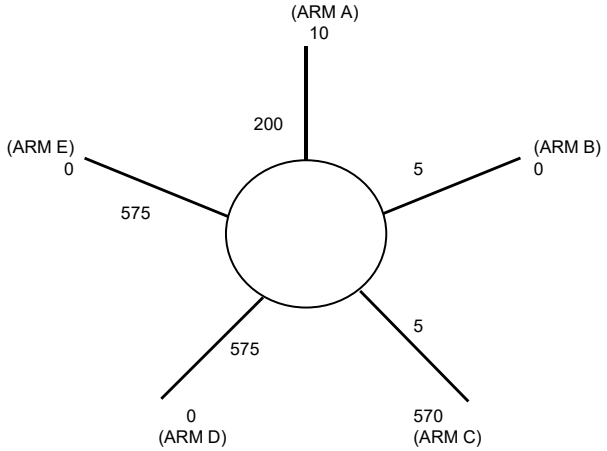
Appendix A
Junction Capacity Calculation Spreadsheets

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2025 Survey Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		570		
Qc= Circulating flow across entry (pcu/h)	200		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1078		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.42		

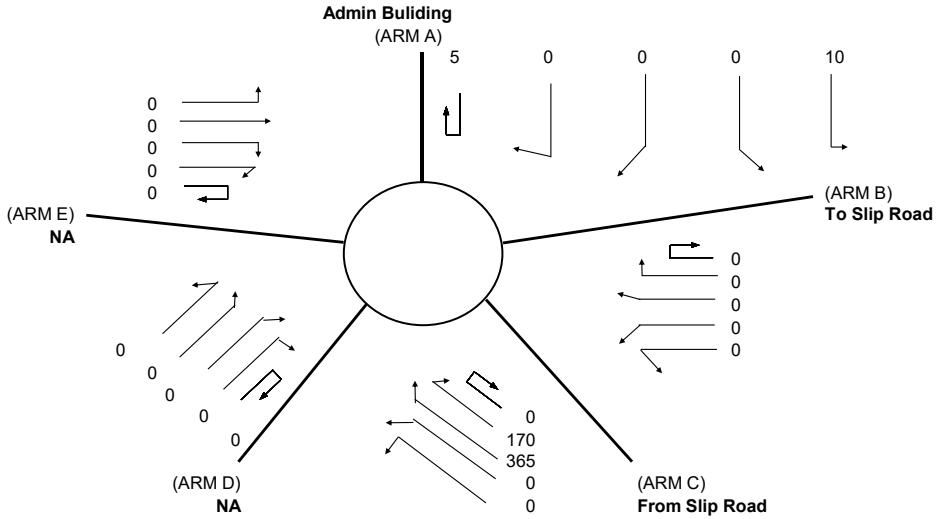
TOTAL ENTRY FLOWS = 580 PCU

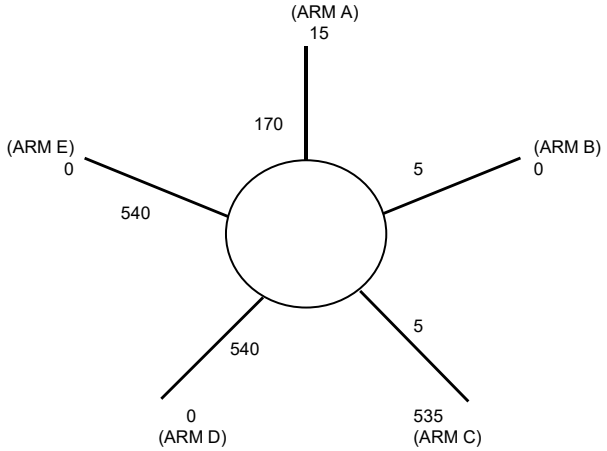
CRITICAL DFC = 0.42

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2025 Survey Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	15		535		
Qc= Circulating flow across entry (pcu/h)	170		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1095		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.39		

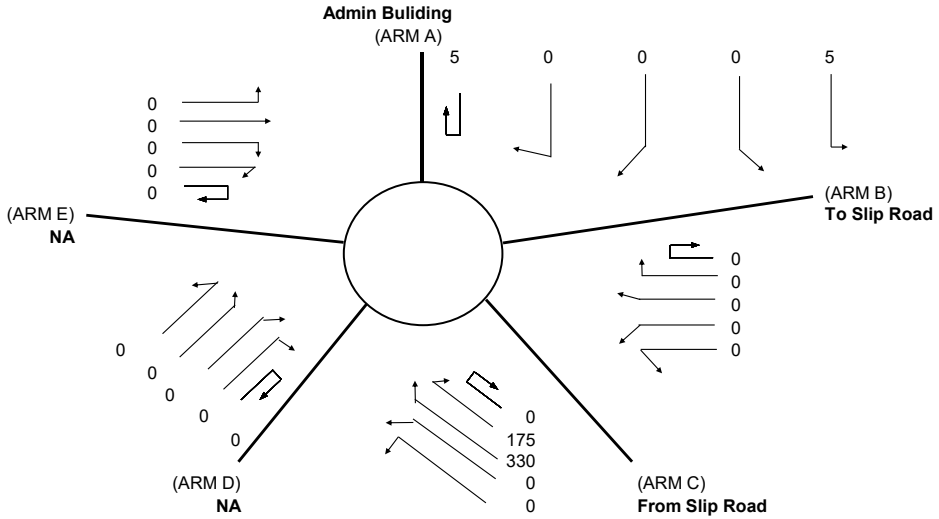
TOTAL ENTRY FLOWS = 550 PCU

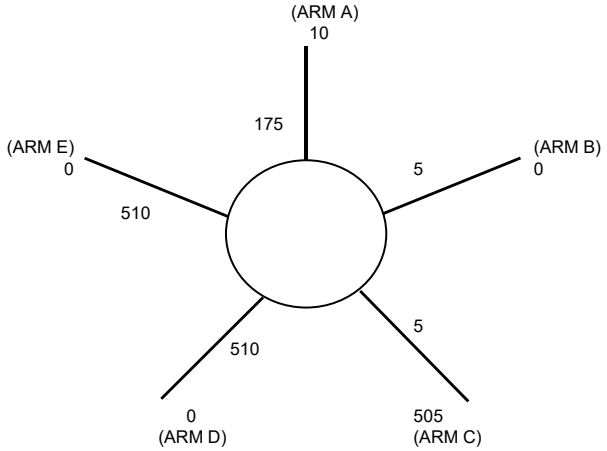
CRITICAL DFC = 0.39

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2025 Survey Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		505		
Qc= Circulating flow across entry (pcu/h)	175		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1092		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.37		

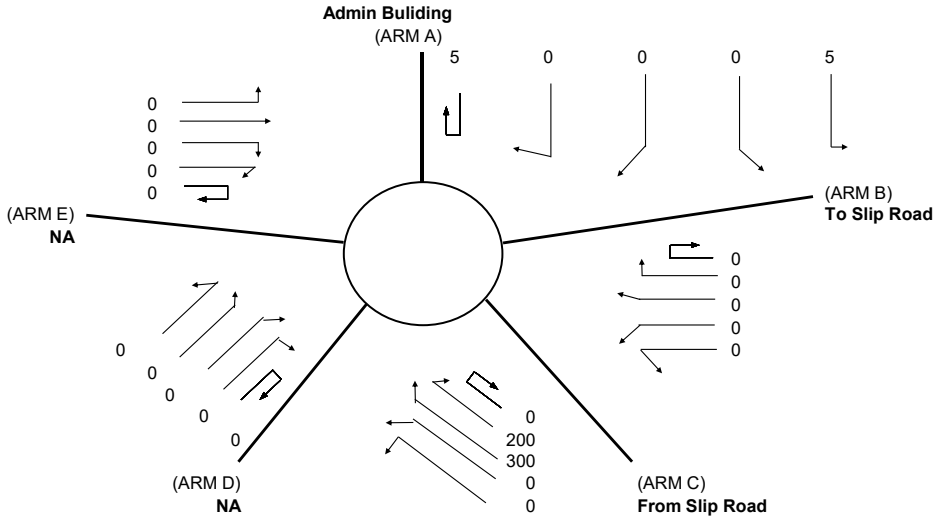
TOTAL ENTRY FLOWS = 515 PCU

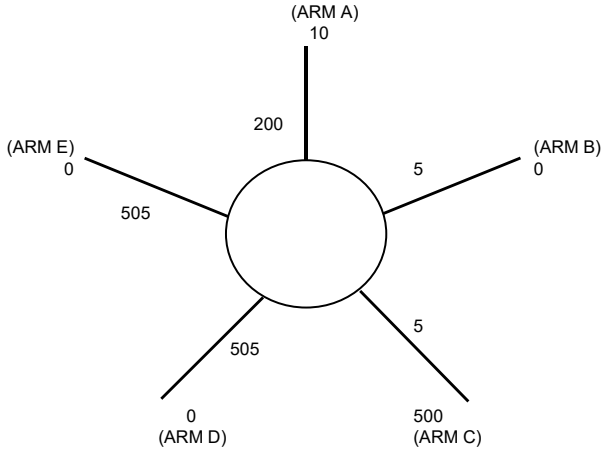
CRITICAL DFC = 0.37

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		500		
Qc= Circulating flow across entry (pcu/h)	200		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1078		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.36		

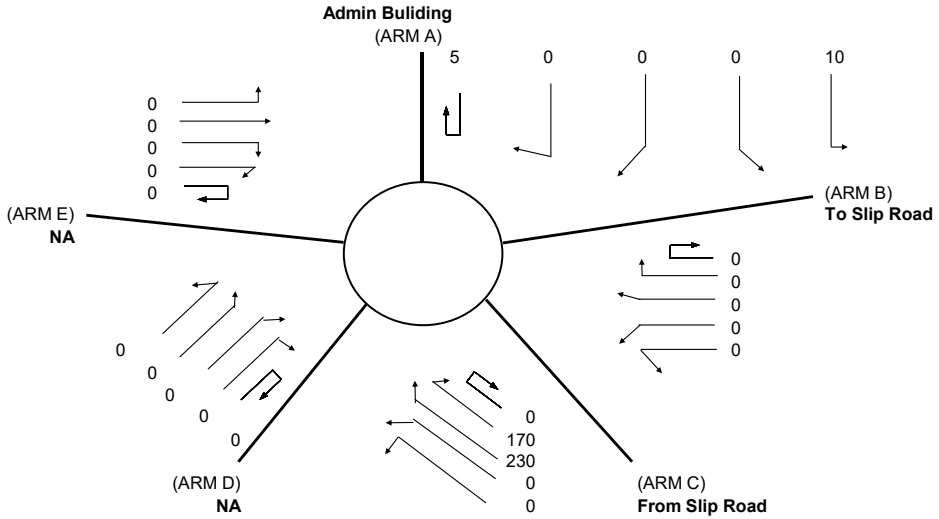
TOTAL ENTRY FLOWS = 510 PCU

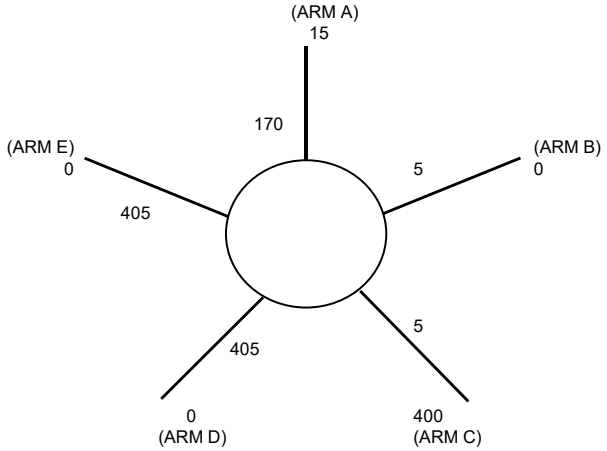
CRITICAL DFC = 0.36

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	15		400		
Qc= Circulating flow across entry (pcu/h)	170		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1095		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.29		

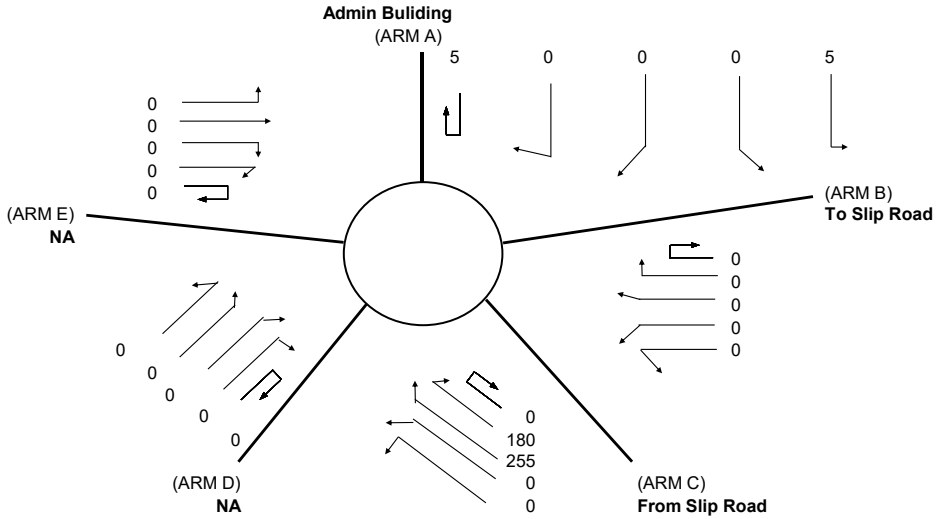
TOTAL ENTRY FLOWS = 415 PCU

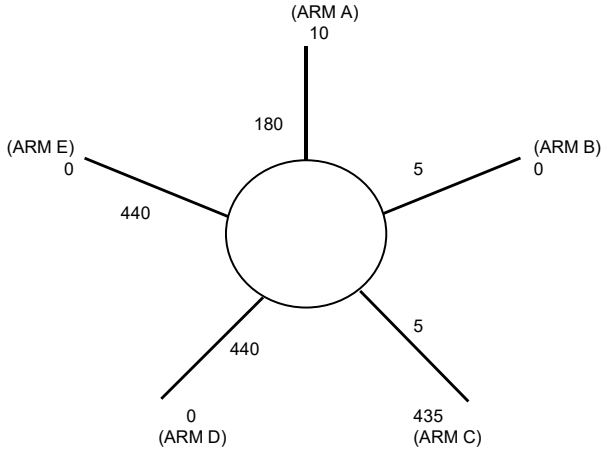
CRITICAL DFC = 0.29

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		435		
Qc= Circulating flow across entry (pcu/h)	180		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1090		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.32		

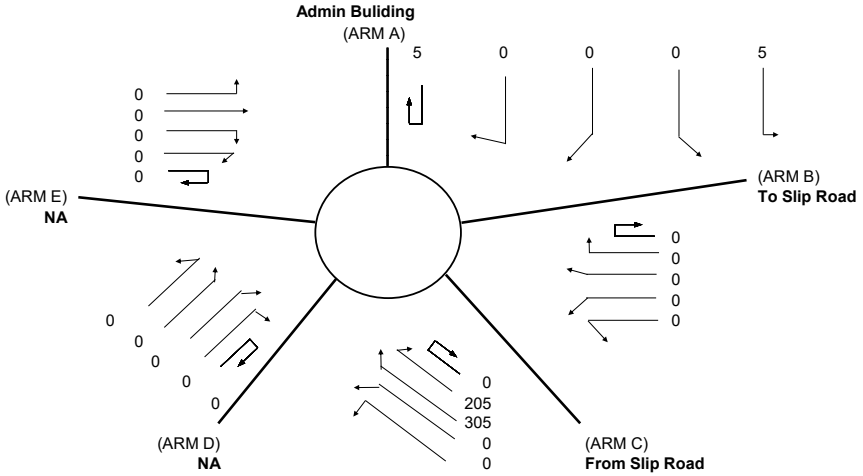
TOTAL ENTRY FLOWS = 445 PCU

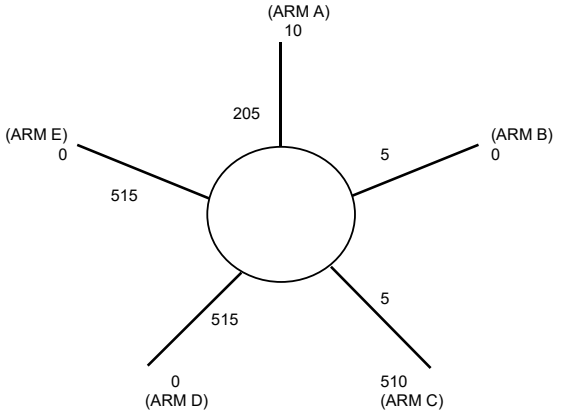
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ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Design Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





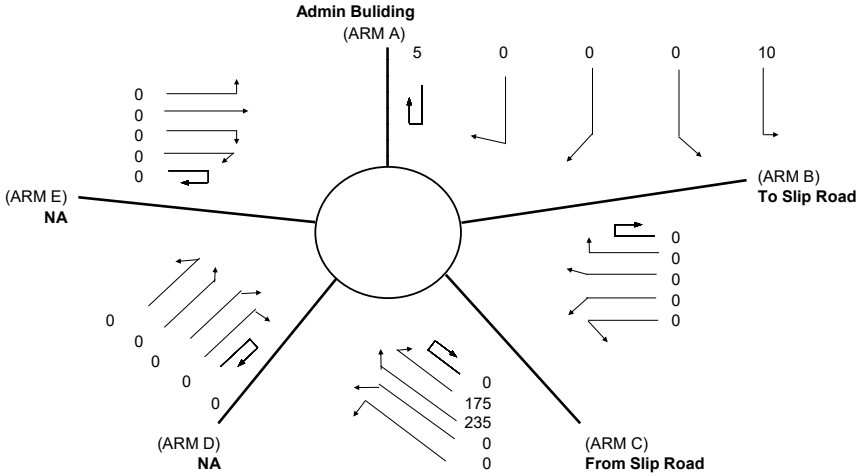
ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		510		
Qc= Circulating flow across entry (pcu/h)	205		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1075		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.37		

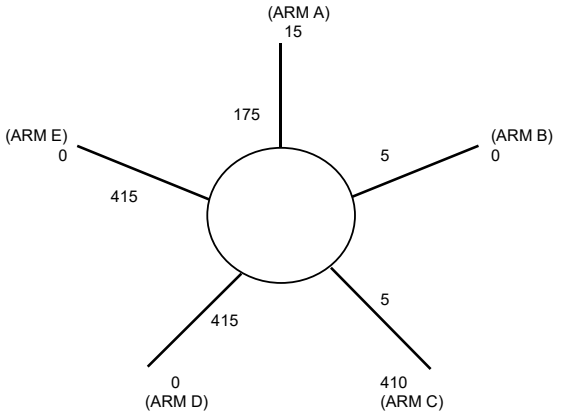
TOTAL ENTRY FLOWS = 520 PCU

CRITICAL DFC = 0.37

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Design Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	15		410		
Qc= Circulating flow across entry (pcu/h)	175		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1092		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.30		

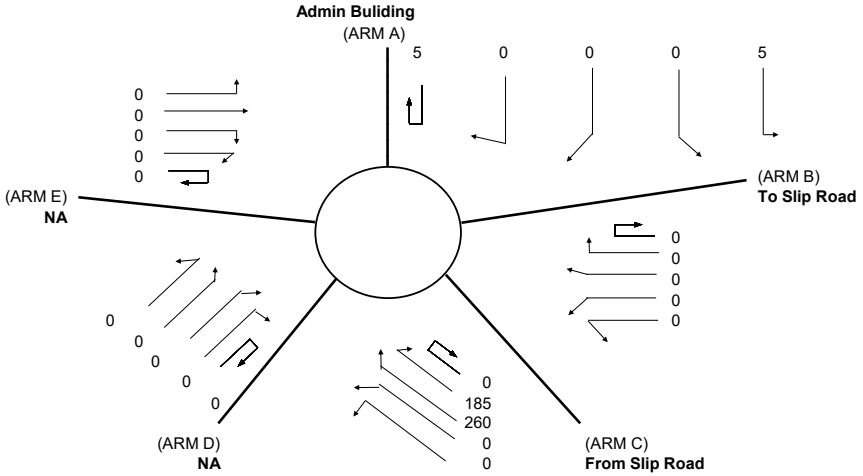
TOTAL ENTRY FLOWS = 425 PCU

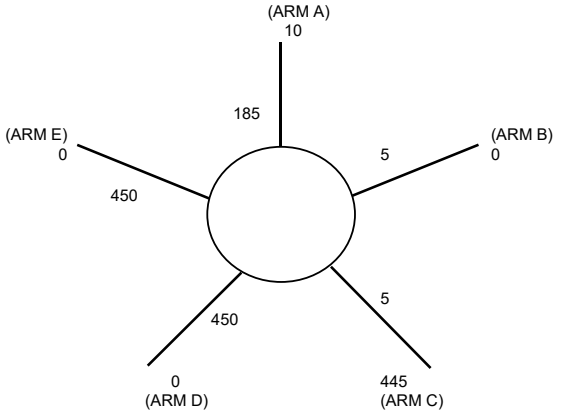
CRITICAL DFC = 0.30

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Design Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		445		
Qc= Circulating flow across entry (pcu/h)	185		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1087		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.32		

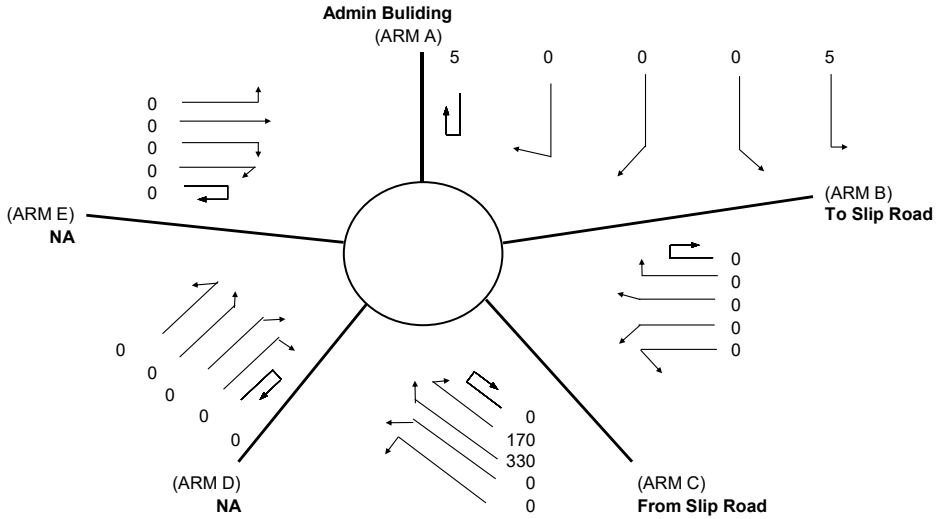
TOTAL ENTRY FLOWS = 455 PCU

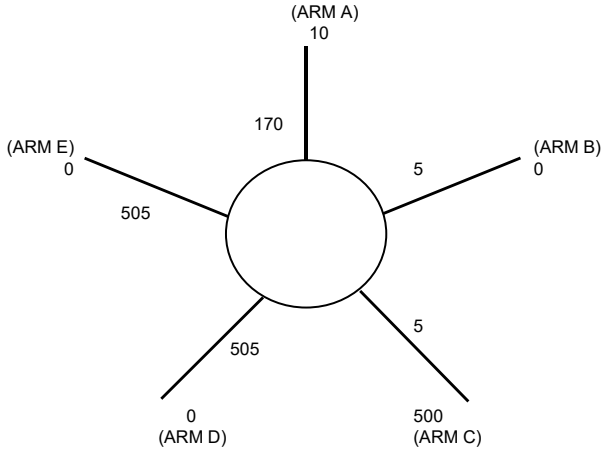
CRITICAL DFC = 0.32

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		500		
Qc= Circulating flow across entry (pcu/h)	170		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1095		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.36		

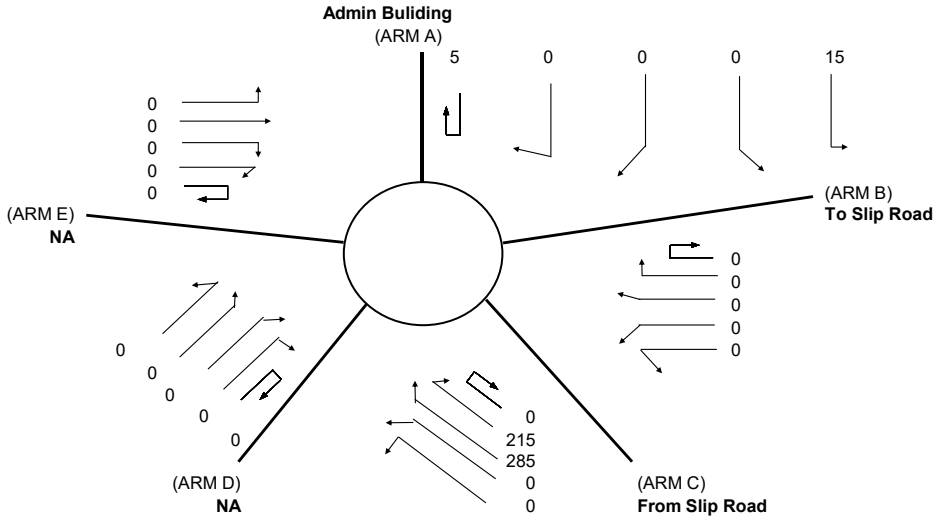
TOTAL ENTRY FLOWS = 510 PCU

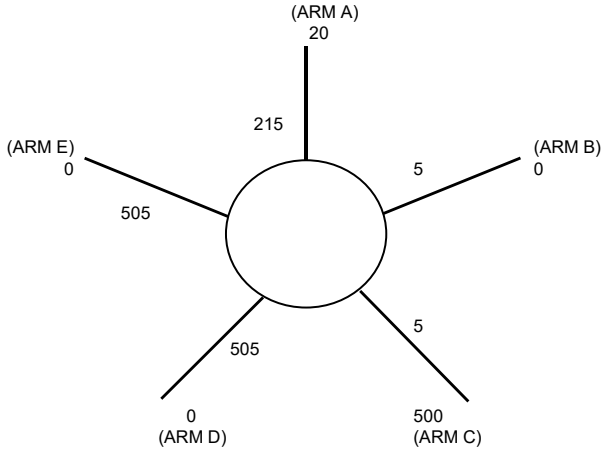
CRITICAL DFC = 0.36

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	20		500		
Qc= Circulating flow across entry (pcu/h)	215		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1069		1370		
DFC = Design flow/Capacity = Q/Qe	0.02		0.36		

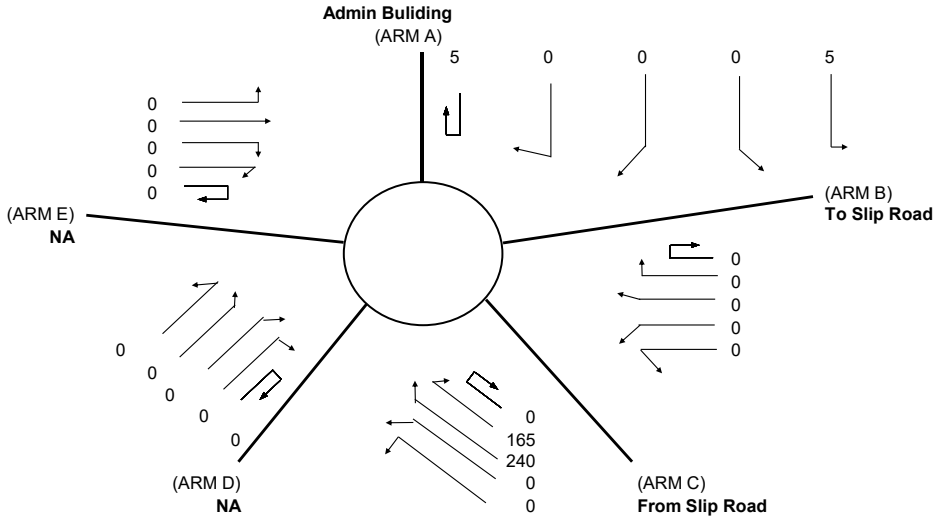
TOTAL ENTRY FLOWS = 520 PCU

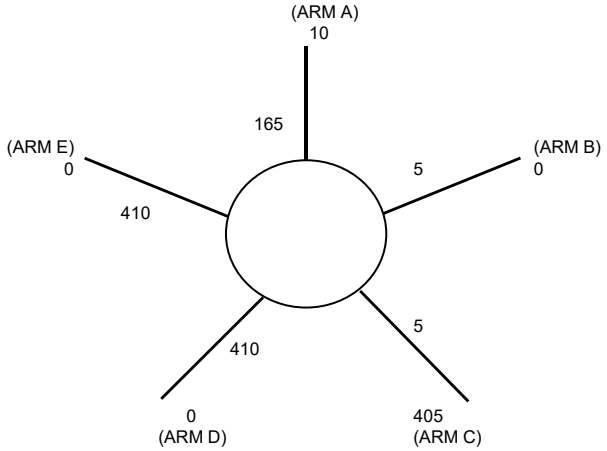
CRITICAL DFC = 0.36

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		405		
Qc= Circulating flow across entry (pcu/h)	165		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1098		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.30		

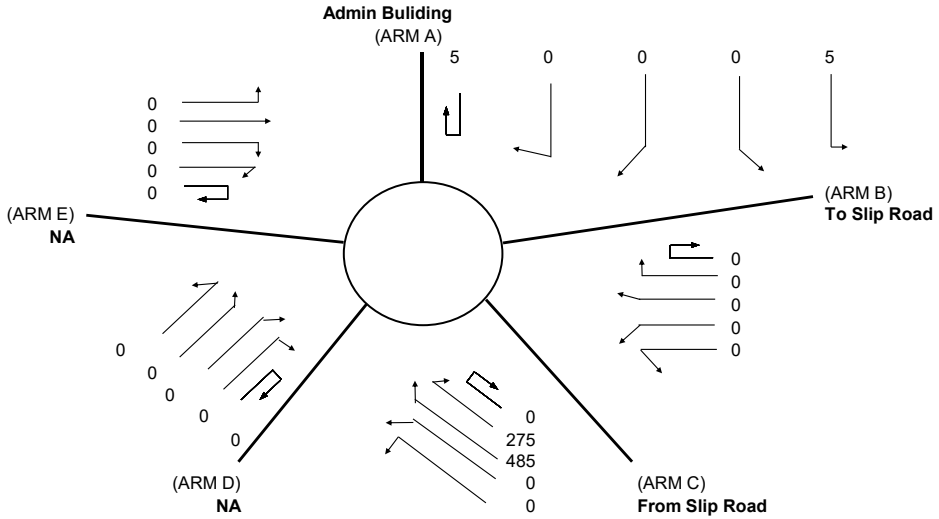
TOTAL ENTRY FLOWS = 415 PCU

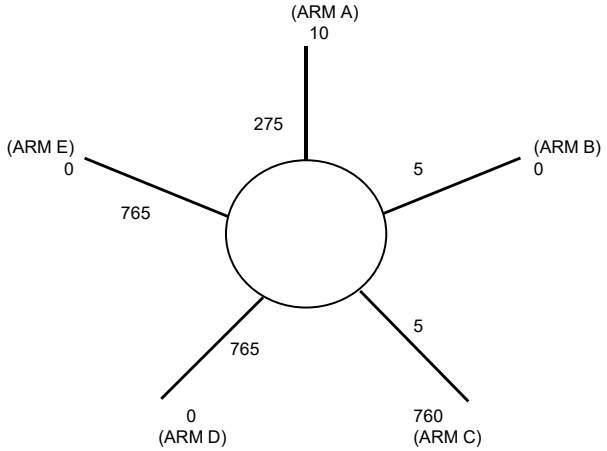
CRITICAL DFC = 0.30

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario A AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		760		
Qc= Circulating flow across entry (pcu/h)	275		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1035		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.55		

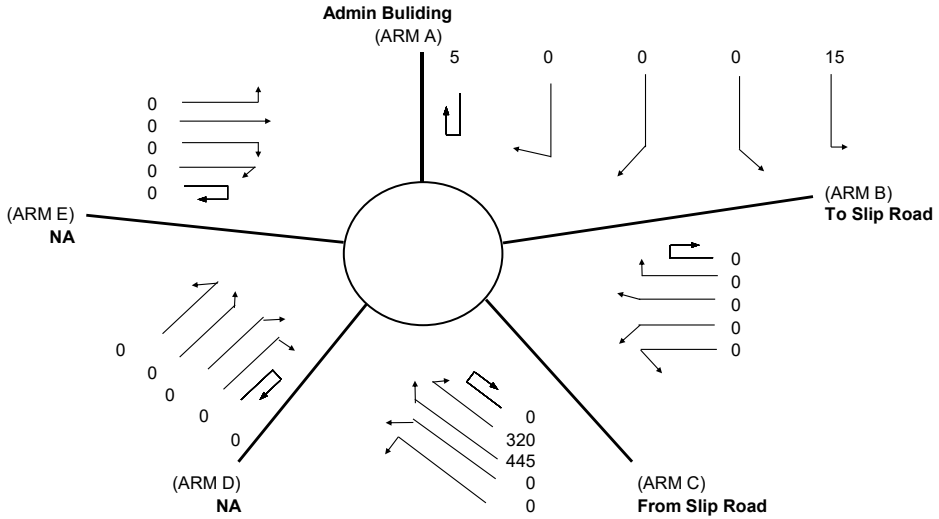
TOTAL ENTRY FLOWS = 770 PCU

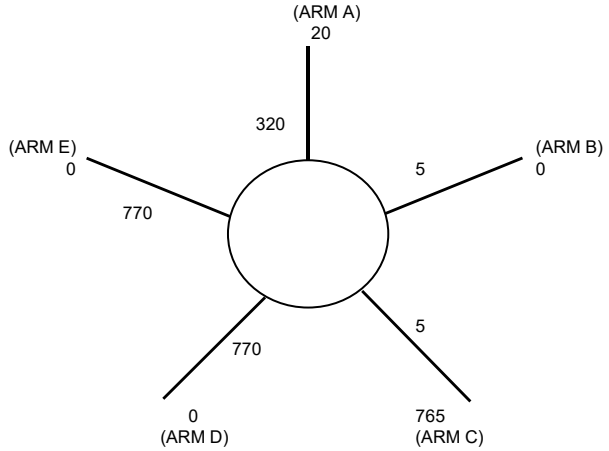
CRITICAL DFC = 0.55

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario A NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	20		765		
Qc= Circulating flow across entry (pcu/h)	320		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1009		1370		
DFC = Design flow/Capacity = Q/Qe	0.02		0.56		

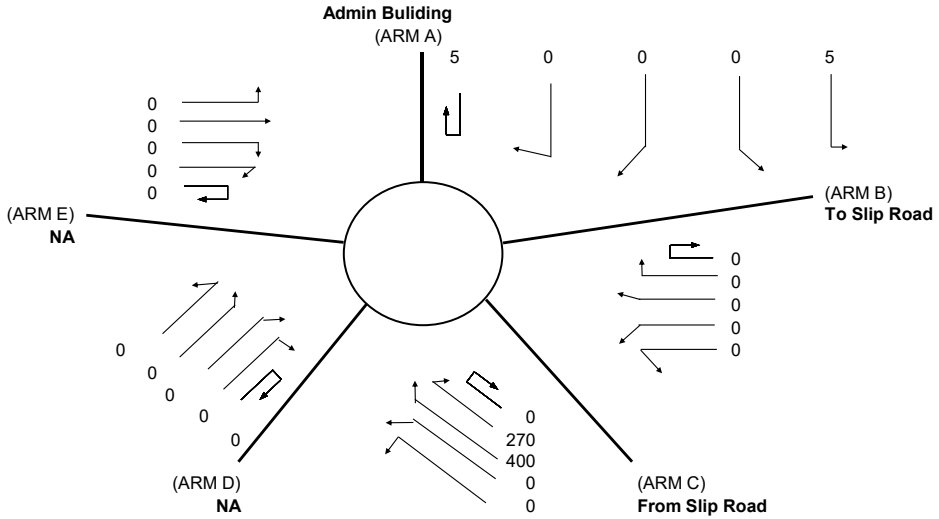
TOTAL ENTRY FLOWS = 785 PCU

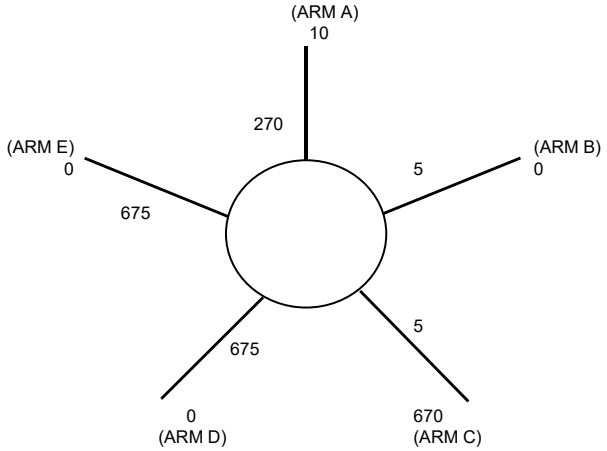
CRITICAL DFC = 0.56

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario A PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		670		
Qc= Circulating flow across entry (pcu/h)	270		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1037		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.49		

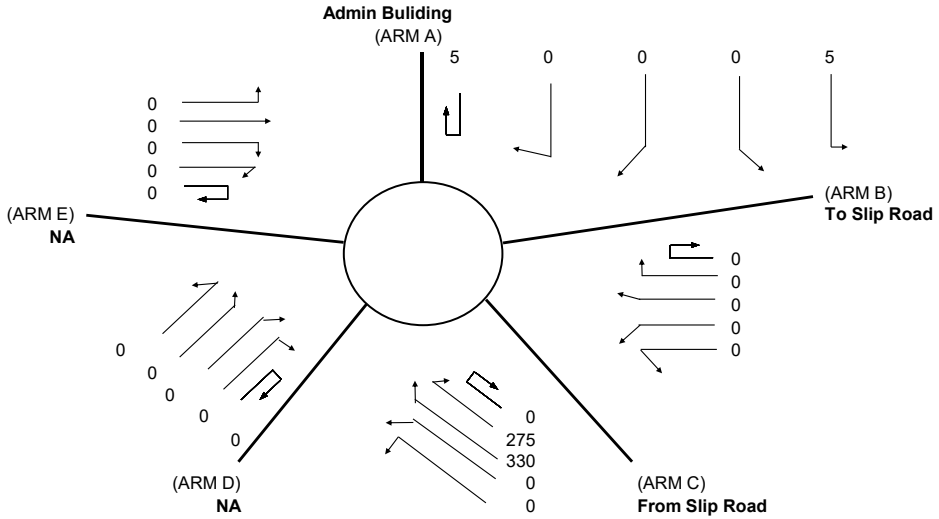
TOTAL ENTRY FLOWS = 680 PCU

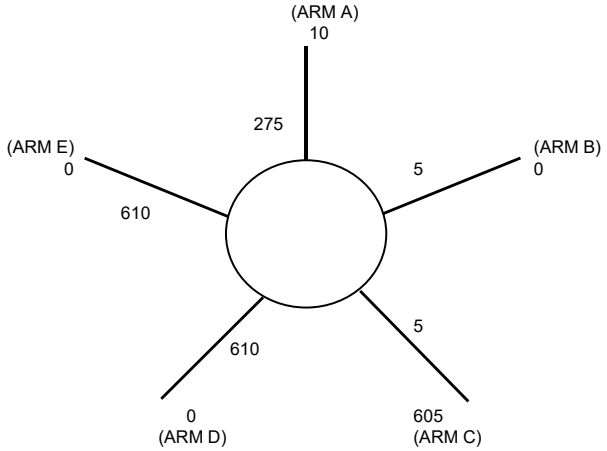
CRITICAL DFC = 0.49

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario B AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		605		
Qc= Circulating flow across entry (pcu/h)	275		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1035		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.44		

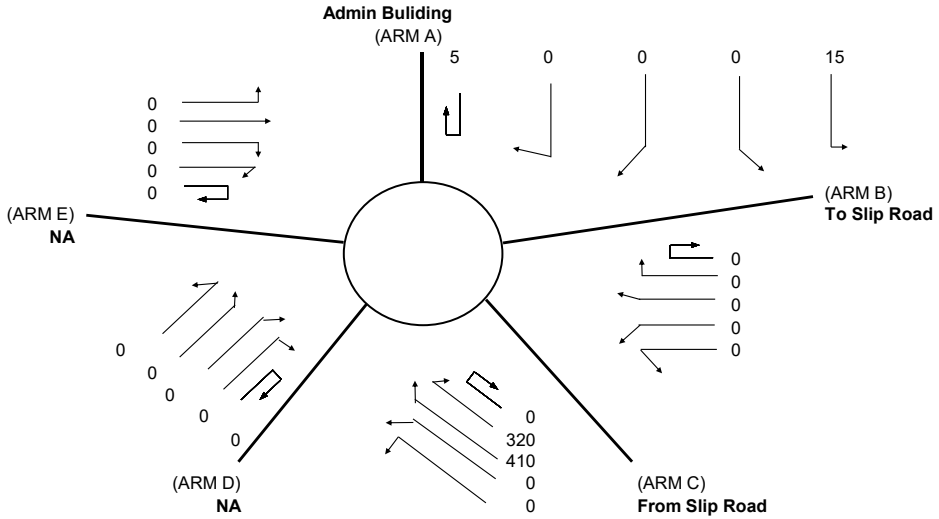
TOTAL ENTRY FLOWS = 615 PCU

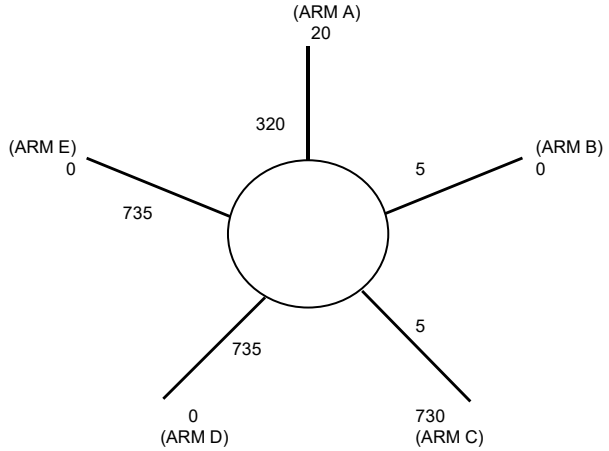
CRITICAL DFC = 0.44

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario B NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	20		730		
Qc= Circulating flow across entry (pcu/h)	320		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1009		1370		
DFC = Design flow/Capacity = Q/Qe	0.02		0.53		

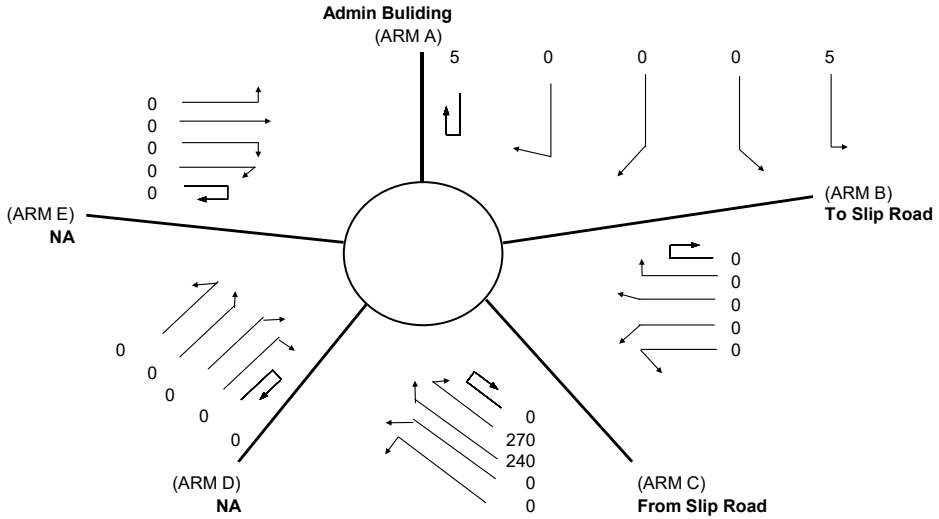
TOTAL ENTRY FLOWS = 750 PCU

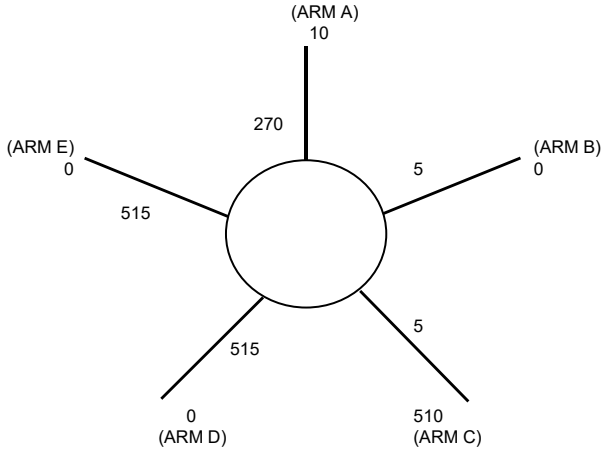
CRITICAL DFC = 0.53

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario B PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		510		
Qc= Circulating flow across entry (pcu/h)	270		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1037		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.37		

TOTAL ENTRY FLOWS = 520 PCU

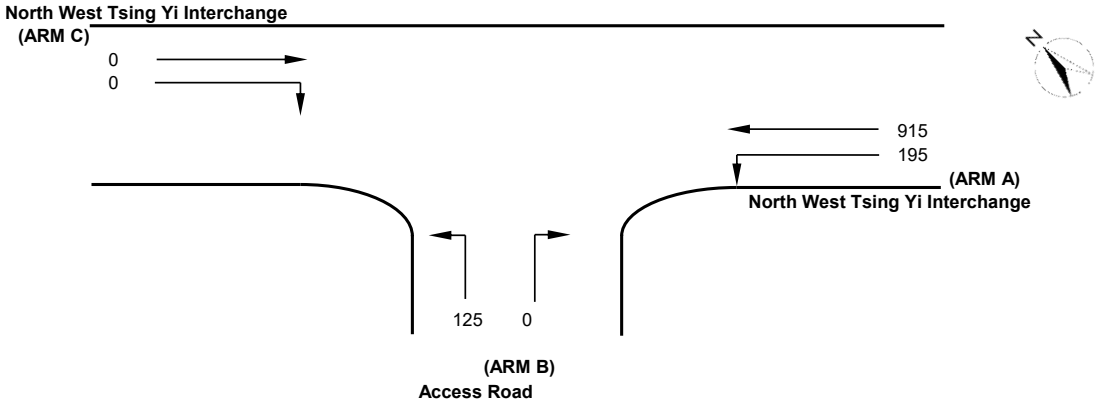
CRITICAL DFC = 0.37

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2025 Survey Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	195 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	915 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	125 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	168
Q b-c	=	477
Q c-b	=	232
Q b-ac	=	477

CRITICAL DFC = 0.26

COMPARISION OF DESIGN FLOW TO CAPACITY :

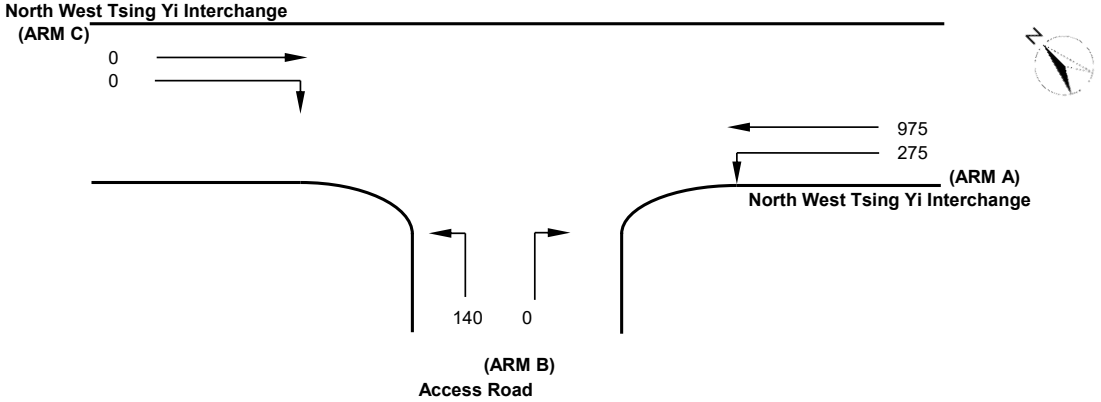
DFC b-a	=	0.00
DFC b-c	=	0.26
DFC c-b	=	0.00
DFC b-ac	=	0.26

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2025 Survey Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	275 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	975 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	140 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	153
Q b-c	=	445
Q c-b	=	207
Q b-ac	=	445

CRITICAL DFC = 0.31

COMPARISION OF DESIGN FLOW TO CAPACITY :

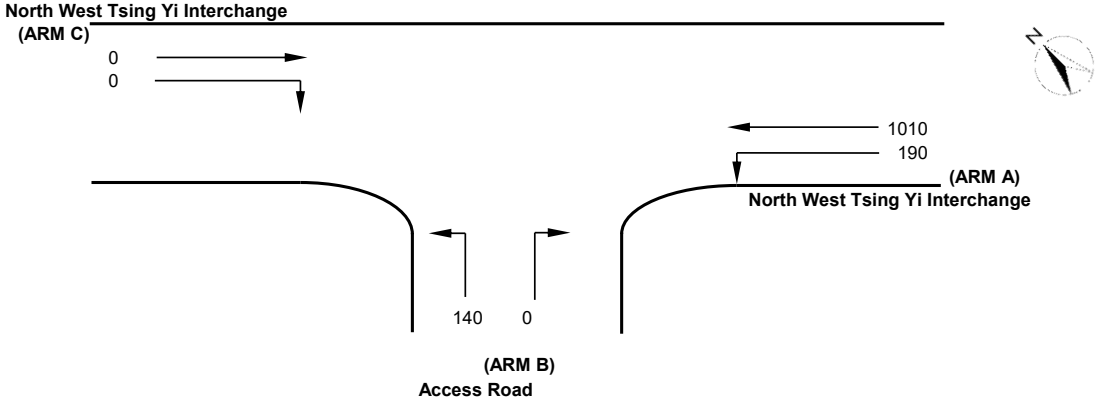
DFC b-a	=	0.00
DFC b-c	=	0.31
DFC c-b	=	0.00
DFC b-ac	=	0.31

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2025 Survey Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	190 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1010 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	140 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	153
Q b-c	=	444
Q c-b	=	216
Q b-ac	=	444

CRITICAL DFC = 0.32

COMPARISION OF DESIGN FLOW TO CAPACITY :

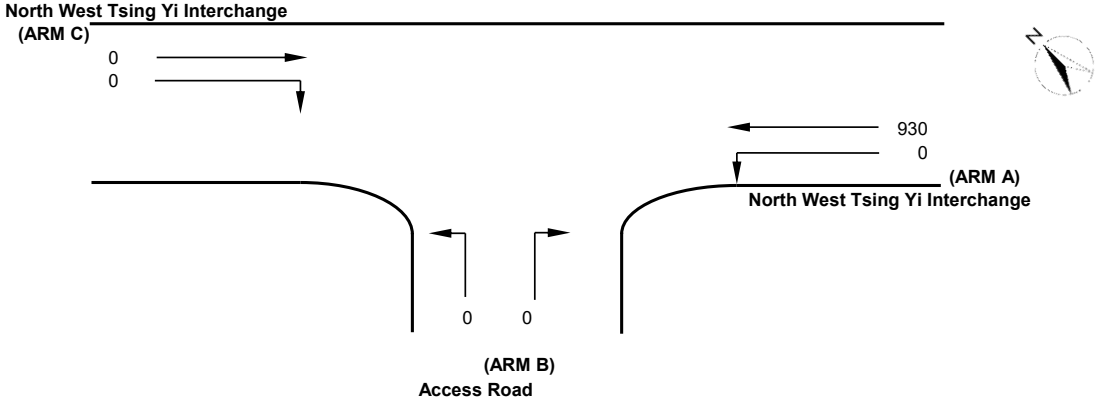
DFC b-a	=	0.00
DFC b-c	=	0.32
DFC c-b	=	0.00
DFC b-ac	=	0.32

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2028 Reference Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	930 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	179
Q b-c	=	498
Q c-b	=	266
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

COMPARISION OF DESIGN FLOW TO CAPACITY :

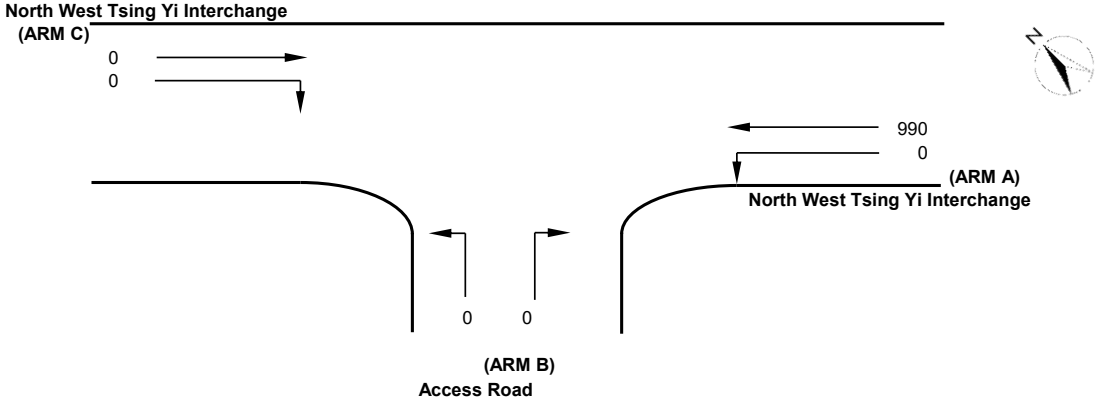
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2028 Reference Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	990 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	169
Q b-c	=	477
Q c-b	=	255
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

COMPARISION OF DESIGN FLOW TO CAPACITY :

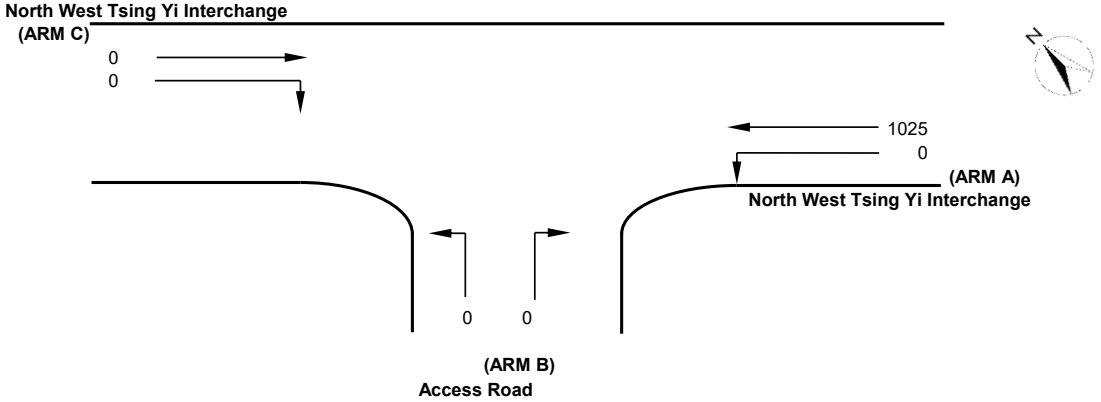
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2028 Reference Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1025 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	163
Q b-c	=	465
Q c-b	=	248
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

COMPARISION OF DESIGN FLOW TO CAPACITY :

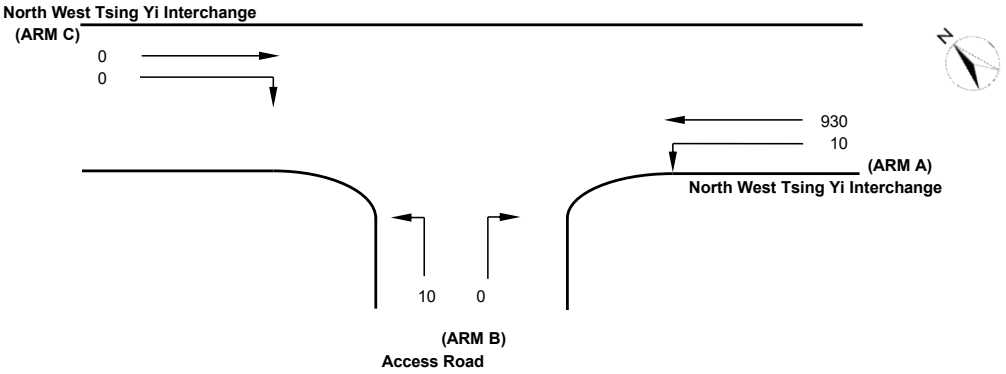
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2028 Design Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Oct 2026

J2



NOTES : (GEOMETRIC INPUT DATA)

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	10 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	930 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	10 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	178
Q b-c	=	497
Q c-b	=	264
Q b-ac	=	497

CRITICAL DFC = 0.02

COMPARISION OF DESIGN FLOW TO CAPACITY :

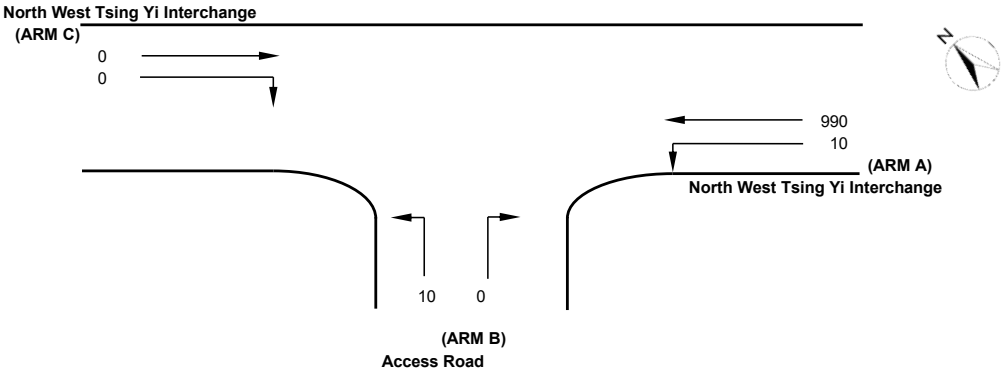
DFC b-a	=	0.00
DFC b-c	=	0.02
DFC c-b	=	0.00
DFC b-ac	=	0.02

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2028 Design Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Oct 2026

J2



NOTES : (GEOMETRIC INPUT DATA)

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	4.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	10	(pcu/hour)
q a-c	=	990	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	0	(pcu/hour)
q c-b	=	0	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	4.70	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	120	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	10	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	168
Q b-c	=	476
Q c-b	=	253
Q b-ac	=	476

CRITICAL DFC = 0.02

COMPARISION OF DESIGN FLOW TO CAPACITY :

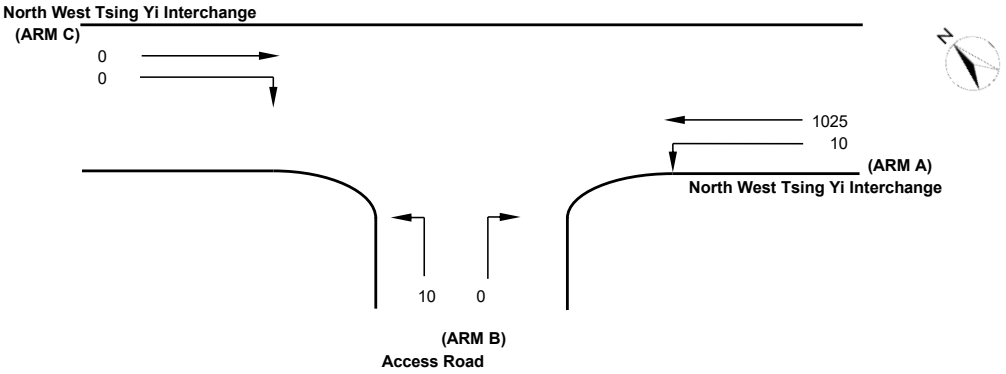
DFC b-a	=	0.00
DFC b-c	=	0.02
DFC c-b	=	0.00
DFC b-ac	=	0.02

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2028 Design Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Oct 2026

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	10 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1025 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	10 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	162
Q b-c	=	464
Q c-b	=	246
Q b-ac	=	464

CRITICAL DFC = 0.02

COMPARISION OF DESIGN FLOW TO CAPACITY :

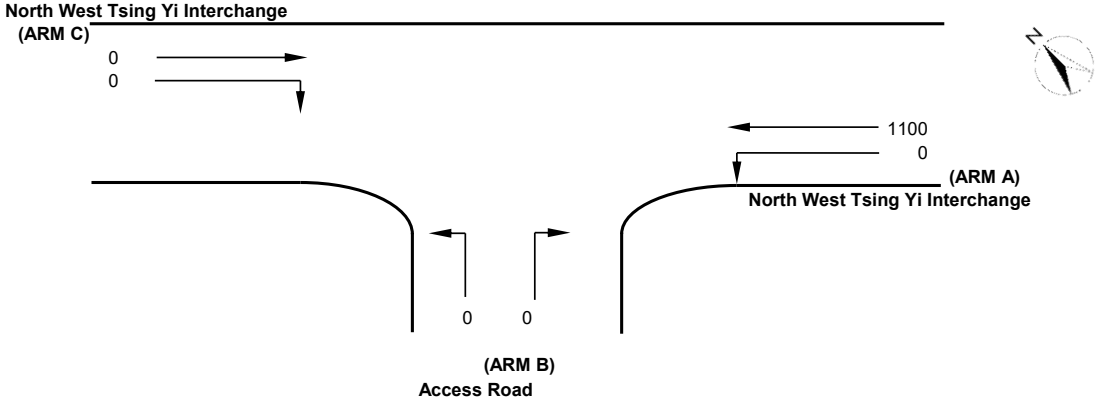
DFC b-a	=	0.00
DFC b-c	=	0.02
DFC c-b	=	0.00
DFC b-ac	=	0.02

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Reference Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1100 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	150
Q b-c	=	439
Q c-b	=	234
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

COMPARISION OF DESIGN FLOW TO CAPACITY :

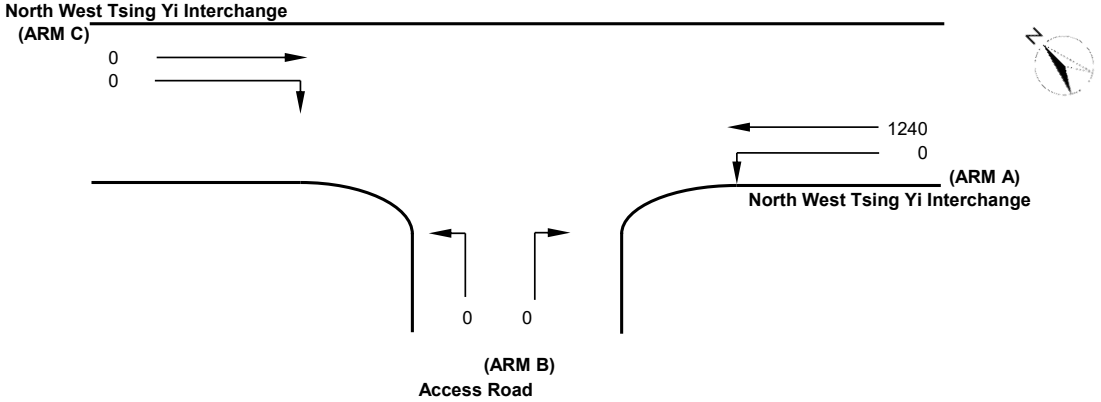
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Reference Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1240 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	127
Q b-c	=	391
Q c-b	=	209
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

COMPARISION OF DESIGN FLOW TO CAPACITY :

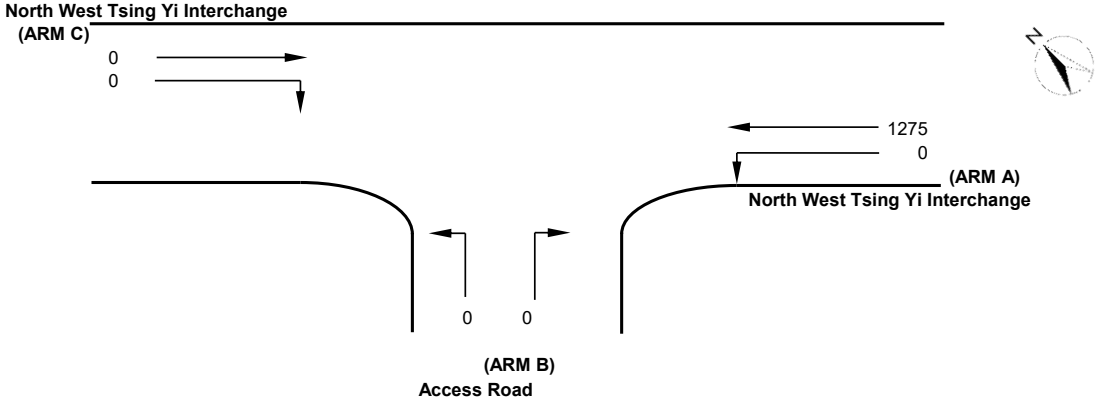
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Reference Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1275 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	121
Q b-c	=	379
Q c-b	=	202
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

COMPARISION OF DESIGN FLOW TO CAPACITY :

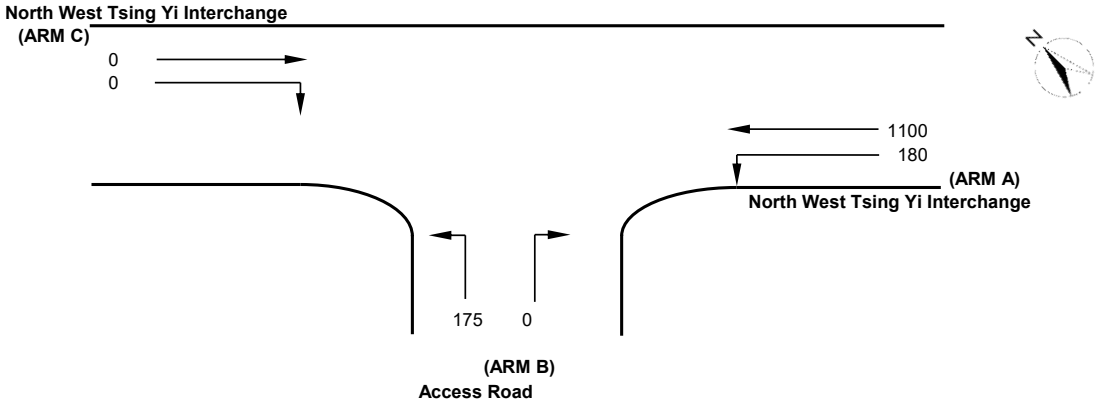
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Scenario A AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	4.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	180	(pcu/hour)
q a-c	=	1100	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	0	(pcu/hour)
q c-b	=	0	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	4.70	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	120	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	175	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	138
Q b-c	=	415
Q c-b	=	201
Q b-ac	=	415

CRITICAL DFC = 0.42

COMPARISION OF DESIGN FLOW TO CAPACITY :

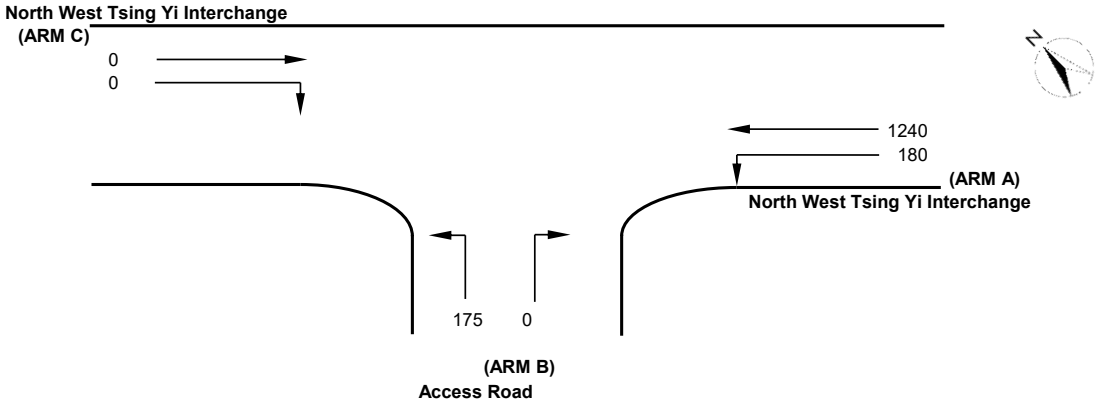
DFC b-a	=	0.00
DFC b-c	=	0.42
DFC c-b	=	0.00
DFC b-ac	=	0.42

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Scenario A NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	180 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1240 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	175 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	115
Q b-c	=	367
Q c-b	=	175
Q b-ac	=	367

CRITICAL DFC = 0.48

COMPARISION OF DESIGN FLOW TO CAPACITY :

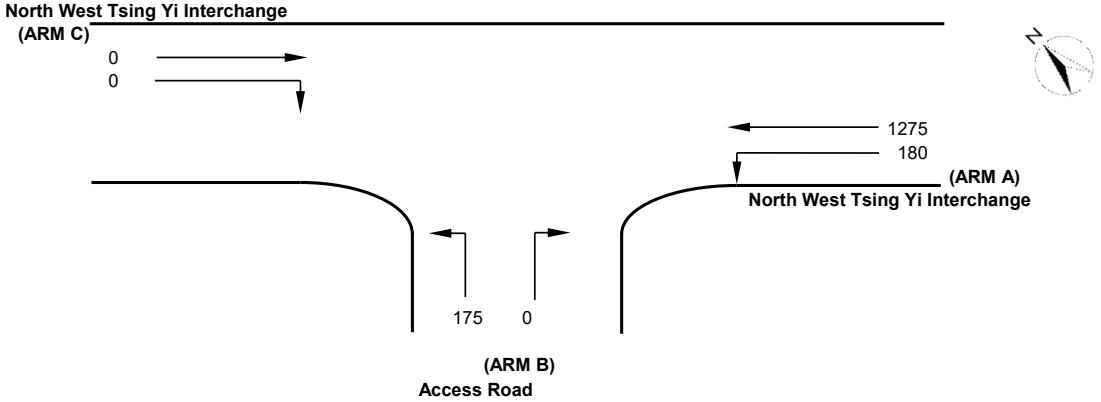
DFC b-a	=	0.00
DFC b-c	=	0.48
DFC c-b	=	0.00
DFC b-ac	=	0.48

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Scenario A PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)				*MAJOR ROAD (ARM C)*				*MINOR ROAD (ARM B)*			
W	=	4.00	(metres)	W c-b	=	0.00	(metres)	W b-a	=	0.00	(metres)
W cr	=	0.00	(metres)	Vr c-b	=	0	(metres)	W b-c	=	4.70	(metres)
q a-b	=	180	(pcu/hour)	q c-a	=	0	(pcu/hour)	Vl b-a	=	0	(metres)
q a-c	=	1275	(pcu/hour)	q c-b	=	0	(pcu/hour)	Vr b-a	=	0	(metres)
								Vr b-c	=	120	(metres)
								q b-a	=	0	(pcu/hour)
								q b-c	=	175	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	109
Q b-c	=	354
Q c-b	=	169
Q b-ac	=	354

CRITICAL DFC = 0.49

COMPARISION OF DESIGN FLOW TO CAPACITY :

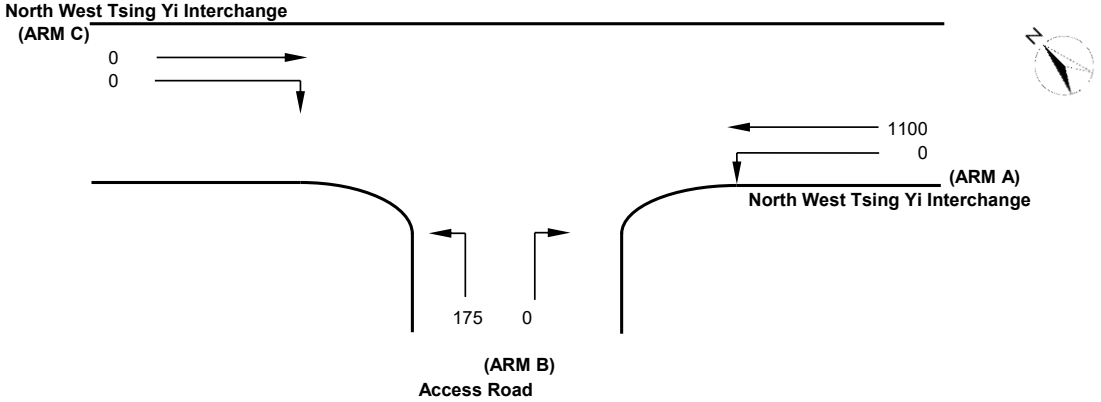
DFC b-a	=	0.00
DFC b-c	=	0.49
DFC c-b	=	0.00
DFC b-ac	=	0.49

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Scenario B AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	4.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	0	(pcu/hour)
q a-c	=	1100	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	0	(pcu/hour)
q c-b	=	0	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	4.70	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	120	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	175	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	150
Q b-c	=	439
Q c-b	=	234
Q b-ac	=	439

CRITICAL DFC = 0.40

COMPARISION OF DESIGN FLOW TO CAPACITY :

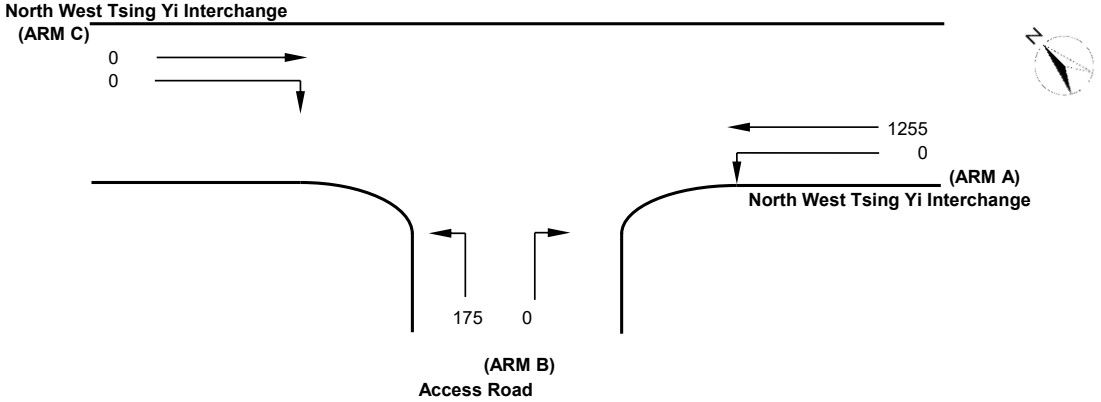
DFC b-a	=	0.00
DFC b-c	=	0.40
DFC c-b	=	0.00
DFC b-ac	=	0.40

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Scenario B NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1255 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	175 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	124
Q b-c	=	386
Q c-b	=	206
Q b-ac	=	386

CRITICAL DFC = 0.45

COMPARISION OF DESIGN FLOW TO CAPACITY :

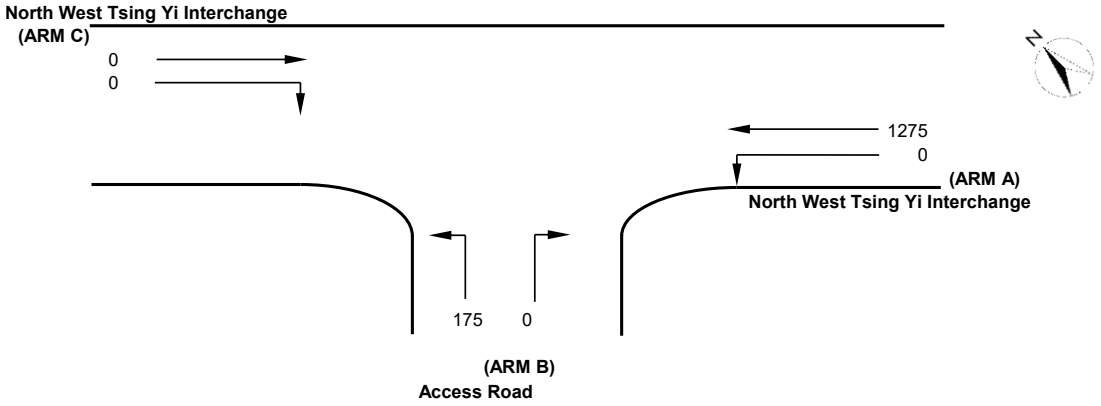
DFC b-a	=	0.00
DFC b-c	=	0.45
DFC c-b	=	0.00
DFC b-ac	=	0.45

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Scenario B PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1275 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	175 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	121
Q b-c	=	379
Q c-b	=	202
Q b-ac	=	379

CRITICAL DFC = 0.46

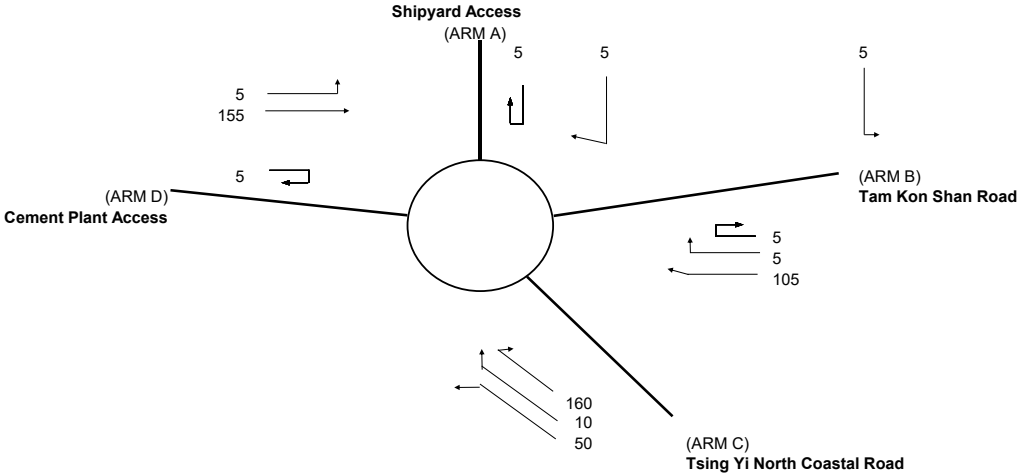
COMPARISION OF DESIGN FLOW TO CAPACITY :

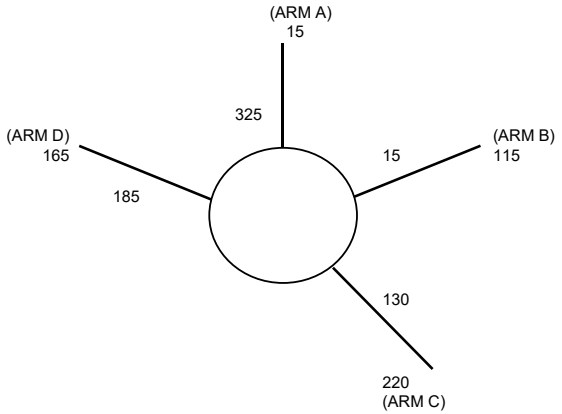
DFC b-a	=	0.00
DFC b-c	=	0.46
DFC c-b	=	0.00
DFC b-ac	=	0.46

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2025 Survey Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





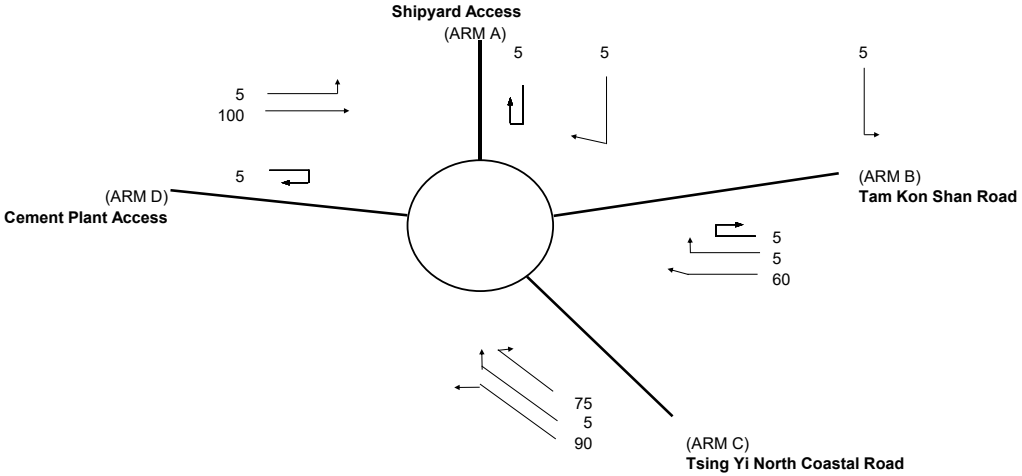
ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	15	115	220	165
Qc= Circulating flow across entry (pcu/h)	325	15	130	185
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1265	1781	1196	1345
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.18	0.12

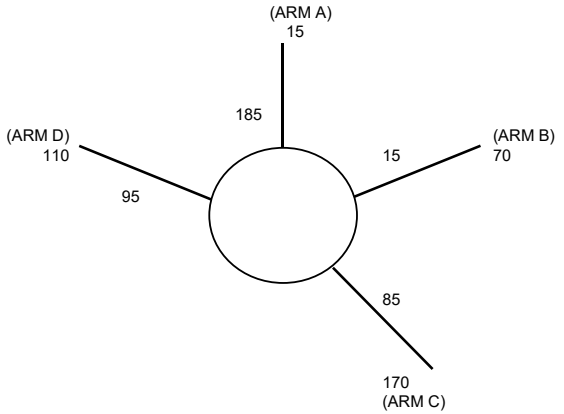
TOTAL ENTRY FLOWS = 515 PCU

CRITICAL DFC = 0.18

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2025 Survey Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





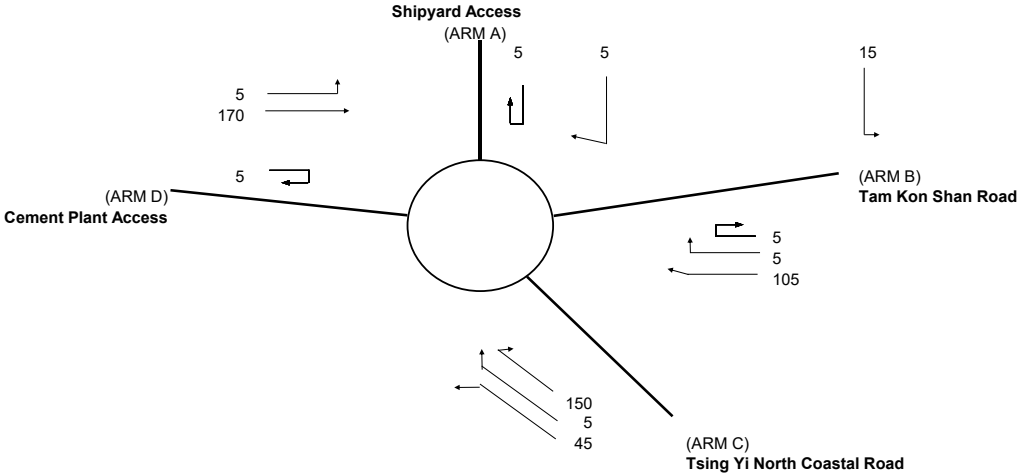
ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	15	70	170	110
Qc= Circulating flow across entry (pcu/h)	185	15	85	95
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1348	1781	1223	1400
DFC = Design flow/Capacity = Q/Qe	0.01	0.04	0.14	0.08

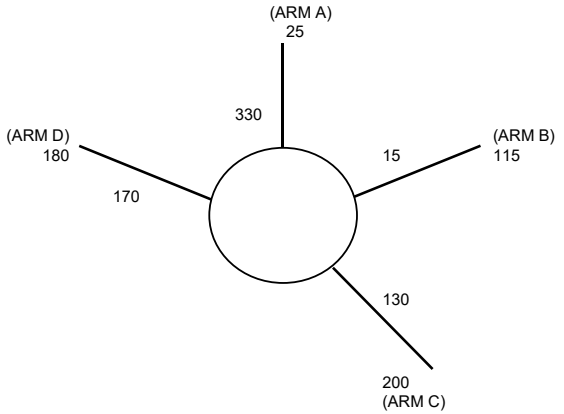
TOTAL ENTRY FLOWS = 365 PCU

CRITICAL DFC = 0.14

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2025 Survey Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





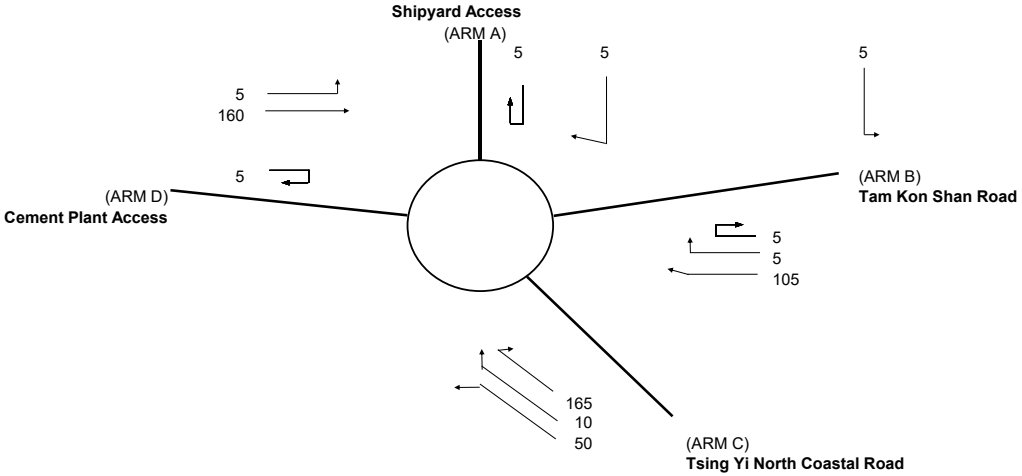
ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	25	115	200	180
Qc= Circulating flow across entry (pcu/h)	330	15	130	170
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1262	1781	1196	1354
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.17	0.13

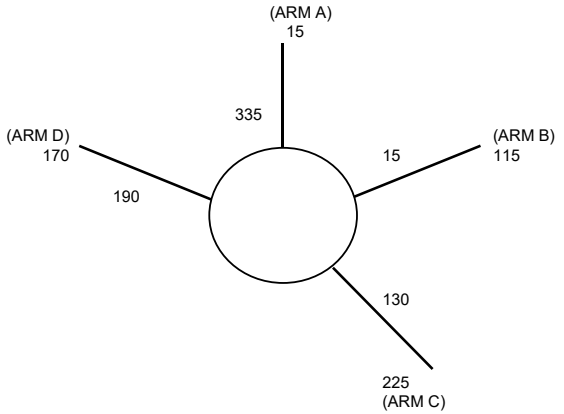
TOTAL ENTRY FLOWS = 520 PCU

CRITICAL DFC = 0.17

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	15	115	225	170
Qc= Circulating flow across entry (pcu/h)	335	15	130	190
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1259	1781	1196	1341
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.19	0.13

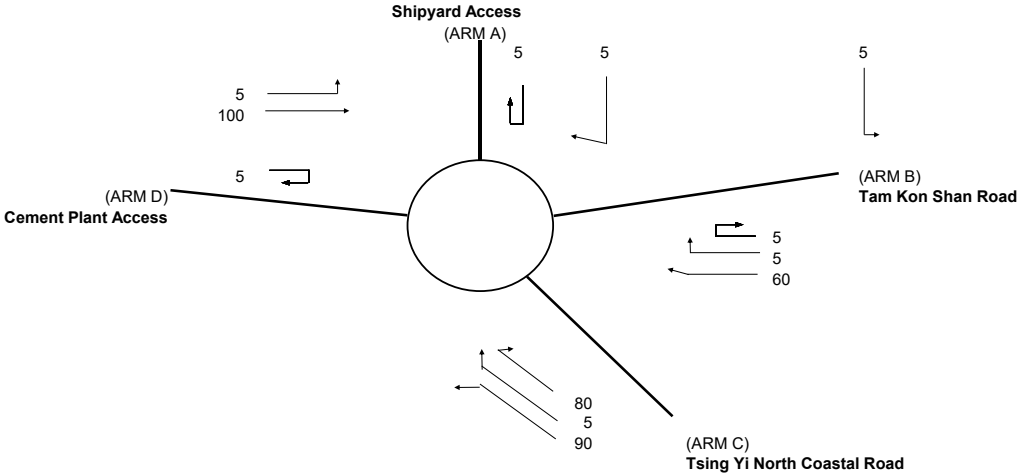
TOTAL ENTRY FLOWS = 525 PCU

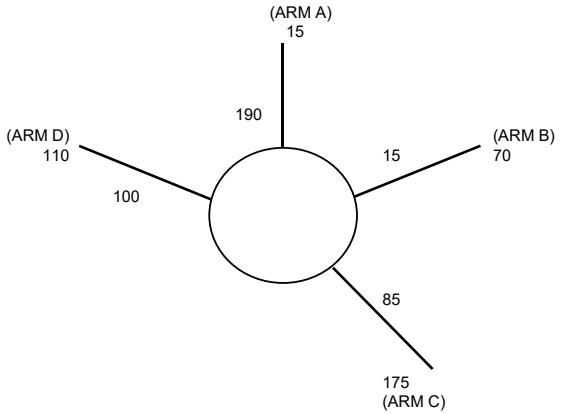
CRITICAL DFC = 0.19

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	15	70	175	110
Qc= Circulating flow across entry (pcu/h)	190	15	85	100
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1345	1781	1223	1397
DFC = Design flow/Capacity = Q/Qe	0.01	0.04	0.14	0.08

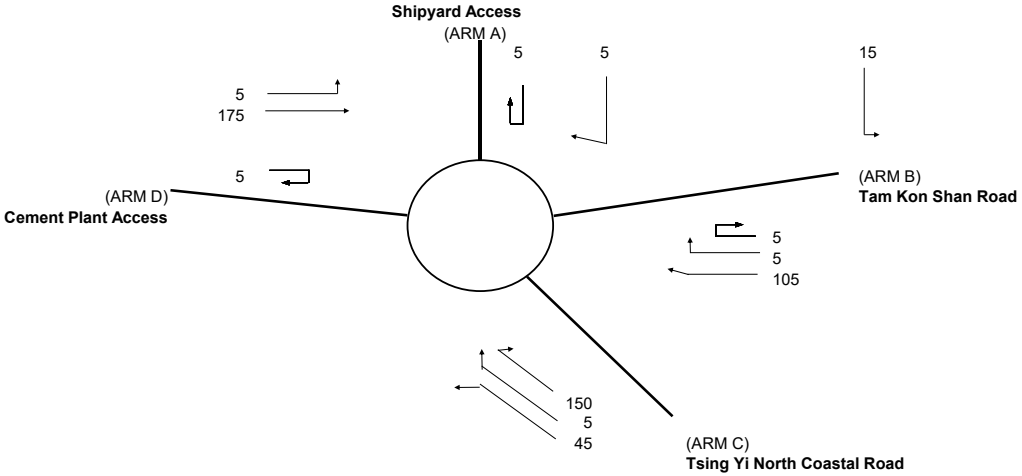
TOTAL ENTRY FLOWS = 370 PCU

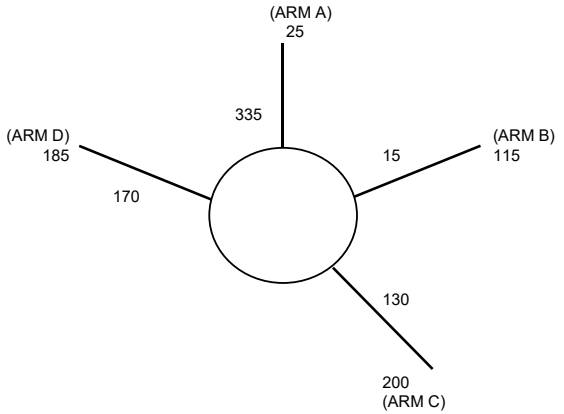
CRITICAL DFC = 0.14

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





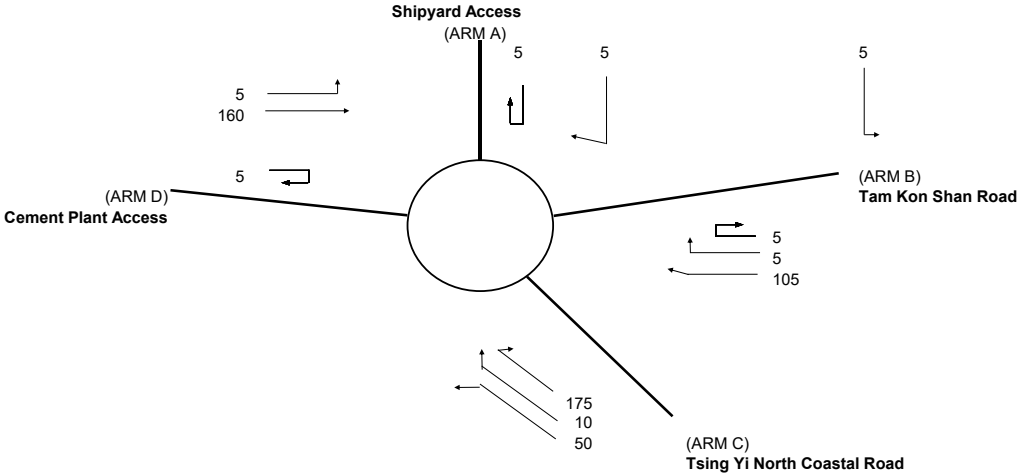
ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	25	115	200	185
Qc= Circulating flow across entry (pcu/h)	335	15	130	170
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1259	1781	1196	1354
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.17	0.14

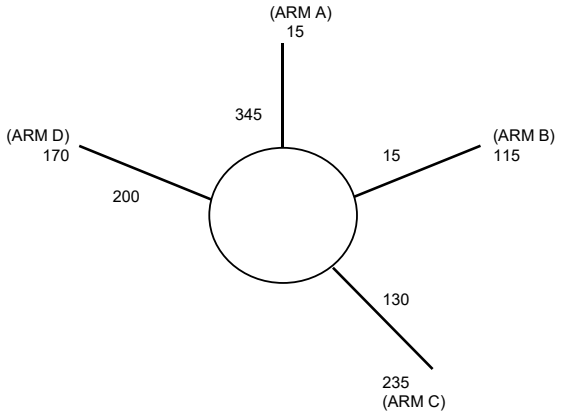
TOTAL ENTRY FLOWS = 525 PCU

CRITICAL DFC = 0.17

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Design Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





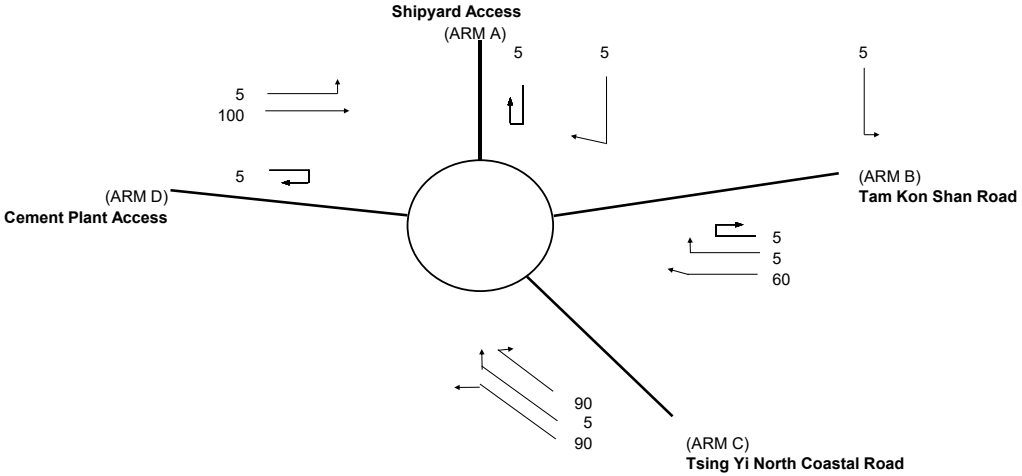
ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	15	115	235	170
Qc= Circulating flow across entry (pcu/h)	345	15	130	200
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1253	1781	1196	1335
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.20	0.13

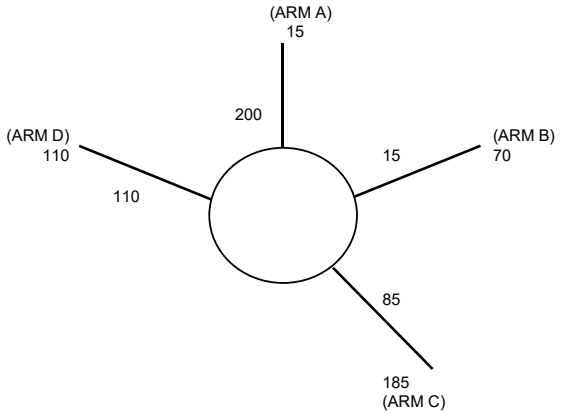
TOTAL ENTRY FLOWS = 535 PCU

CRITICAL DFC = 0.20

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Design Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	15	70	185	110
Qc= Circulating flow across entry (pcu/h)	200	15	85	110
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1339	1781	1223	1391
DFC = Design flow/Capacity = Q/Qe	0.01	0.04	0.15	0.08

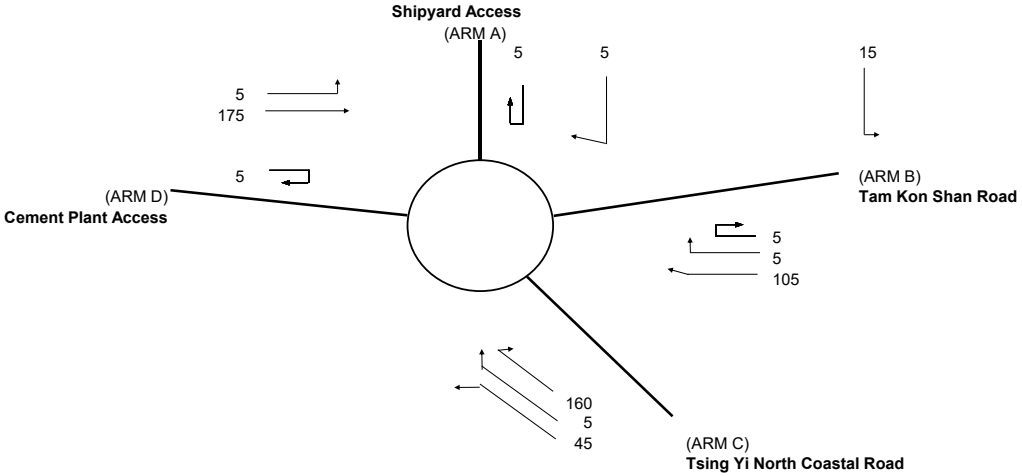
TOTAL ENTRY FLOWS = 380 PCU

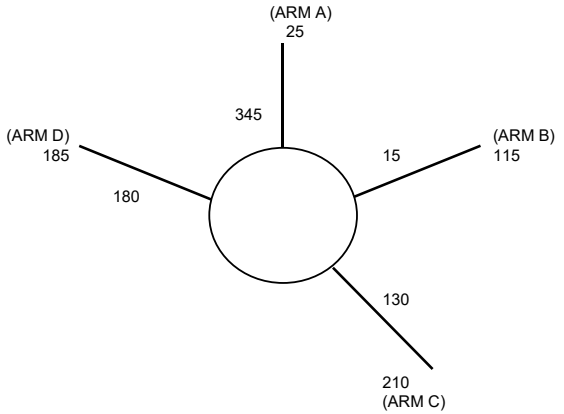
CRITICAL DFC = 0.15

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Design Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	25	115	210	185
Qc= Circulating flow across entry (pcu/h)	345	15	130	180
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1253	1781	1196	1348
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.18	0.14

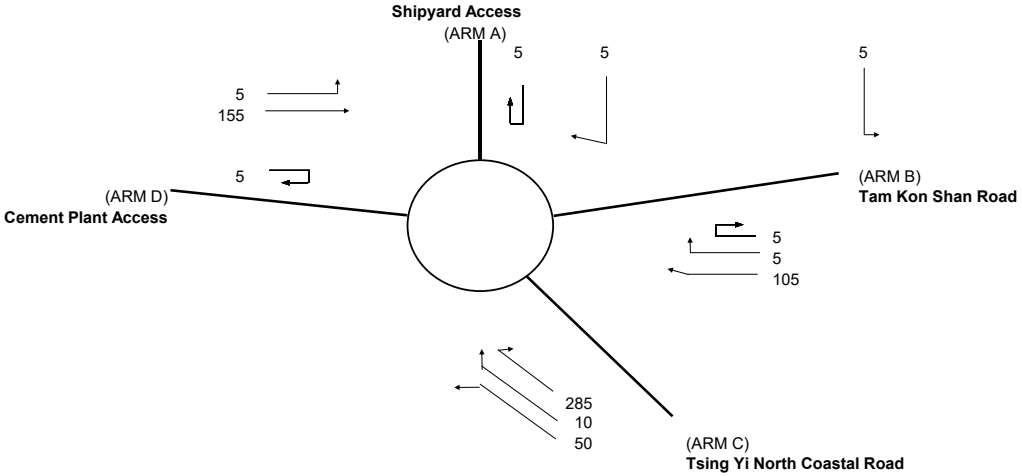
TOTAL ENTRY FLOWS = 535 PCU

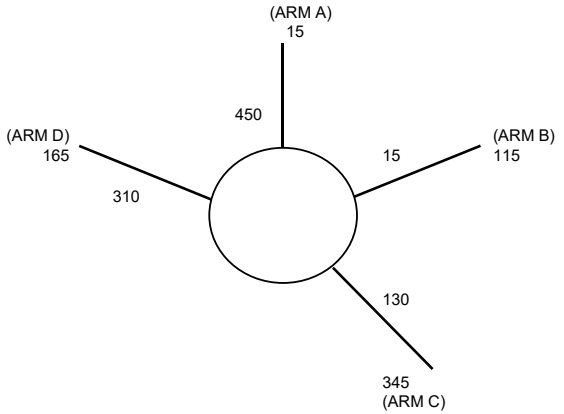
CRITICAL DFC = 0.18

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





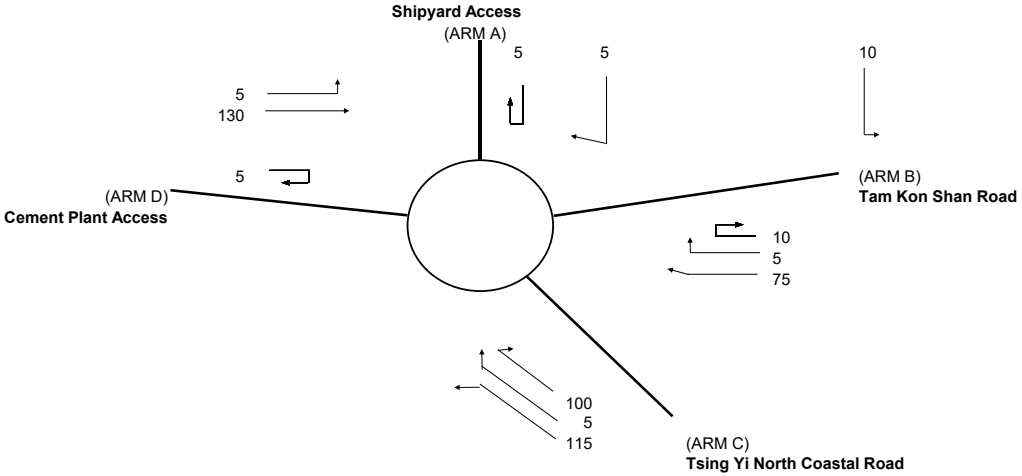
ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	15	115	345	165
Qc= Circulating flow across entry (pcu/h)	450	15	130	310
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1191	1781	1196	1268
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.29	0.13

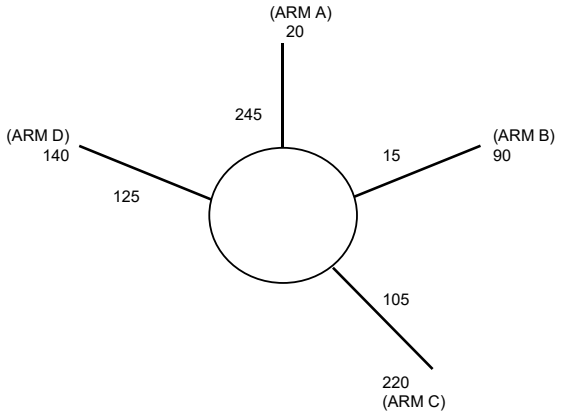
TOTAL ENTRY FLOWS = 640 PCU

CRITICAL DFC = 0.29

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	20	90	220	140
Qc= Circulating flow across entry (pcu/h)	245	15	105	125
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1313	1781	1211	1381
DFC = Design flow/Capacity = Q/Qe	0.02	0.05	0.18	0.10

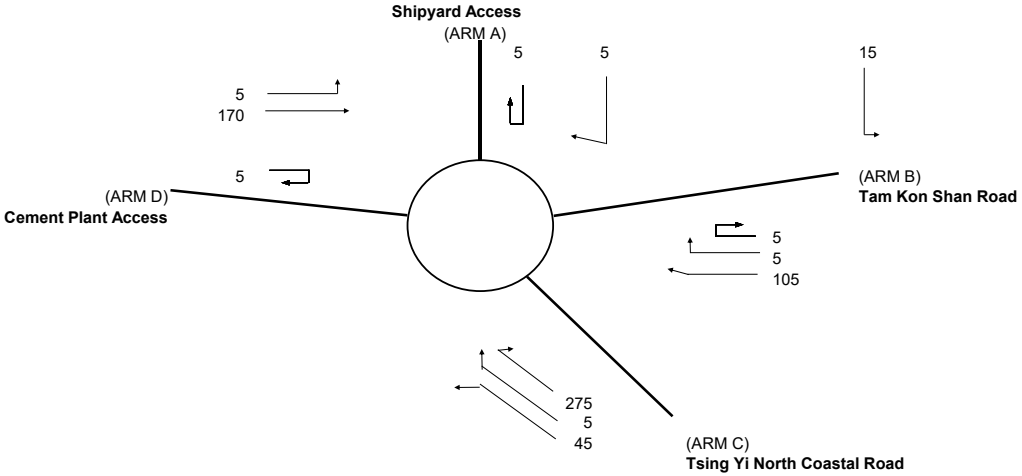
TOTAL ENTRY FLOWS = 470 PCU

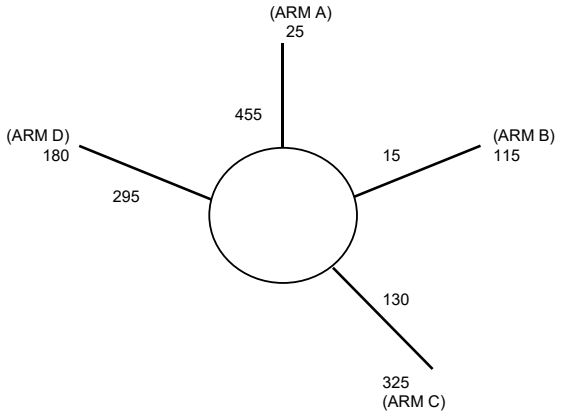
CRITICAL DFC = 0.18

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	25	115	325	180
Qc= Circulating flow across entry (pcu/h)	455	15	130	295
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1188	1781	1196	1277
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.27	0.14

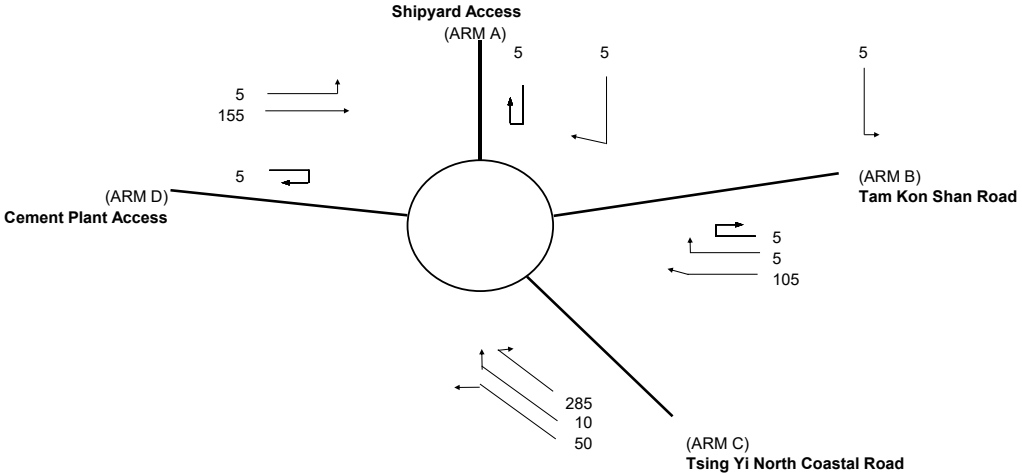
TOTAL ENTRY FLOWS = 645 PCU

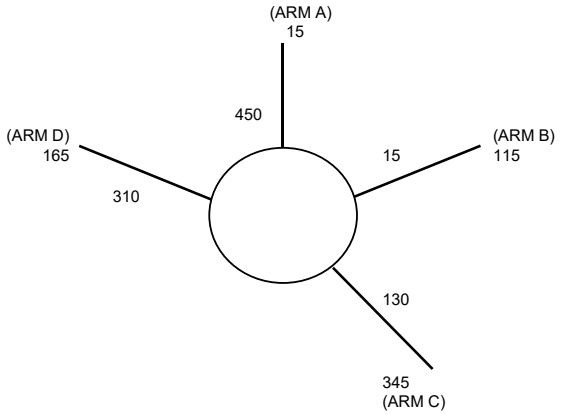
CRITICAL DFC = 0.27

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario A AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





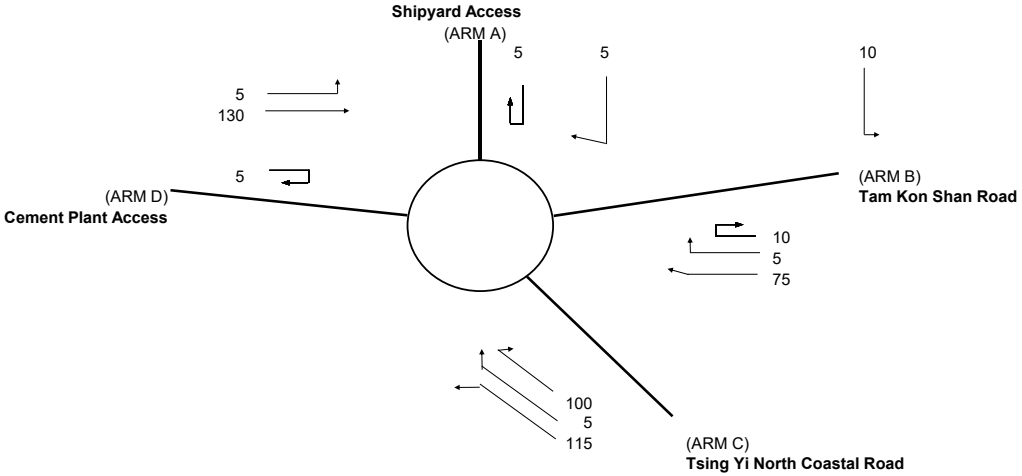
ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	15	115	345	165
Qc= Circulating flow across entry (pcu/h)	450	15	130	310
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1191	1781	1196	1268
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.29	0.13

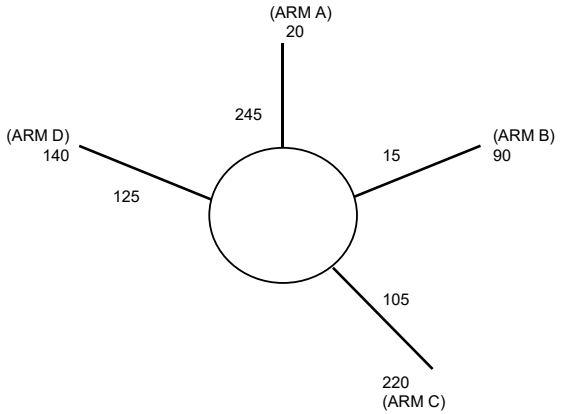
TOTAL ENTRY FLOWS = 640 PCU

CRITICAL DFC = 0.29

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario A NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	20	90	220	140
Qc= Circulating flow across entry (pcu/h)	245	15	105	125
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1313	1781	1211	1381
DFC = Design flow/Capacity = Q/Qe	0.02	0.05	0.18	0.10

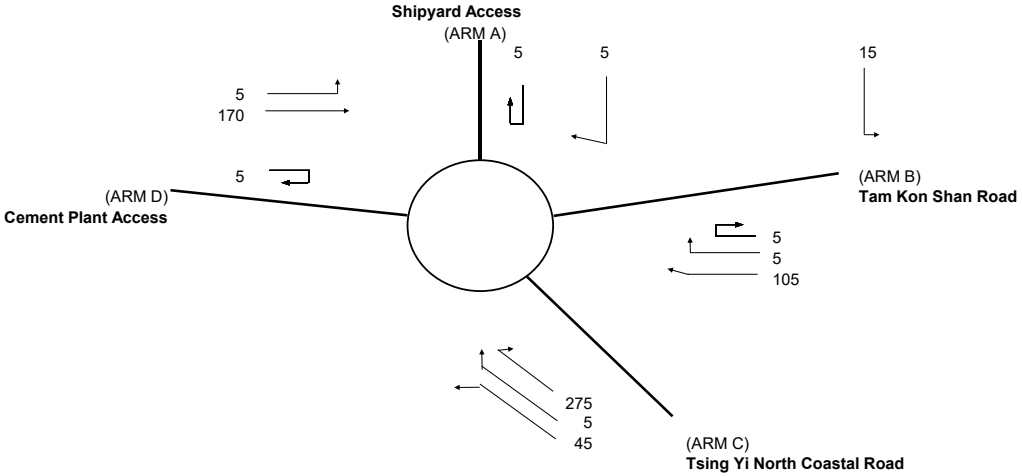
TOTAL ENTRY FLOWS = 470 PCU

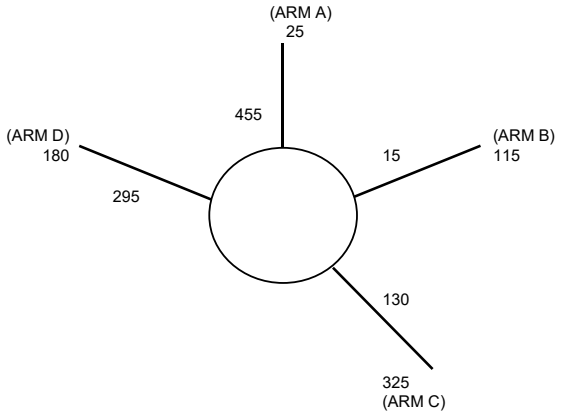
CRITICAL DFC = 0.18

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario A PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





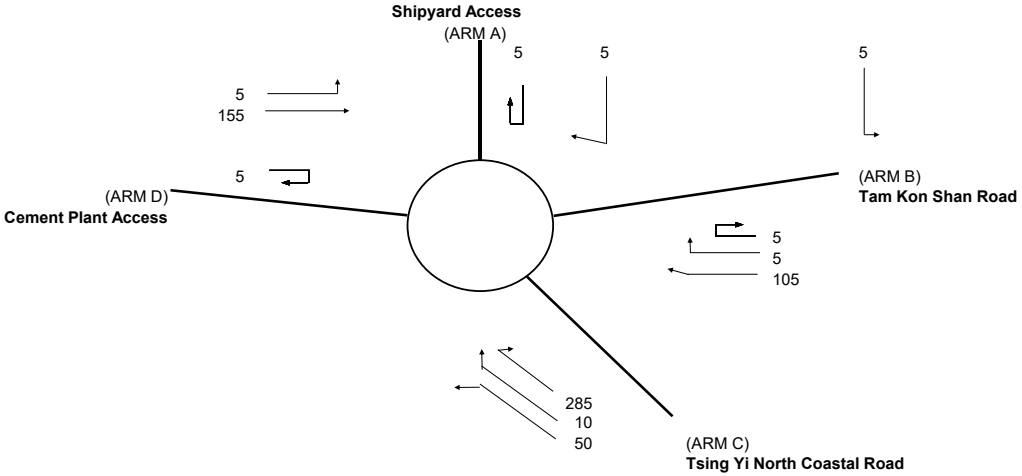
ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	25	115	325	180
Qc= Circulating flow across entry (pcu/h)	455	15	130	295
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1188	1781	1196	1277
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.27	0.14

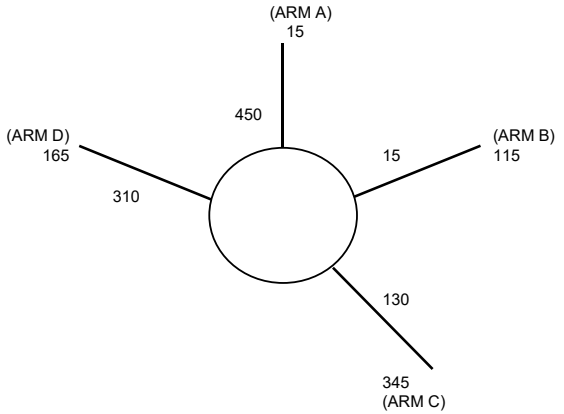
TOTAL ENTRY FLOWS = 645 PCU

CRITICAL DFC = 0.27

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario B AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





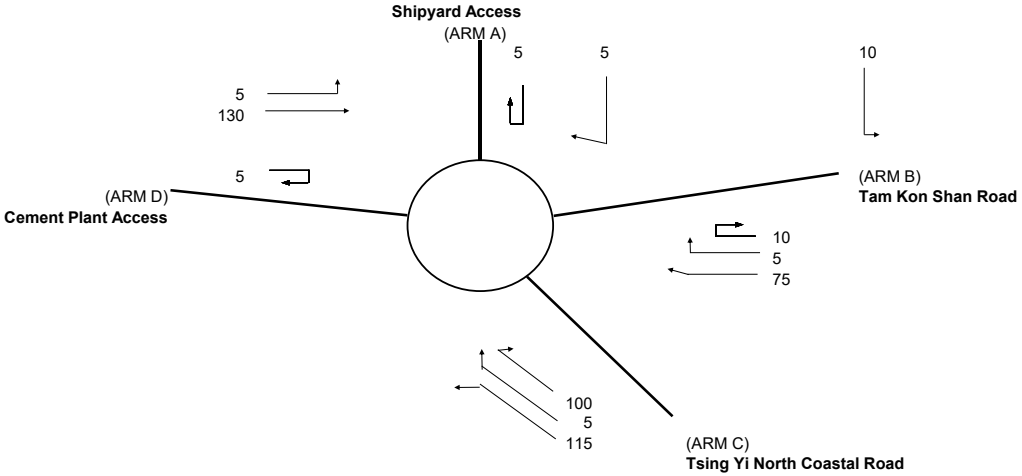
ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	15	115	345	165
Qc= Circulating flow across entry (pcu/h)	450	15	130	310
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1191	1781	1196	1268
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.29	0.13

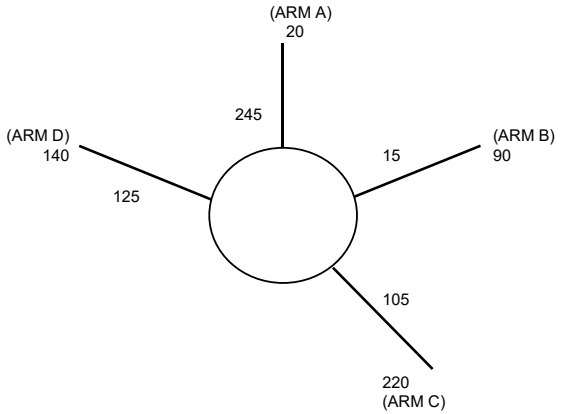
TOTAL ENTRY FLOWS = 640 PCU

CRITICAL DFC = 0.29

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario B NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	20	90	220	140
Qc= Circulating flow across entry (pcu/h)	245	15	105	125
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1313	1781	1211	1381
DFC = Design flow/Capacity = Q/Qe	0.02	0.05	0.18	0.10

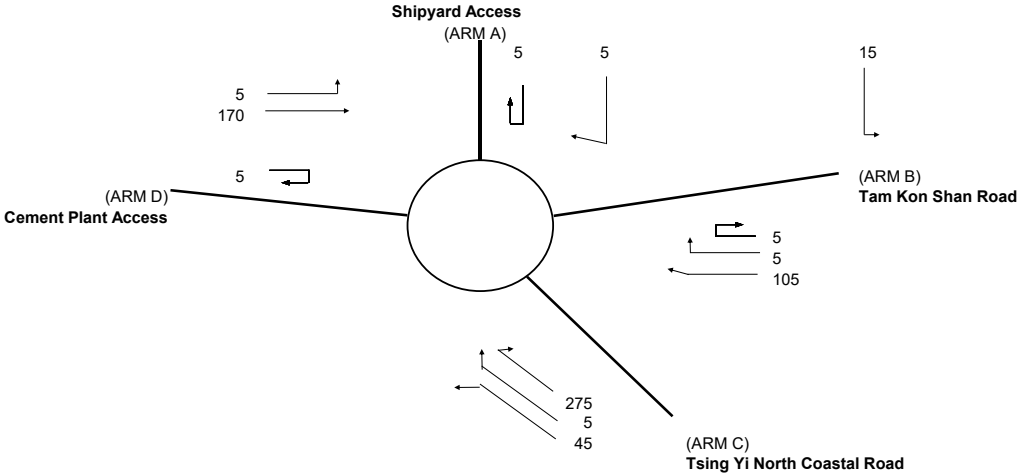
TOTAL ENTRY FLOWS = 470 PCU

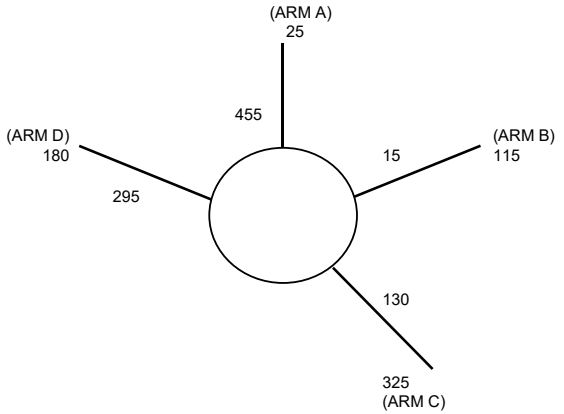
CRITICAL DFC = 0.18

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario B PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Oct 2026





ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	4.20	4.10	4.00	4.00
E = Entry width (m)	6.20	7.20	4.00	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	15.00
Q = Entry flow (pcu/h)	25	115	325	180
Qc= Circulating flow across entry (pcu/h)	455	15	130	295
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.60
Qe= K(F-Fc*Qc)	1188	1781	1196	1277
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.27	0.14

TOTAL ENTRY FLOWS = 645 PCU

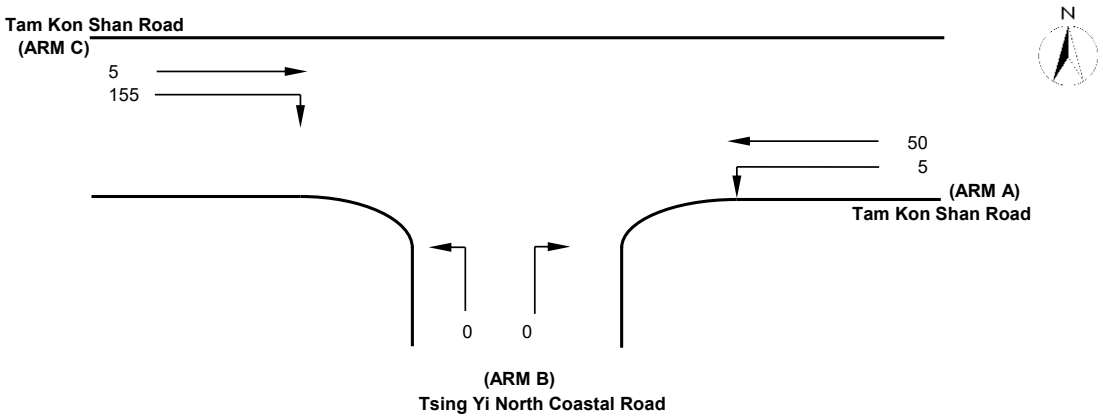
CRITICAL DFC = 0.27

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2025 Survey Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	50	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	155	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	299
Q b-c	=	429
Q c-b	=	791
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

COMPARISION OF DESIGN FLOW TO CAPACITY :

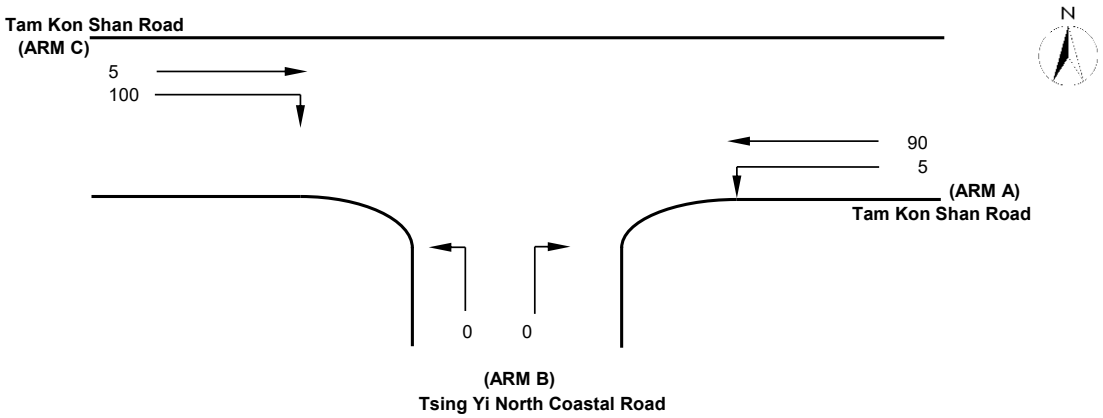
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2025 Survey Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	10.00 (metres)	W c-b	=	3.30 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	250 (metres)	W b-c	=	0.00 (metres)
q a-b	=	5 (pcu/hour)	q c-a	=	5 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	90 (pcu/hour)	q c-b	=	100 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	0 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	304
Q b-c	=	424
Q c-b	=	780
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.13

COMPARISION OF DESIGN FLOW TO CAPACITY :

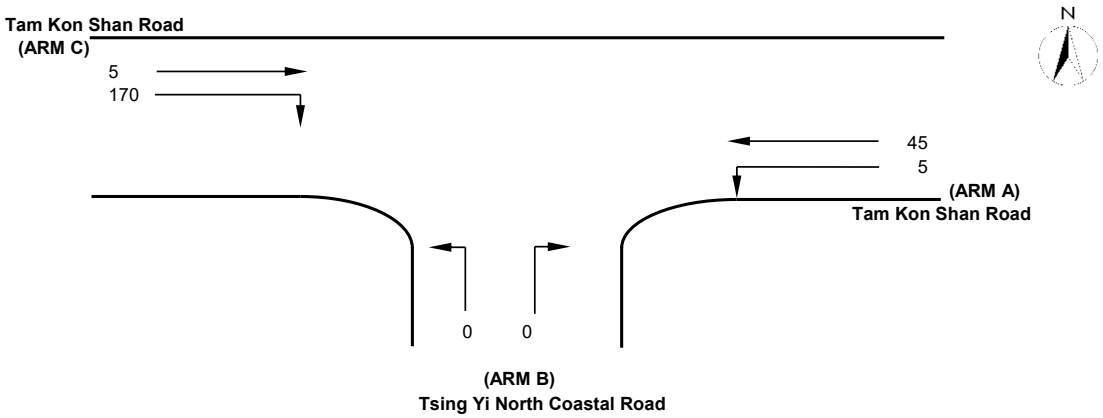
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.13
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2025 Survey Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	45	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	170	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	297
Q b-c	=	430
Q c-b	=	792
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.21

COMPARISION OF DESIGN FLOW TO CAPACITY :

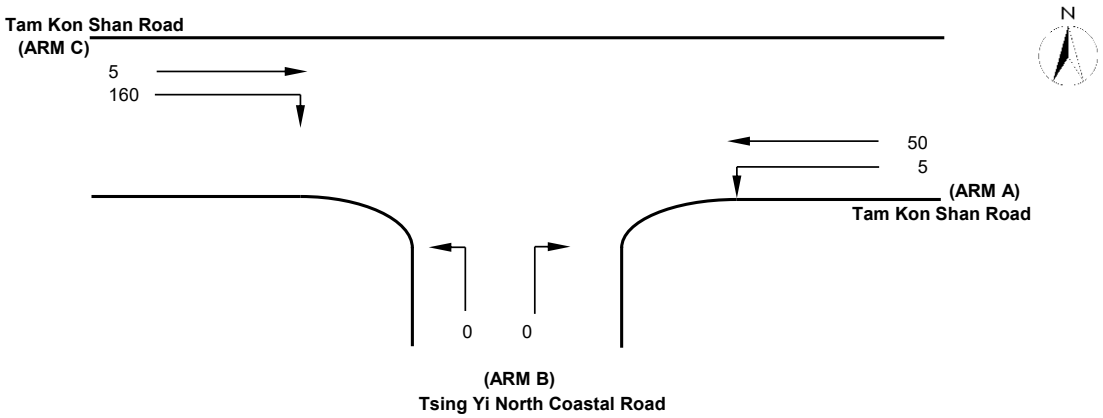
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.21
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2028 Reference Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)				*MAJOR ROAD (ARM C)*				*MINOR ROAD (ARM B)*			
W	=	10.00	(metres)	W c-b	=	3.30	(metres)	W b-a	=	0.00	(metres)
W cr	=	0.00	(metres)	Vr c-b	=	250	(metres)	W b-c	=	0.00	(metres)
q a-b	=	5	(pcu/hour)	q c-a	=	5	(pcu/hour)	Vl b-a	=	0	(metres)
q a-c	=	50	(pcu/hour)	q c-b	=	160	(pcu/hour)	Vr b-a	=	0	(metres)
								Vr b-c	=	0	(metres)
								q b-a	=	0	(pcu/hour)
								q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	298
Q b-c	=	429
Q c-b	=	791
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

COMPARISION OF DESIGN FLOW TO CAPACITY :

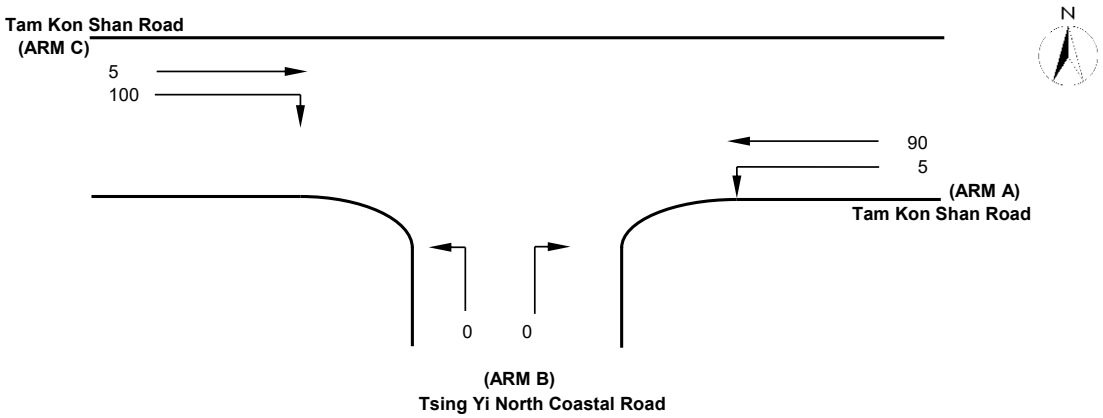
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2028 Reference Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)				*MAJOR ROAD (ARM C)*				*MINOR ROAD (ARM B)*			
W	=	10.00	(metres)	W c-b	=	3.30	(metres)	W b-a	=	0.00	(metres)
W cr	=	0.00	(metres)	Vr c-b	=	250	(metres)	W b-c	=	0.00	(metres)
q a-b	=	5	(pcu/hour)	q c-a	=	5	(pcu/hour)	Vl b-a	=	0	(metres)
q a-c	=	90	(pcu/hour)	q c-b	=	100	(pcu/hour)	Vr b-a	=	0	(metres)
								Vr b-c	=	0	(metres)
								q b-a	=	0	(pcu/hour)
								q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	304
Q b-c	=	424
Q c-b	=	780
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.13

COMPARISION OF DESIGN FLOW TO CAPACITY :

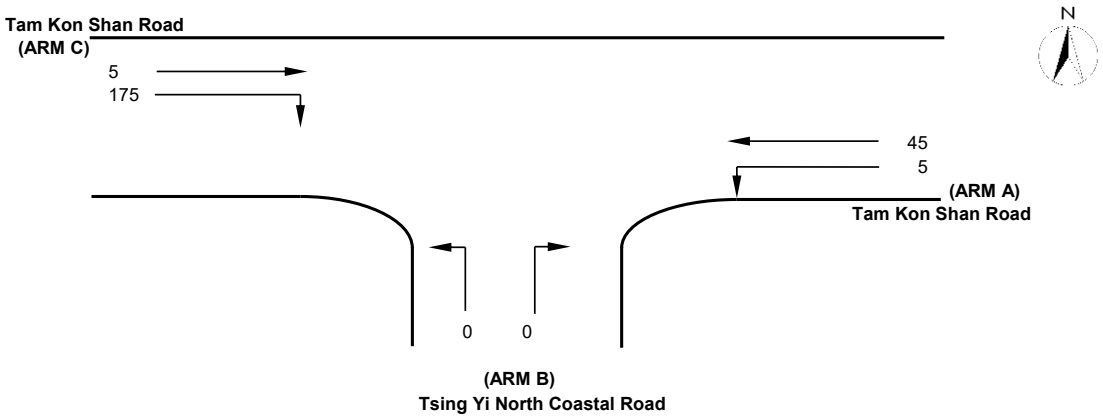
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.13
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2028 Reference Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	45	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	175	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	296
Q b-c	=	430
Q c-b	=	792
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.22

COMPARISION OF DESIGN FLOW TO CAPACITY :

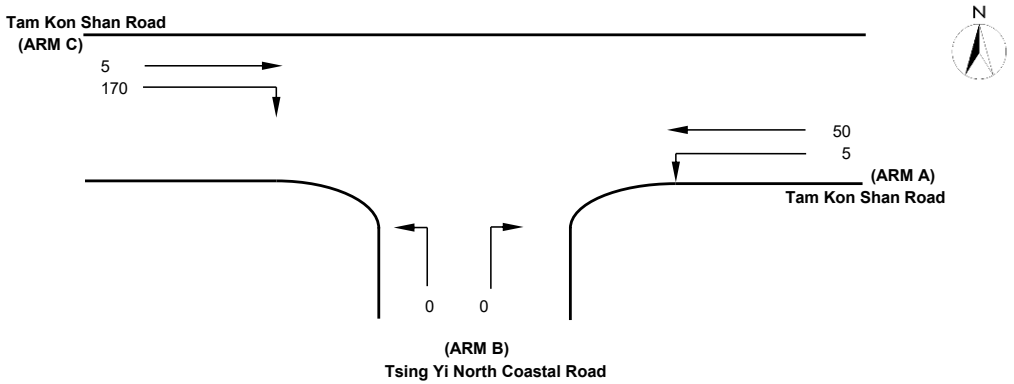
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.22
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2028 Design Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Oct 2026

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	50	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	170	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	296
Q b-c	=	429
Q c-b	=	791
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.22

COMPARISION OF DESIGN FLOW TO CAPACITY :

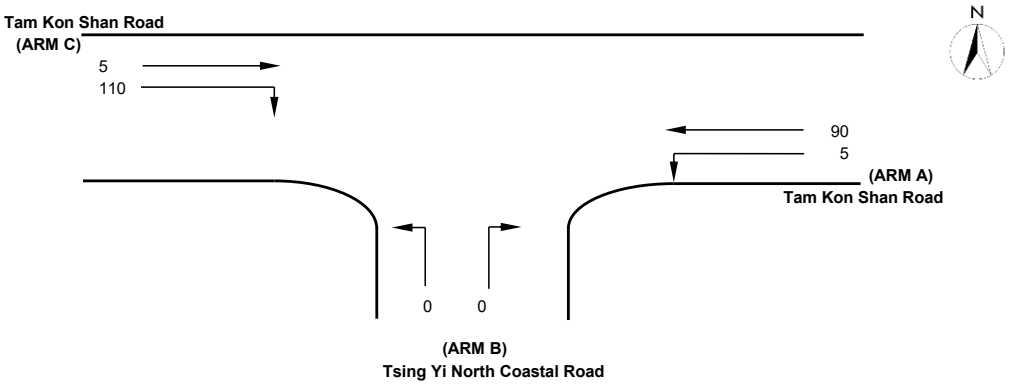
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.22
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2028 Design Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Oct 2026

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	90	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	110	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	302
Q b-c	=	424
Q c-b	=	780
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.14

COMPARISION OF DESIGN FLOW TO CAPACITY :

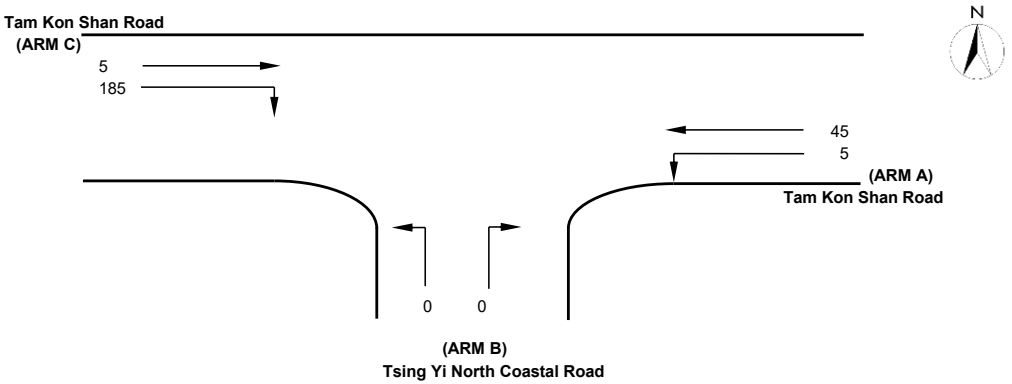
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.14
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2028 Design Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Oct 2026

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	45	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	185	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	294
Q b-c	=	430
Q c-b	=	792
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.23

COMPARISION OF DESIGN FLOW TO CAPACITY :

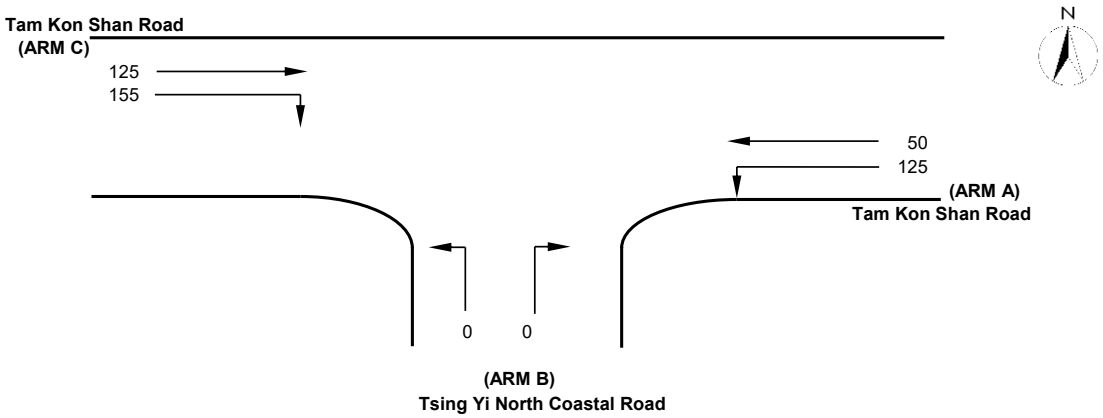
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.23
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Reference Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	10.00 (metres)	W c-b	=	3.30 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	250 (metres)	W b-c	=	0.00 (metres)
q a-b	=	125 (pcu/hour)	q c-a	=	125 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	50 (pcu/hour)	q c-b	=	155 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	0 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	284
Q b-c	=	423
Q c-b	=	760
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

COMPARISION OF DESIGN FLOW TO CAPACITY :

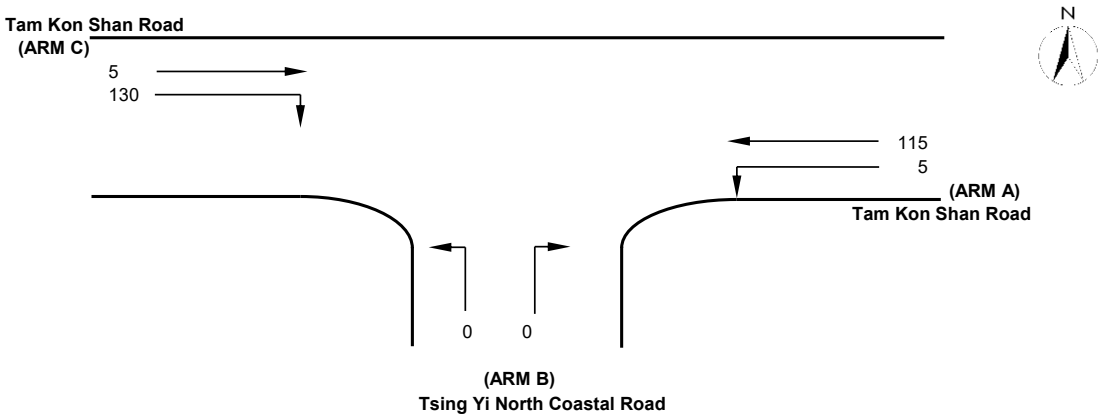
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Reference Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	115	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	130	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	295
Q b-c	=	420
Q c-b	=	774
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.17

COMPARISION OF DESIGN FLOW TO CAPACITY :

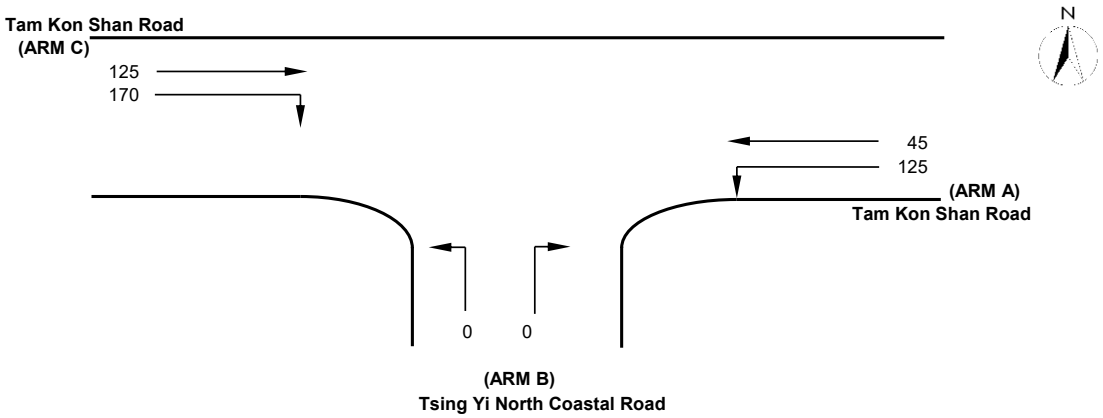
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.17
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Reference Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	10.00 (metres)	W c-b	=	3.30 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	250 (metres)	W b-c	=	0.00 (metres)
q a-b	=	125 (pcu/hour)	q c-a	=	125 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	45 (pcu/hour)	q c-b	=	170 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	0 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	281
Q b-c	=	423
Q c-b	=	761
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.22

COMPARISION OF DESIGN FLOW TO CAPACITY :

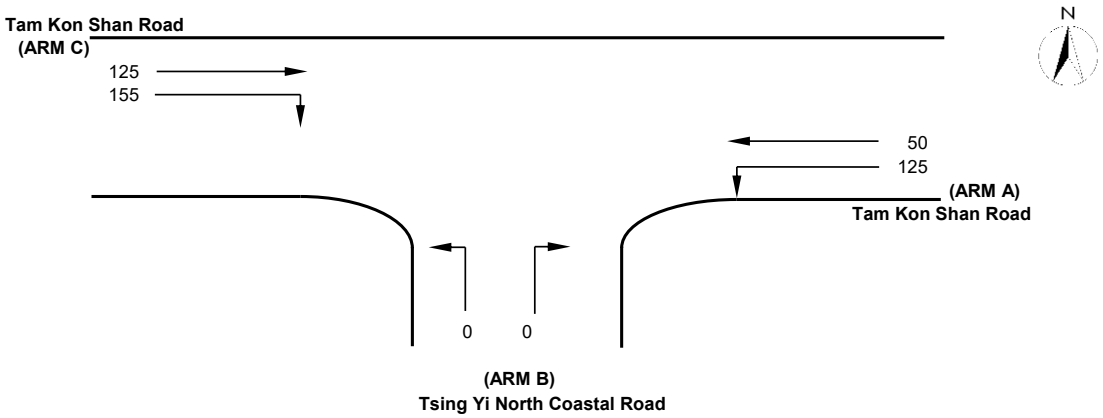
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.22
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Scenario A AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	125	(pcu/hour)
q a-c	=	50	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	125	(pcu/hour)
q c-b	=	155	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	284
Q b-c	=	423
Q c-b	=	760
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

COMPARISION OF DESIGN FLOW TO CAPACITY :

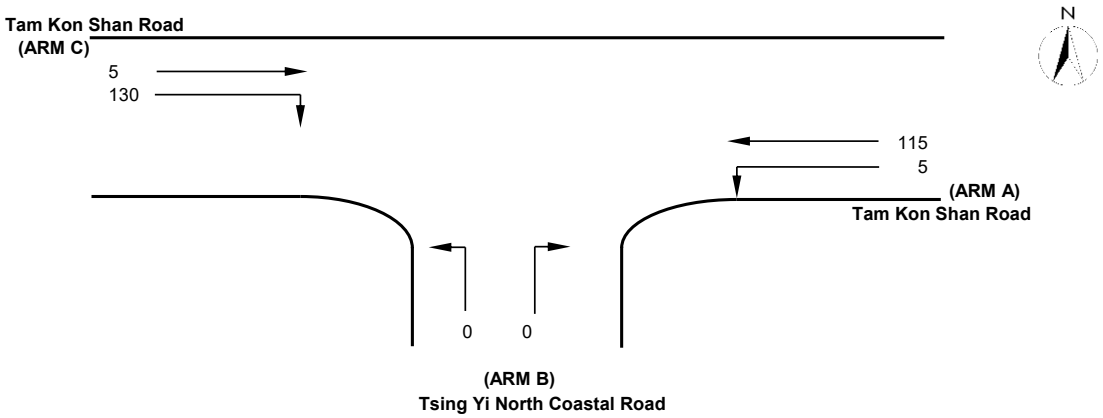
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Scenario A NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	115	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	130	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	295
Q b-c	=	420
Q c-b	=	774
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.17

COMPARISION OF DESIGN FLOW TO CAPACITY :

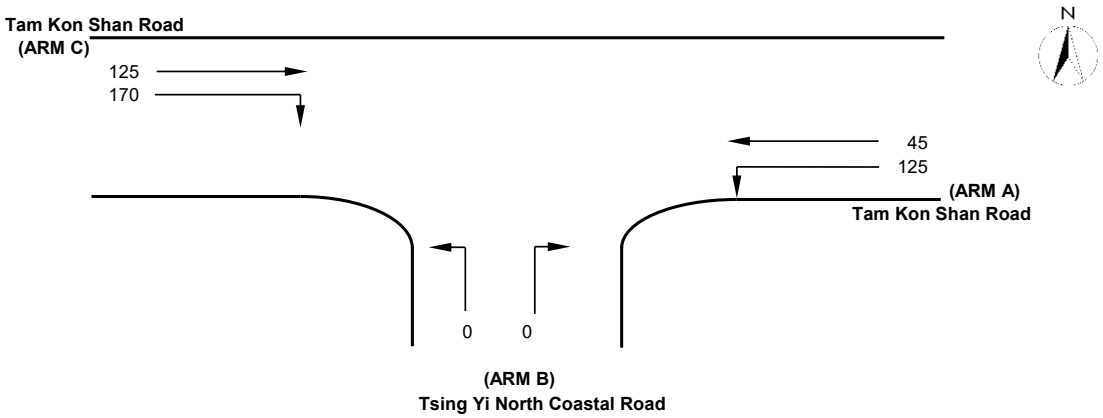
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.17
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Scenario A PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	10.00 (metres)	W c-b	=	3.30 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	250 (metres)	W b-c	=	0.00 (metres)
q a-b	=	125 (pcu/hour)	q c-a	=	125 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	45 (pcu/hour)	q c-b	=	170 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	0 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	281
Q b-c	=	423
Q c-b	=	761
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.22

COMPARISION OF DESIGN FLOW TO CAPACITY :

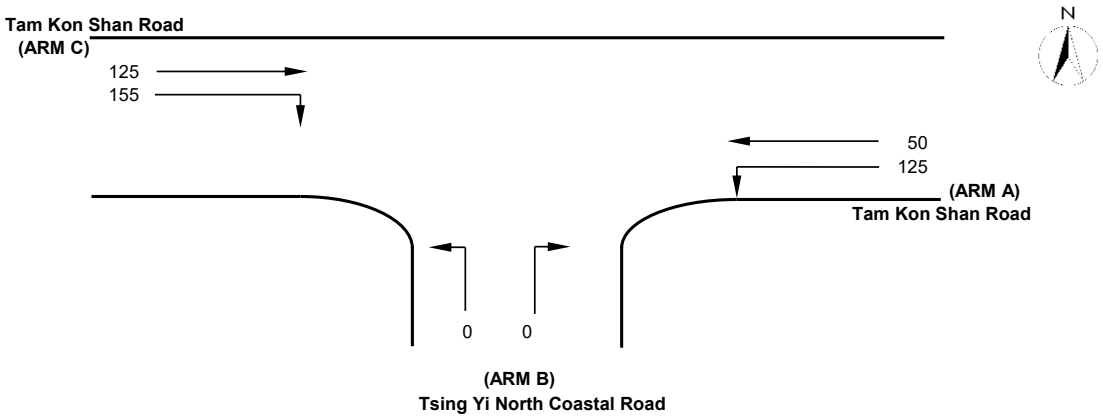
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.22
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Scenario B AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	125	(pcu/hour)
q a-c	=	50	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	125	(pcu/hour)
q c-b	=	155	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	284
Q b-c	=	423
Q c-b	=	760
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

COMPARISION OF DESIGN FLOW TO CAPACITY :

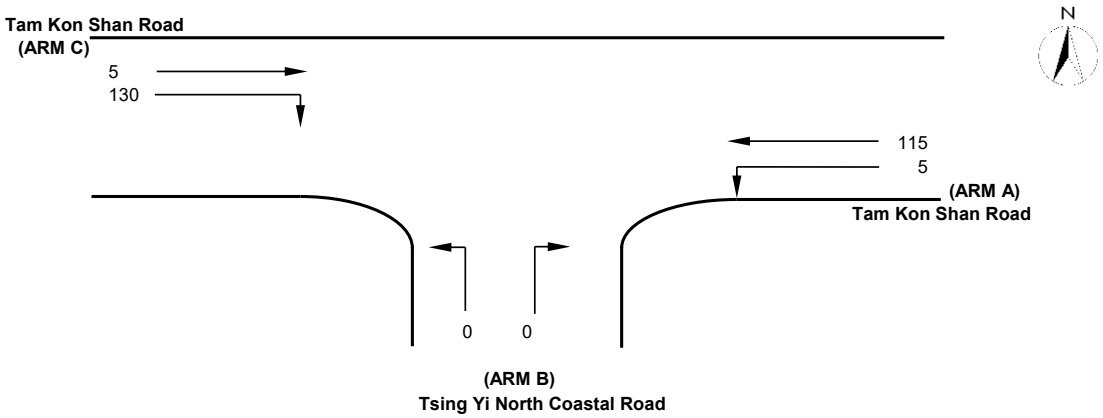
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Scenario B NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	115	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	130	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	295
Q b-c	=	420
Q c-b	=	774
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.17

COMPARISION OF DESIGN FLOW TO CAPACITY :

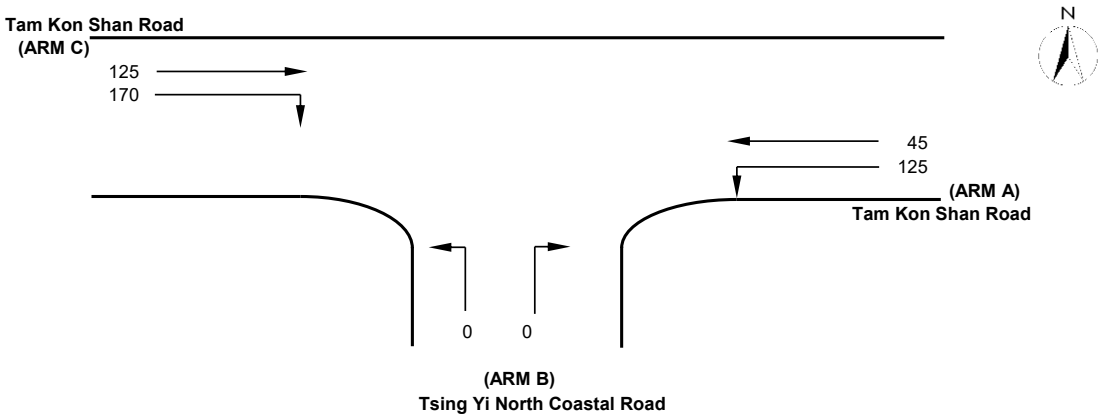
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.17
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Scenario B PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	125	(pcu/hour)
q a-c	=	45	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	125	(pcu/hour)
q c-b	=	170	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	281
Q b-c	=	423
Q c-b	=	761
Q b-ac	=	#DIV/0!

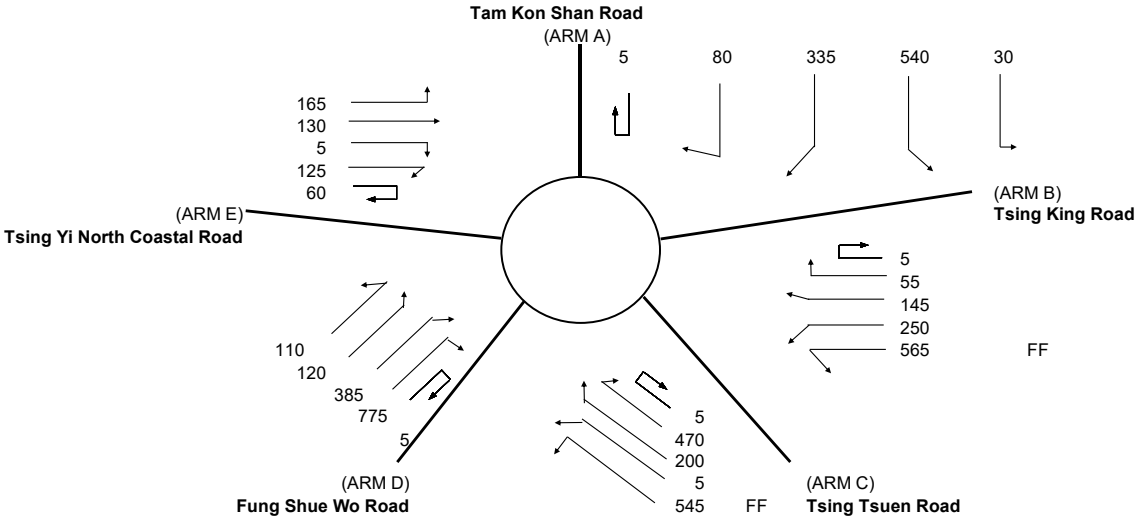
CRITICAL DFC = 0.22

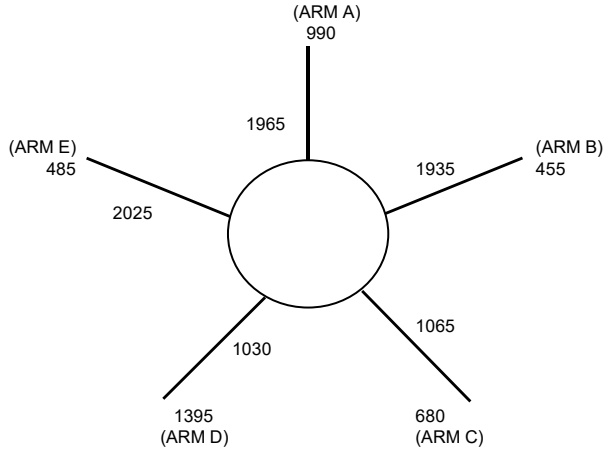
COMPARISION OF DESIGN FLOW TO CAPACITY :

DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.22
DFC b-ac	=	#DIV/0!

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2025 Survey Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	990	455	680	1395	485
Qc= Circulating flow across entry (pcu/h)	1965	1935	1065	1030	2025
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1897	904	1898	2377	824
DFC = Design flow/Capacity = Q/Qe	0.52	0.50	0.36	0.59	0.59

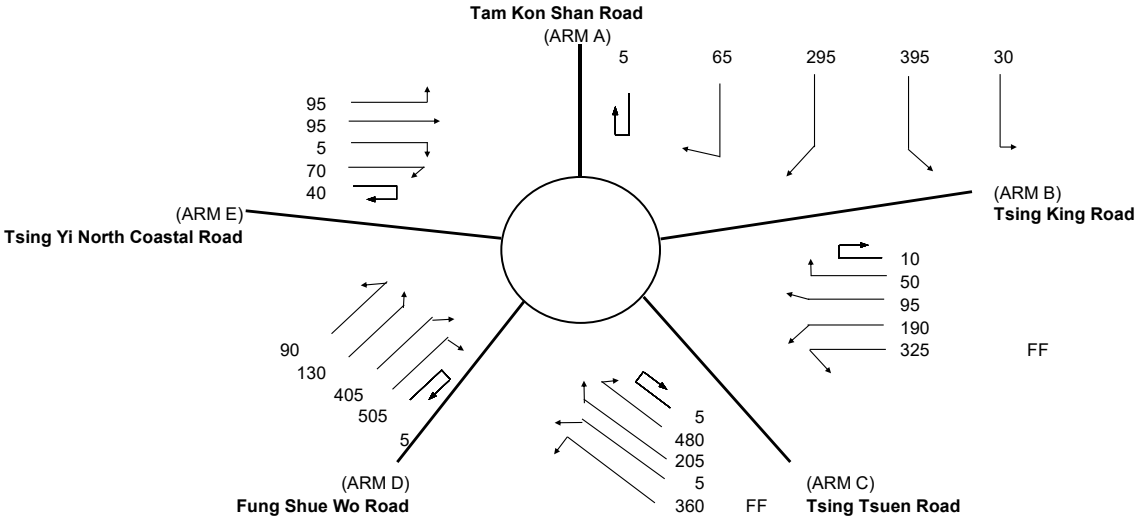
TOTAL ENTRY FLOWS = 4005 PCU

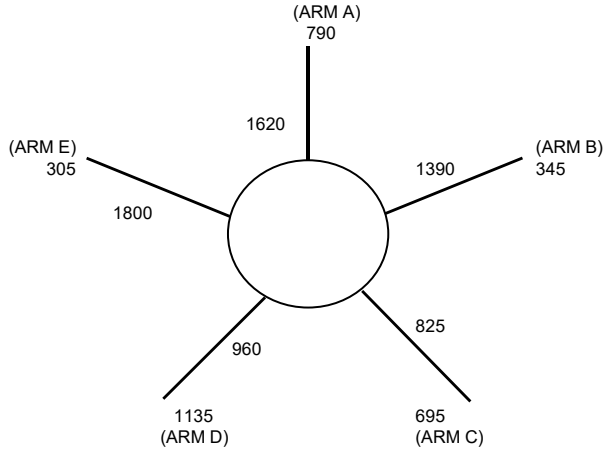
CRITICAL DFC = 0.59

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2025 Survey Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





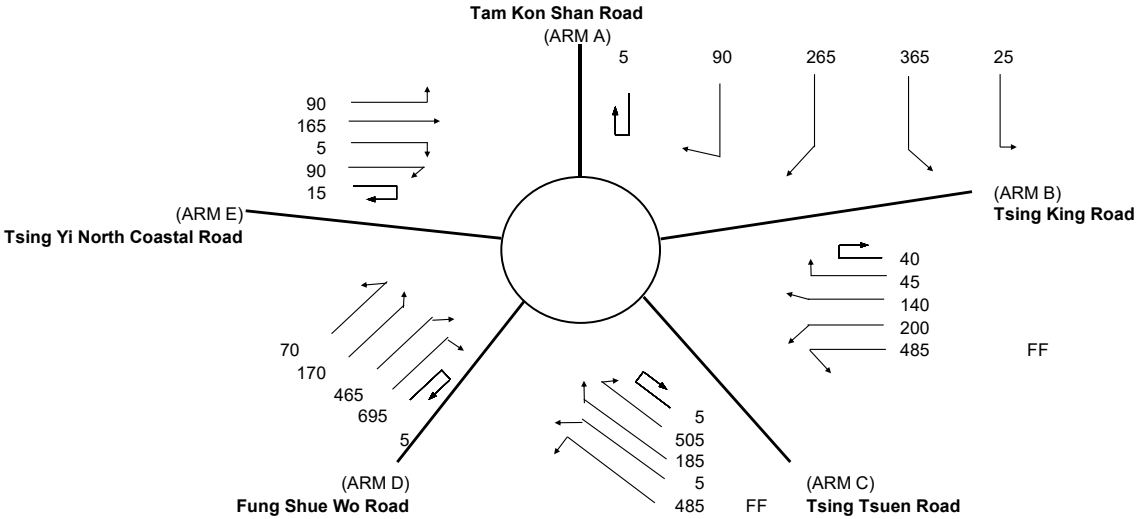
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	790	345	695	1135	305
Qc= Circulating flow across entry (pcu/h)	1620	1390	825	960	1800
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	2120	1156	2038	2421	928
DFC = Design flow/Capacity = Q/Qe	0.37	0.30	0.34	0.47	0.33

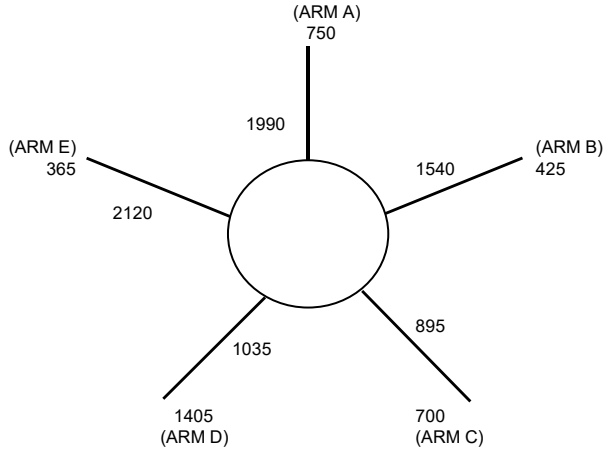
TOTAL ENTRY FLOWS = 3270 PCU

CRITICAL DFC = 0.47

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2025 Survey Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





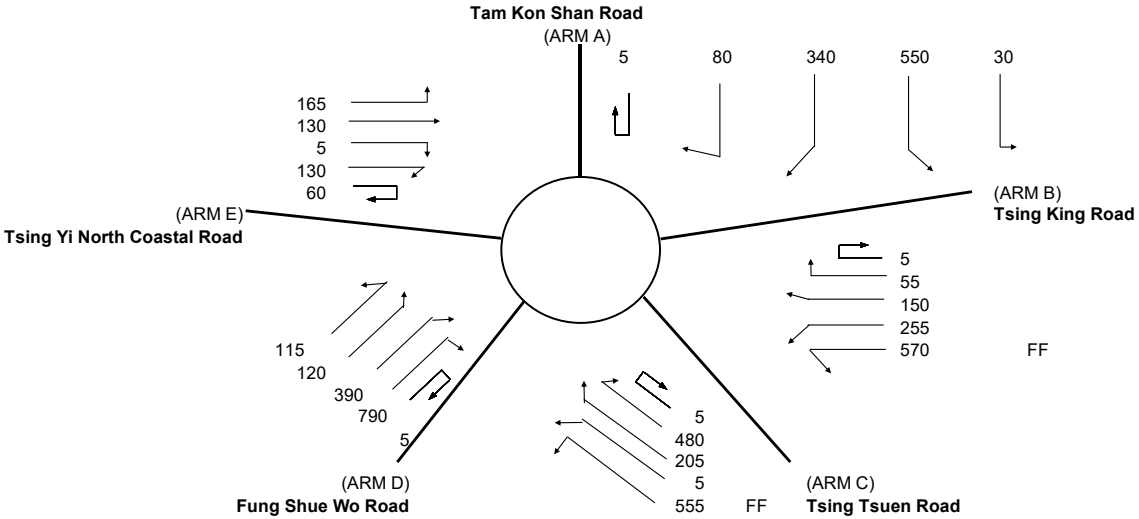
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	750	425	700	1405	365
Qc= Circulating flow across entry (pcu/h)	1990	1540	895	1035	2120
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1881	1087	1997	2374	780
DFC = Design flow/Capacity = Q/Qe	0.40	0.39	0.35	0.59	0.47

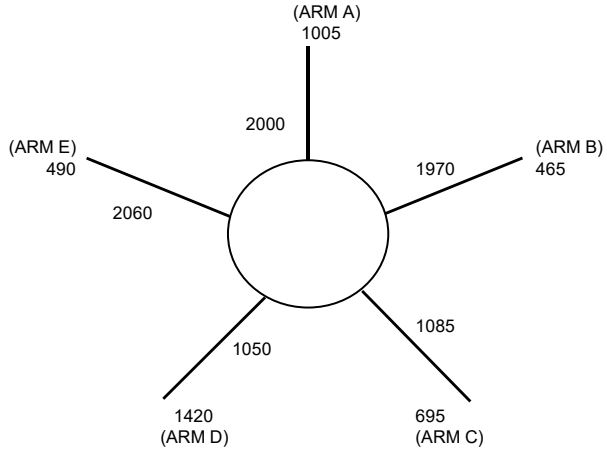
TOTAL ENTRY FLOWS = 3645 PCU

CRITICAL DFC = 0.59

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	1005	465	695	1420	490
Qc= Circulating flow across entry (pcu/h)	2000	1970	1085	1050	2060
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1875	888	1887	2365	808
DFC = Design flow/Capacity = Q/Qe	0.54	0.52	0.37	0.60	0.61

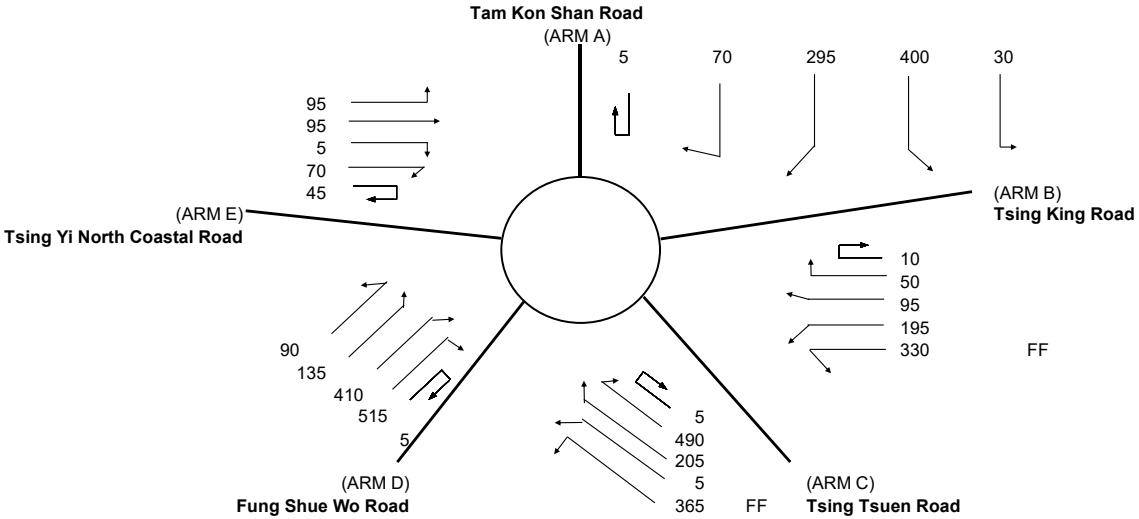
TOTAL ENTRY FLOWS = 4075 PCU

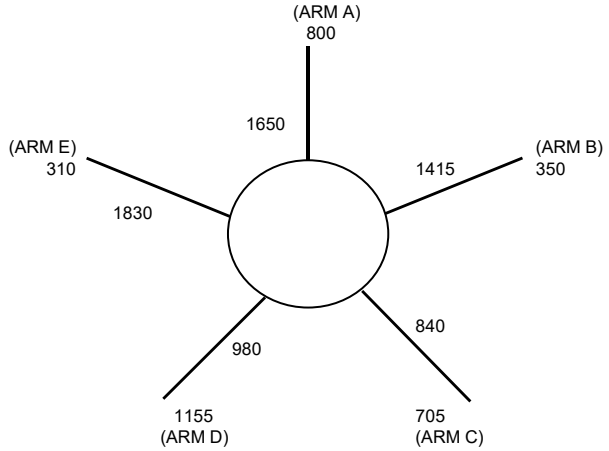
CRITICAL DFC = 0.61

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	800	350	705	1155	310
Qc= Circulating flow across entry (pcu/h)	1650	1415	840	980	1830
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	2101	1144	2029	2408	914
DFC = Design flow/Capacity = Q/Qe	0.38	0.31	0.35	0.48	0.34

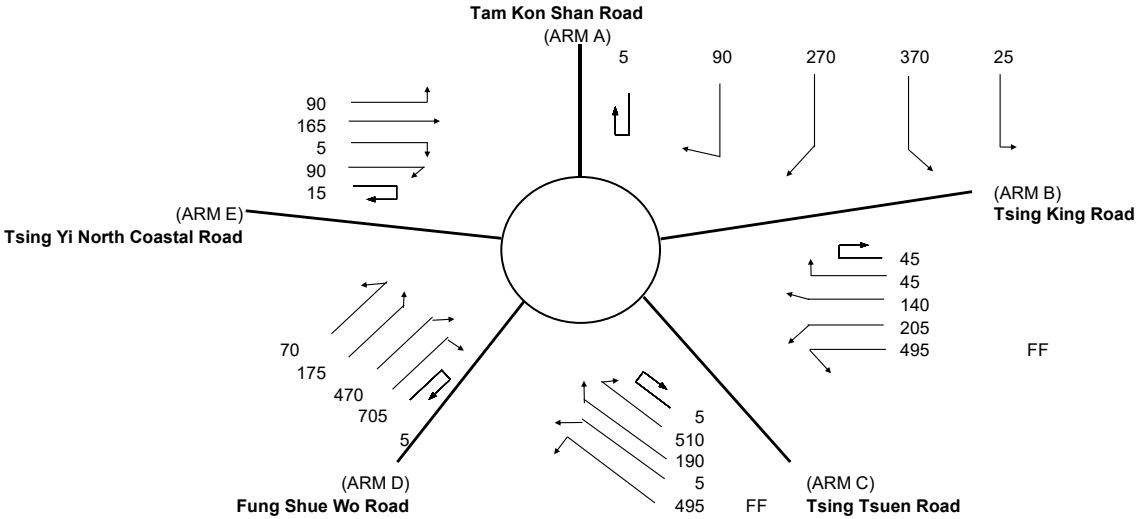
TOTAL ENTRY FLOWS = 3320 PCU

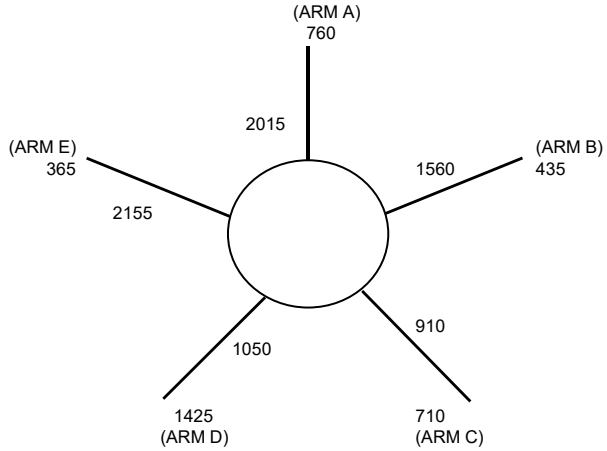
CRITICAL DFC = 0.48

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





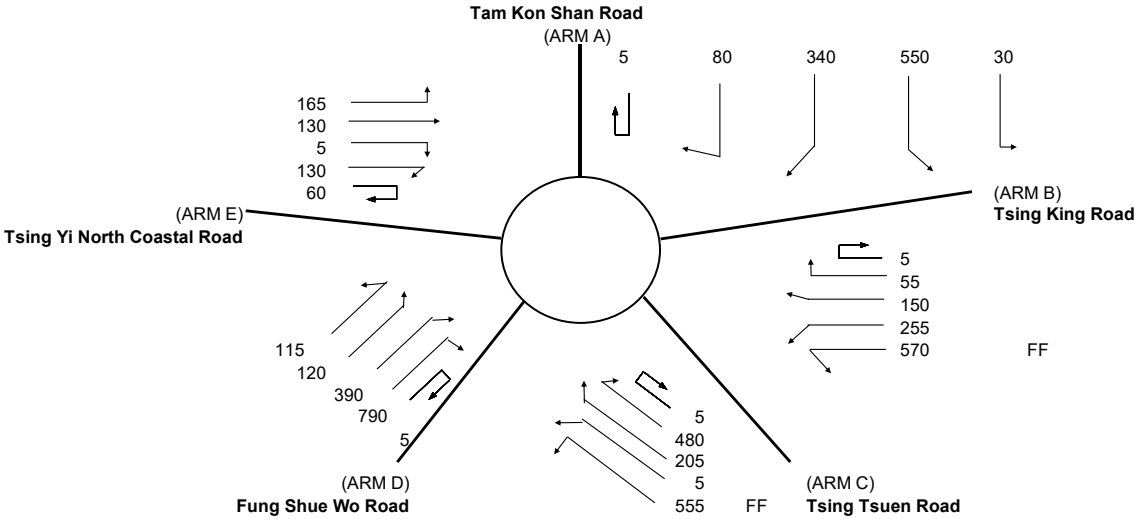
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	760	435	710	1425	365
Qc= Circulating flow across entry (pcu/h)	2015	1560	910	1050	2155
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1865	1077	1988	2365	764
DFC = Design flow/Capacity = Q/Qe	0.41	0.40	0.36	0.60	0.48

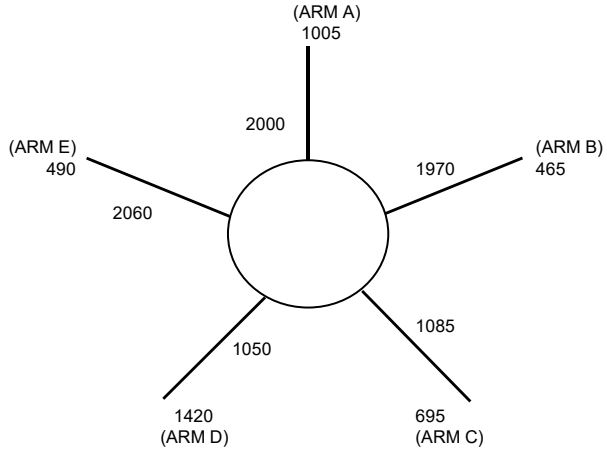
TOTAL ENTRY FLOWS = 3695 PCU

CRITICAL DFC = 0.60

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Design Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





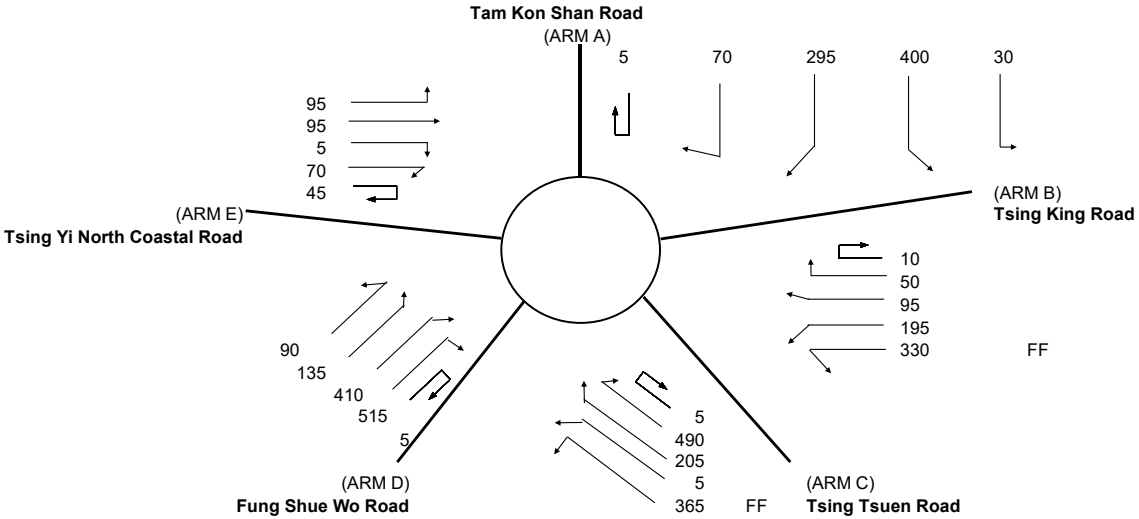
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	1005	465	695	1420	490
Qc= Circulating flow across entry (pcu/h)	2000	1970	1085	1050	2060
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1875	888	1887	2365	808
DFC = Design flow/Capacity = Q/Qe	0.54	0.52	0.37	0.60	0.61

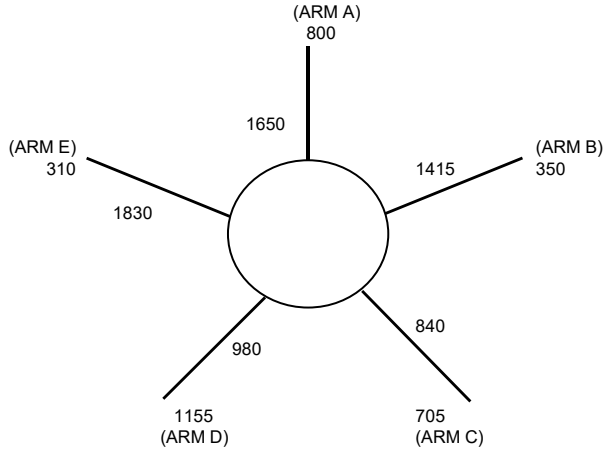
TOTAL ENTRY FLOWS = 4075 PCU

CRITICAL DFC = 0.61

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Design Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	800	350	705	1155	310
Qc= Circulating flow across entry (pcu/h)	1650	1415	840	980	1830
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	2101	1144	2029	2408	914
DFC = Design flow/Capacity = Q/Qe	0.38	0.31	0.35	0.48	0.34

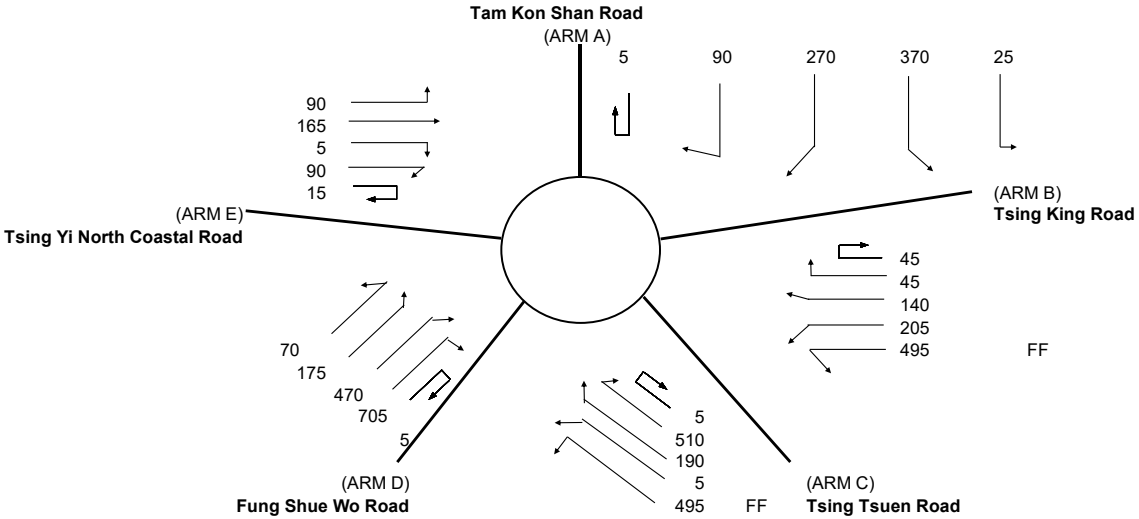
TOTAL ENTRY FLOWS = 3320 PCU

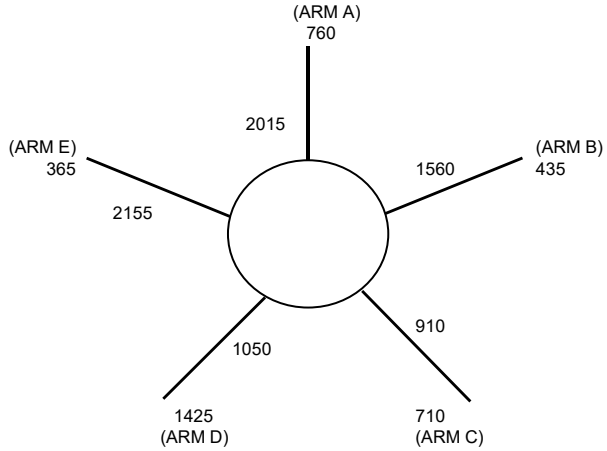
CRITICAL DFC = 0.48

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Design Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





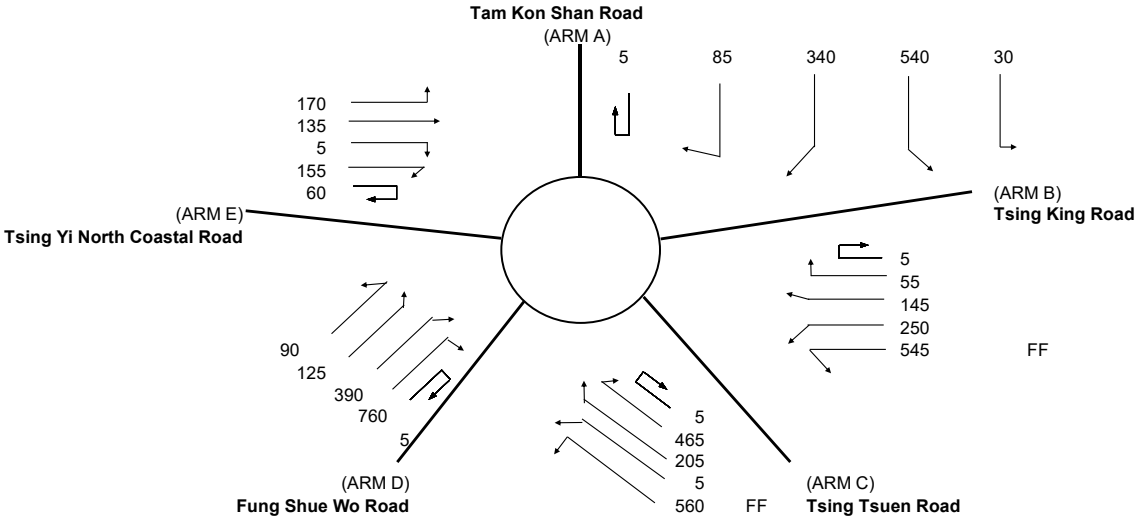
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	760	435	710	1425	365
Qc= Circulating flow across entry (pcu/h)	2015	1560	910	1050	2155
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1865	1077	1988	2365	764
DFC = Design flow/Capacity = Q/Qe	0.41	0.40	0.36	0.60	0.48

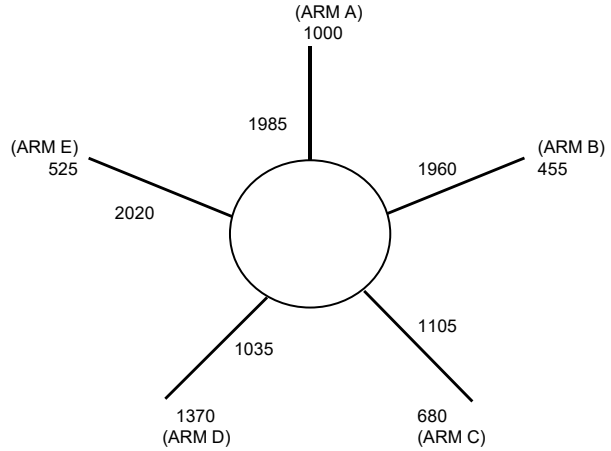
TOTAL ENTRY FLOWS = 3695 PCU

CRITICAL DFC = 0.60

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	1000	455	680	1370	525
Qc= Circulating flow across entry (pcu/h)	1985	1960	1105	1035	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1884	892	1875	2374	826
DFC = Design flow/Capacity = Q/Qe	0.53	0.51	0.36	0.58	0.64

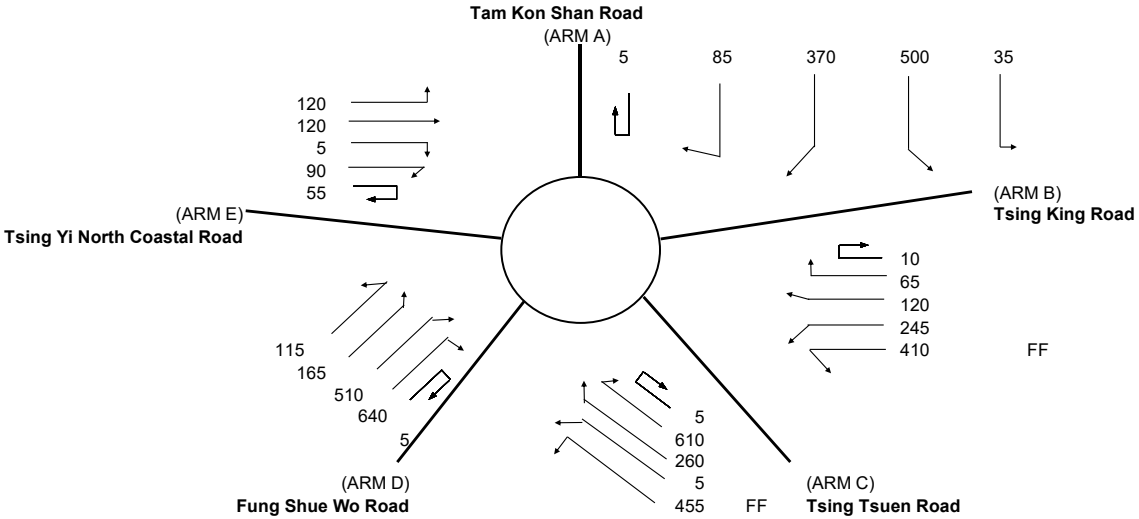
TOTAL ENTRY FLOWS = 4030 PCU

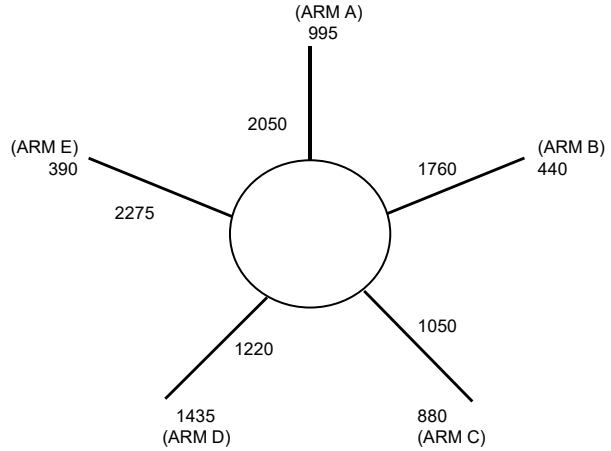
CRITICAL DFC = 0.64

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	995	440	880	1435	390
Qc= Circulating flow across entry (pcu/h)	2050	1760	1050	1220	2275
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1842	985	1907	2258	708
DFC = Design flow/Capacity = Q/Qe	0.54	0.45	0.46	0.64	0.55

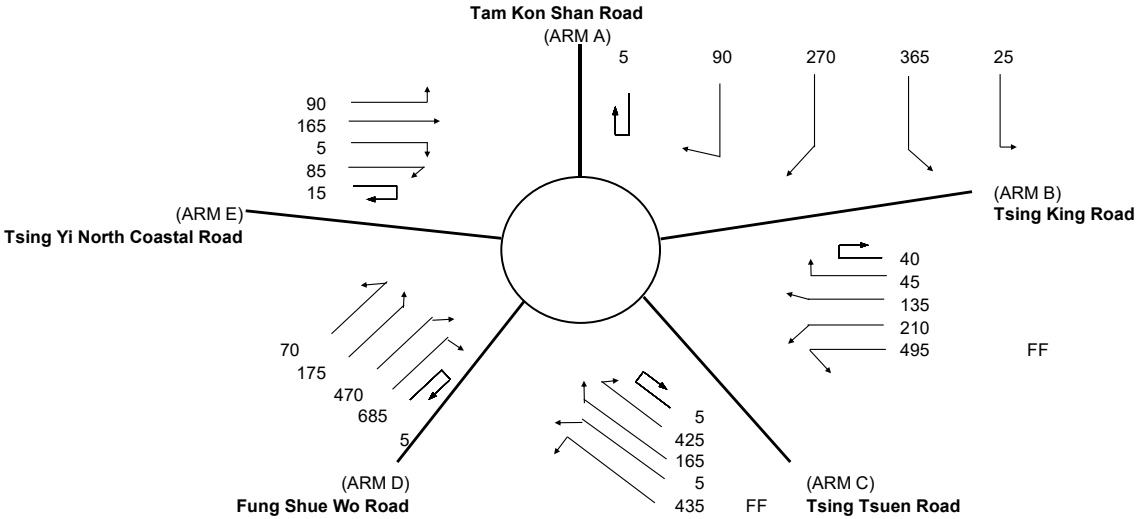
TOTAL ENTRY FLOWS = 4140 PCU

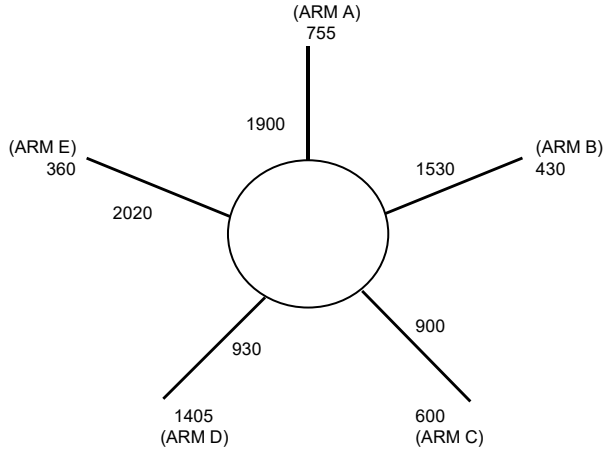
CRITICAL DFC = 0.64

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





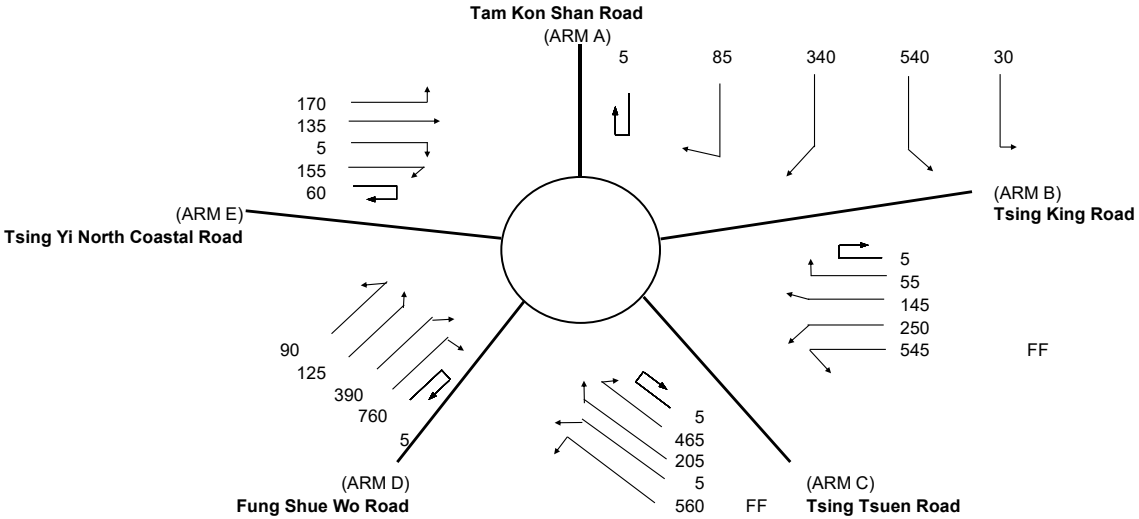
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	755	430	600	1405	360
Qc= Circulating flow across entry (pcu/h)	1900	1530	900	930	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1939	1091	1994	2440	826
DFC = Design flow/Capacity = Q/Qe	0.39	0.39	0.30	0.58	0.44

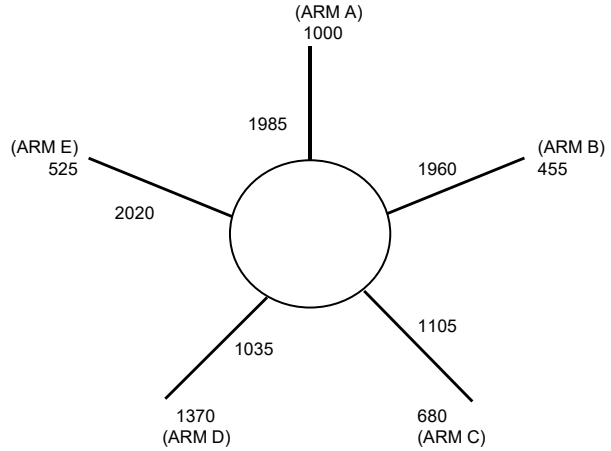
TOTAL ENTRY FLOWS = 3550 PCU

CRITICAL DFC = 0.58

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario A AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	1000	455	680	1370	525
Qc= Circulating flow across entry (pcu/h)	1985	1960	1105	1035	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1884	892	1875	2374	826
DFC = Design flow/Capacity = Q/Qe	0.53	0.51	0.36	0.58	0.64

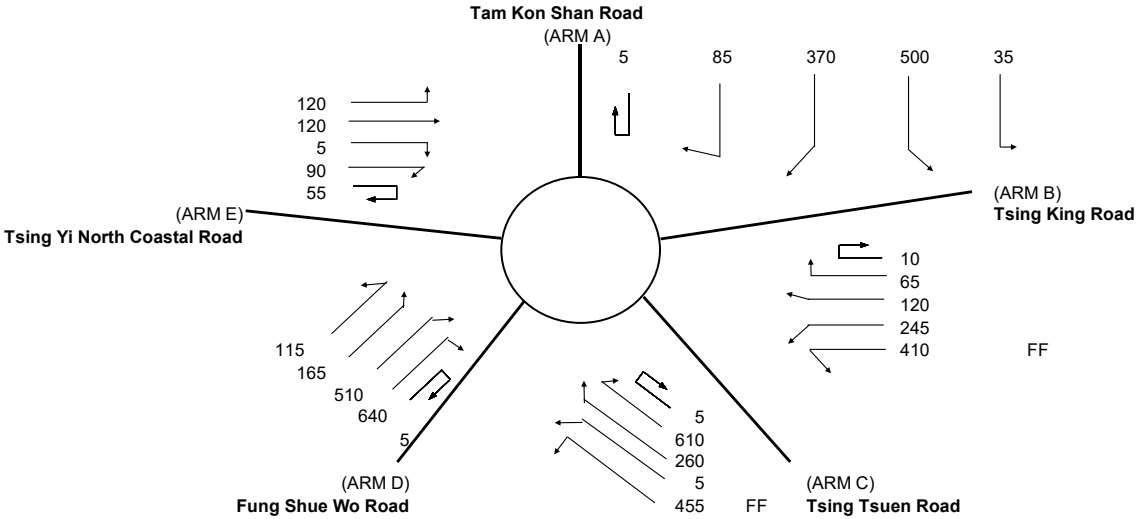
TOTAL ENTRY FLOWS = 4030 PCU

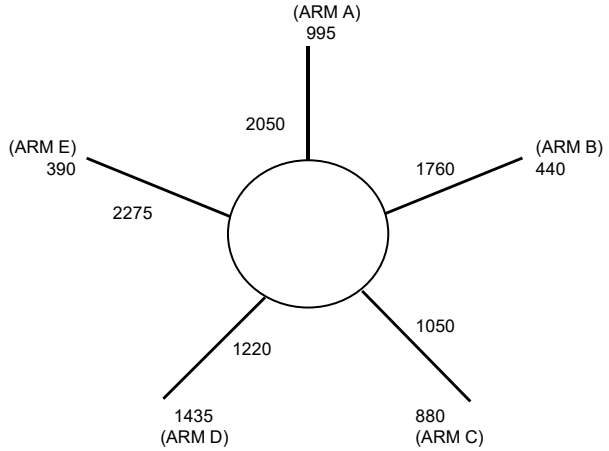
CRITICAL DFC = 0.64

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario A NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





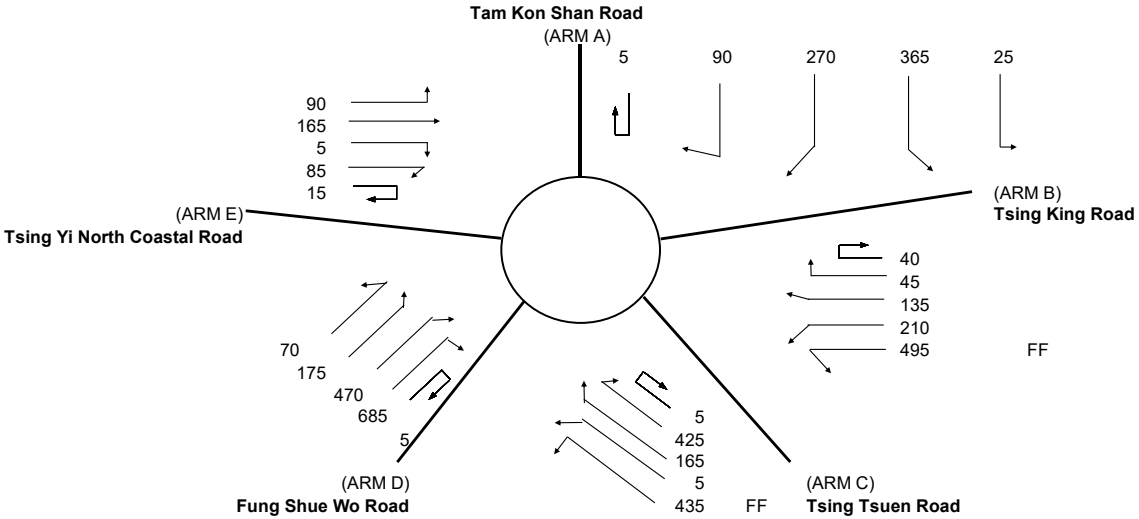
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	995	440	880	1435	390
Qc= Circulating flow across entry (pcu/h)	2050	1760	1050	1220	2275
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1842	985	1907	2258	708
DFC = Design flow/Capacity = Q/Qe	0.54	0.45	0.46	0.64	0.55

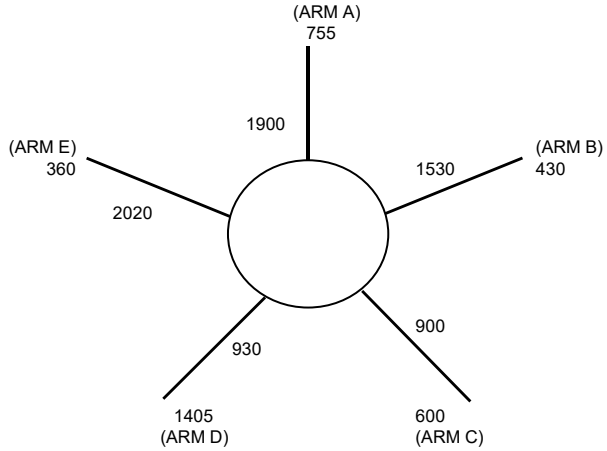
TOTAL ENTRY FLOWS = 4140 PCU

CRITICAL DFC = 0.64

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario A PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





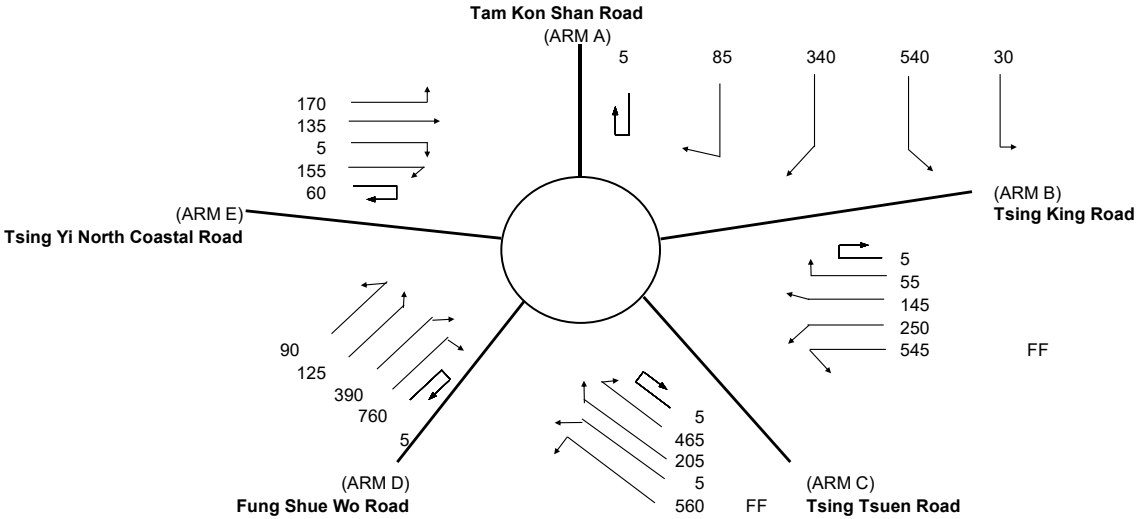
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	755	430	600	1405	360
Qc= Circulating flow across entry (pcu/h)	1900	1530	900	930	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1939	1091	1994	2440	826
DFC = Design flow/Capacity = Q/Qe	0.39	0.39	0.30	0.58	0.44

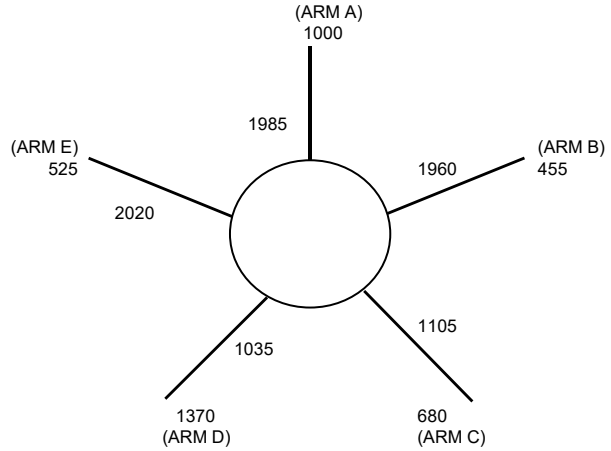
TOTAL ENTRY FLOWS = 3550 PCU

CRITICAL DFC = 0.58

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario B AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	1000	455	680	1370	525
Qc= Circulating flow across entry (pcu/h)	1985	1960	1105	1035	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1884	892	1875	2374	826
DFC = Design flow/Capacity = Q/Qe	0.53	0.51	0.36	0.58	0.64

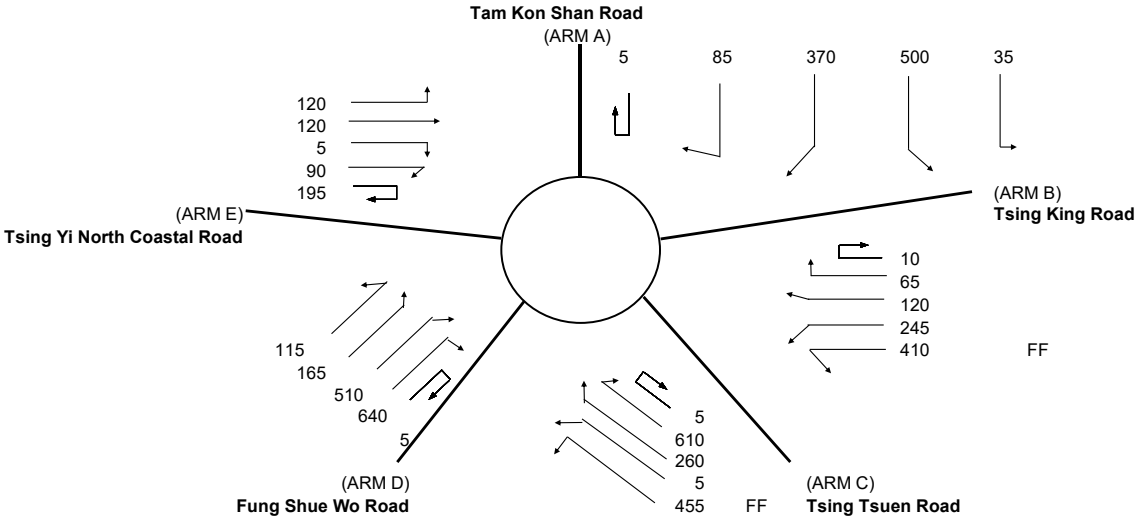
TOTAL ENTRY FLOWS = 4030 PCU

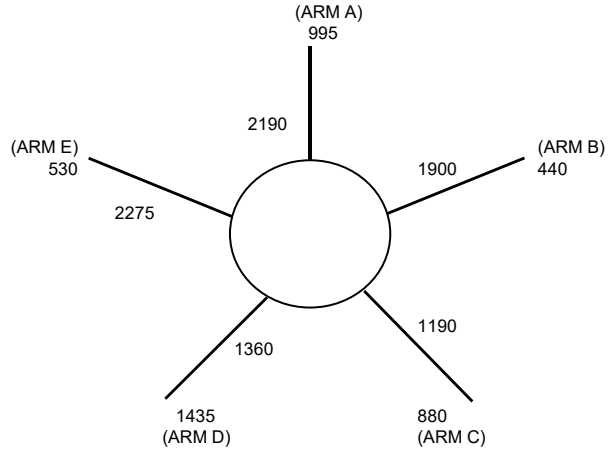
CRITICAL DFC = 0.64

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario B NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	995	440	880	1435	530
Qc= Circulating flow across entry (pcu/h)	2190	1900	1190	1360	2275
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1752	920	1826	2171	708
DFC = Design flow/Capacity = Q/Qe	0.57	0.48	0.48	0.66	0.75

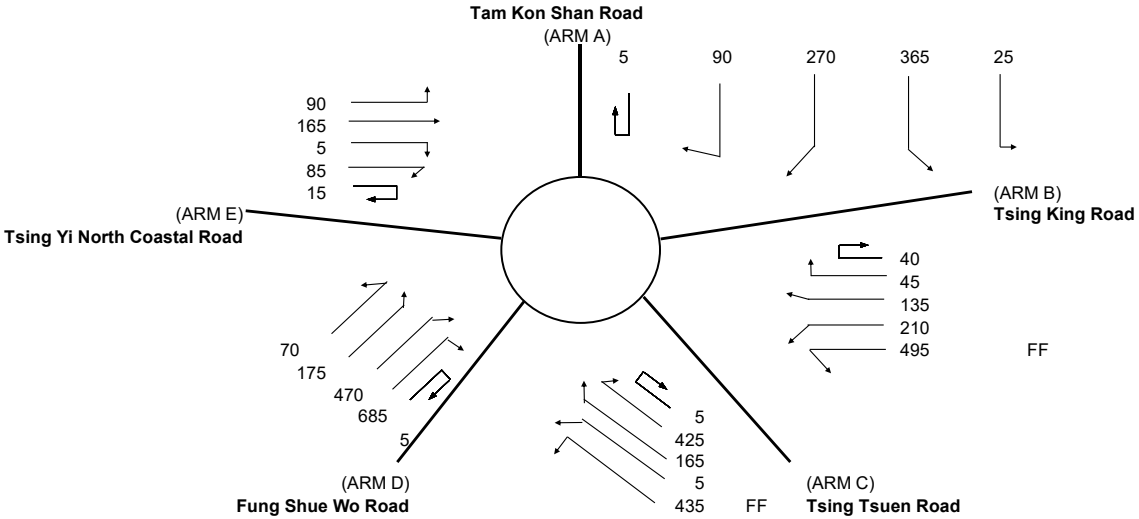
TOTAL ENTRY FLOWS = 4280 PCU

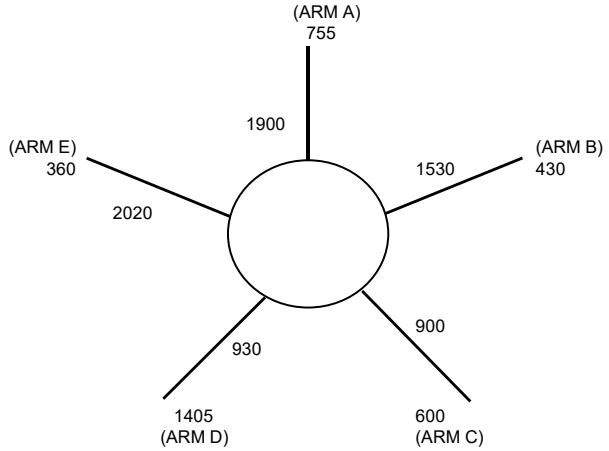
CRITICAL DFC = 0.75

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario B PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	755	430	600	1405	360
Qc= Circulating flow across entry (pcu/h)	1900	1530	900	930	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1939	1091	1994	2440	826
DFC = Design flow/Capacity = Q/Qe	0.39	0.39	0.30	0.58	0.44

TOTAL ENTRY FLOWS = 3550 PCU

CRITICAL DFC = 0.58

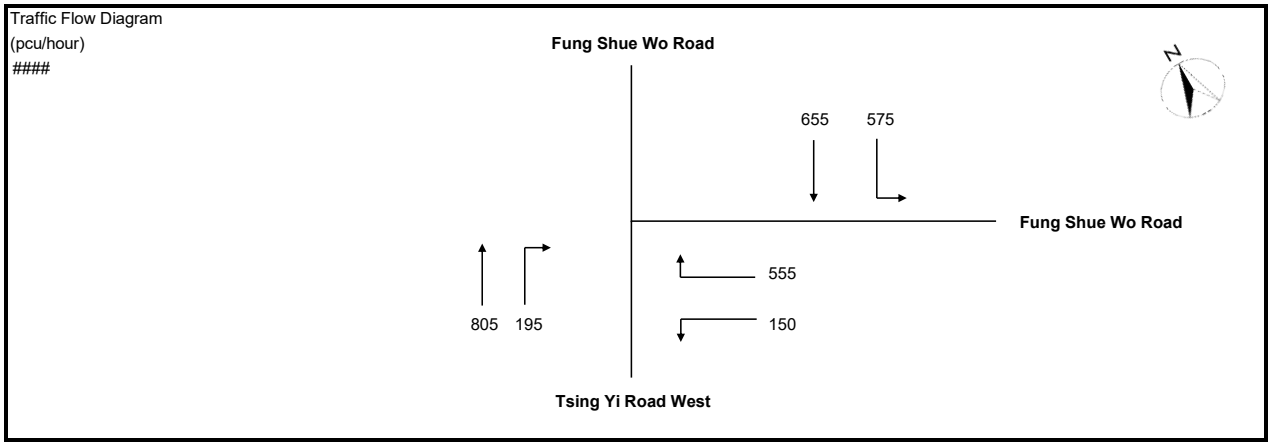
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2025 Survey Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

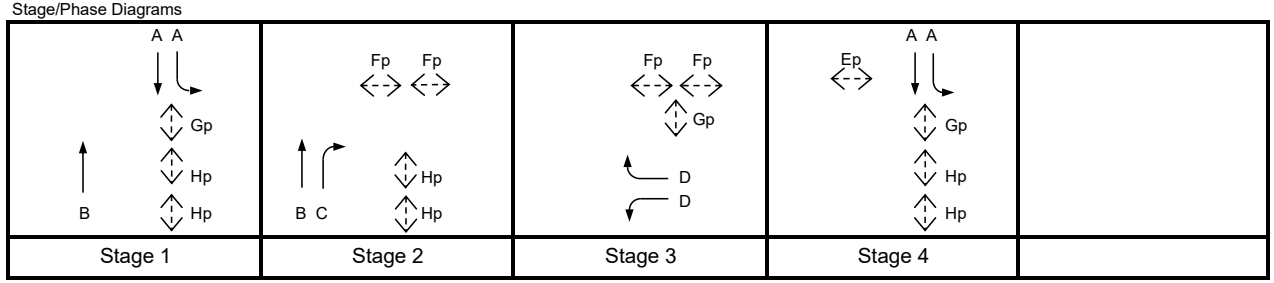
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	100	sec
Sum(y)	Y =	0.582	
Lost time	L =	28	sec
Total Flow	=	2,935	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		112	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	67	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.690	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	18.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	79	sec
Y_{max}	$= 1-L/C$	=	0.720	

Stage/Phase Diagrams



I/G = 5 I/G = 10 I/G = 8 G = 5 I/G = 2

Critical Case : B,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 11%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	B	1,2	3.410	1				1		0		1956		805		805			1956	0.412	0.412
↱	C	2	3.410	1		17	0	0		0		2096			195	195		100%	1926	0.101	
↑	D	3	4.035	1	35	35	0	1		0	180	2018.5	150		209	359	42%	58%	2108	0.170	0.170
↱	D	3	3.615	1		35	0	0		0		2116.5			346	346		100%	2030	0.170	
↳	A	1,4	4.015	1	150			1		0	54	2016.5	575			575	100%		2050	0.280	
↓	A	1,4	3.955	2				0		0		4301		655		655			4301	0.152	
Pedestrain Crossing				GM		FGM		Total													
	Ep	4	min.	5	+	8	=	13	sec												*
	Fp	2,3	min.	5	+	8	=	13	sec												
	Gp	1,3,4	min.	5	+	8	=	13	sec												
	Hp	1,2,4	min.	5	+	7	=	12	sec												

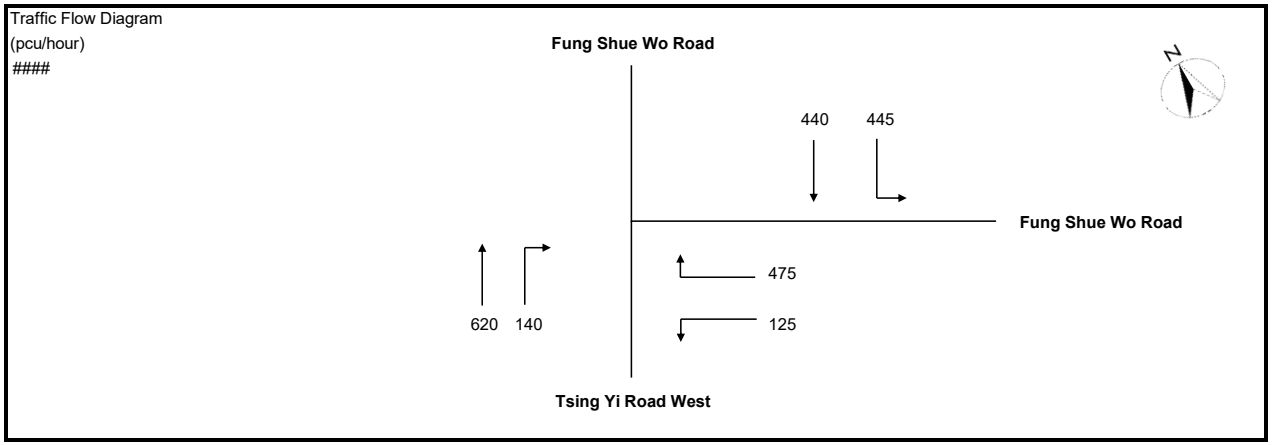
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2025 Survey Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

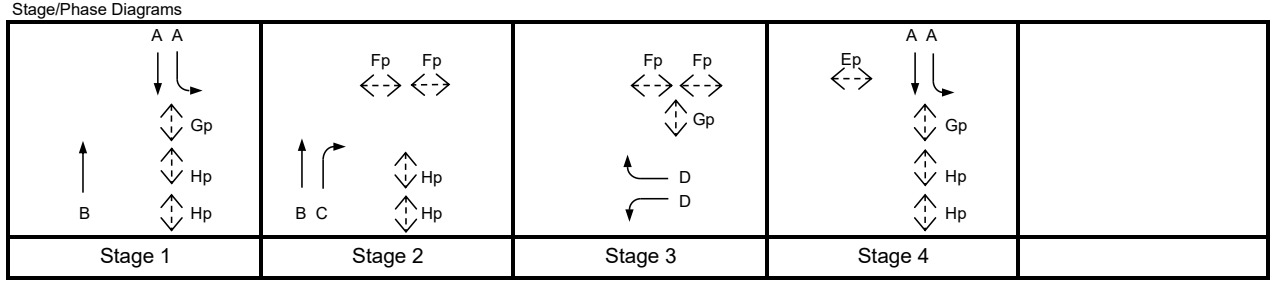
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	100	sec
Sum(y)	Y =	0.462	
Lost time	L =	28	sec
Total Flow	=	2,245	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		87	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	52	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.690	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	49.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	58	sec
Y_{max}	$= 1-L/C$	=	0.720	

Stage/Phase Diagrams



I/G = 5 I/G = 10 I/G = 8 G = 5 I/G = 2

Critical Case : B,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 40%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	B	1,2	3.410	1				1		0		1956		620		620			1956	0.317	0.317
↱	C	2	3.410	1		17	0	0		0		2096			140	140		100%	1926	0.073	
↑ ↱	D	3	4.035	1	35	35	0	1		0	180	2018.5	125		181	306	41%	59%	2108	0.145	
↱	D	3	3.615	1		35	0	0		0		2116.5			294	294		100%	2030	0.145	0.145
↳	A	1,4	4.015	1	150			1		0	54	2016.5	445			445	100%		2050	0.217	
↓	A	1,4	3.955	2				0		0		4301		440		440			4301	0.102	
Pedestrain Crossing				GM		FGM		Total													
	Ep	4	min.	5	+	8	=	13	sec												*
	Fp	2,3	min.	5	+	8	=	13	sec												
	Gp	1,3,4	min.	5	+	8	=	13	sec												
	Hp	1,2,4	min.	5	+	7	=	12	sec												

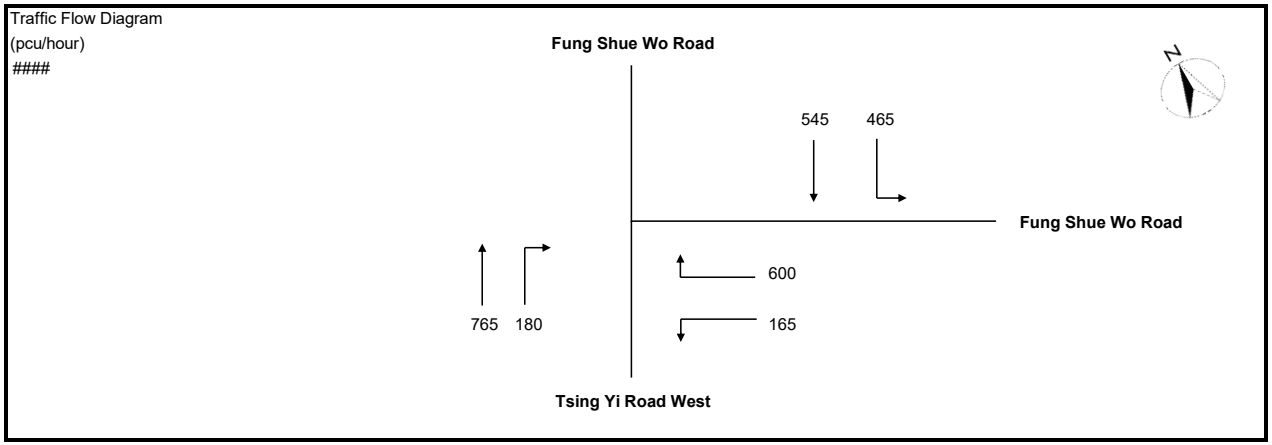
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2025 Survey Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

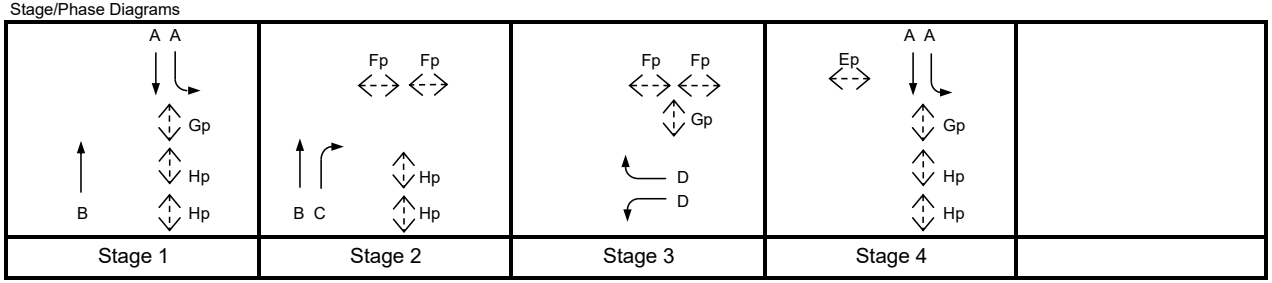
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	100	sec
Sum(y)	Y =	0.576	
Lost time	L =	28	sec
Total Flow	=	2,720	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		111	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	66	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.690	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	19.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	78	sec
Y_{max}	$= 1-L/C$	=	0.720	

Stage/Phase Diagrams



I/G = 5 I/G = 10 I/G = 8 G = 5 I/G = 2

Critical Case : B,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 13%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	B	1,2	3.410	1				1		0		1956		765		765			1956	0.391	0.391
↱	C	2	3.410	1		17	0	0		0		2096			180	180		100%	1926	0.093	
↑ ↓	D	3	4.035	1	35	35	0	1		0	180	2018.5	165		225	390	42%	58%	2108	0.185	0.185
↱	D	3	3.615	1		35	0	0		0		2116.5			375	375		100%	2030	0.185	
↳	A	1,4	4.015	1	150			1		0	54	2016.5	465			465	100%		2050	0.227	
↓	A	1,4	3.955	2				0		0		4301		545		545			4301	0.127	
Pedestrain Crossing				GM		FGM		Total													
	Ep	4	min.	5	+	8	=	13	sec												*
	Fp	2,3	min.	5	+	8	=	13	sec												
	Gp	1,3,4	min.	5	+	8	=	13	sec												
	Hp	1,2,4	min.	5	+	7	=	12	sec												

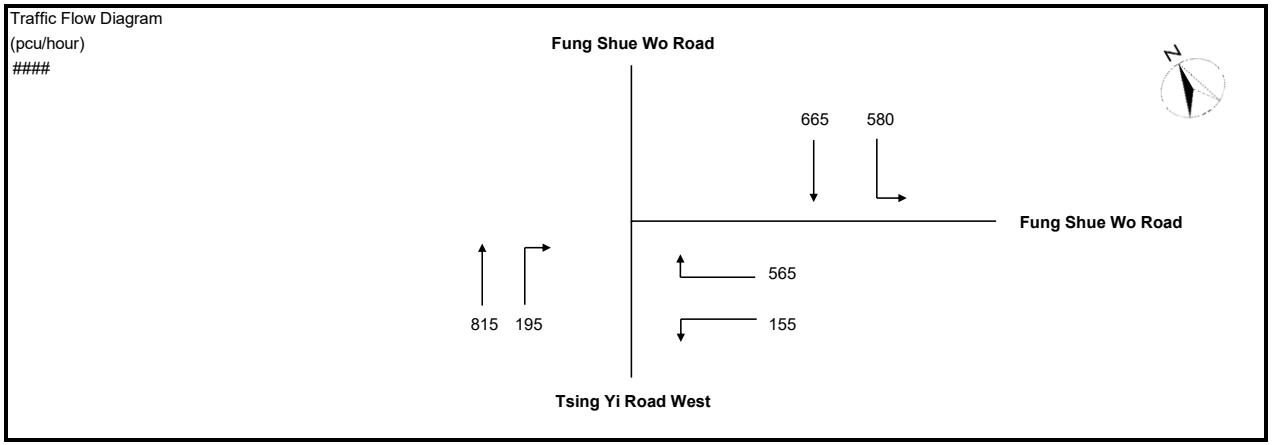
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2028 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

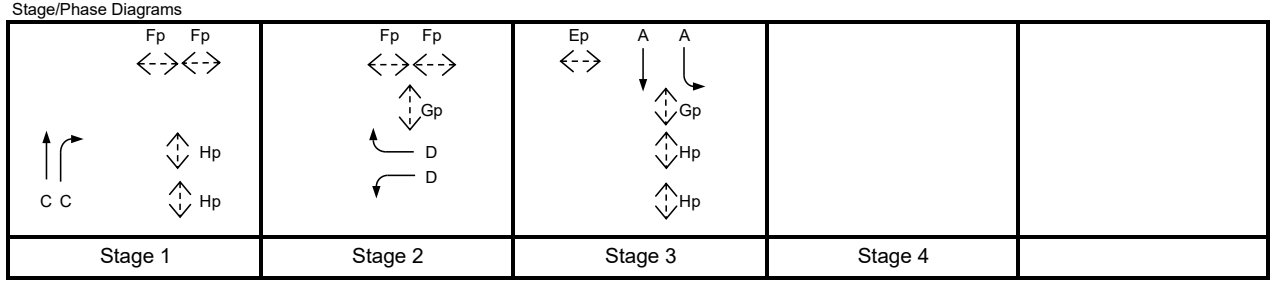
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.583	
Lost time	L =	12	sec
Total Flow	=	2,975	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		55	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	29	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	38.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	34	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 39%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		496		496			1956	0.254	0.254
↱	C	1	3.410	1		17	0	0		0		2096		319	195	514		38%	2028	0.254	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	155		209	364	43%	57%	2079	0.175	0.175
↱	D	2	3.615	1		35	0	0		0		2116.5			356	356		100%	2030	0.175	
↳	A	3	4.015	2	150			1		0		4173	580			580	100%		4132	0.140	
↓	A	3	3.955	2				0		0		4301		665		665			4301	0.155	0.155
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	8	=	13	sec												
	Fp	1,2	min.	5	+	8	=	13	sec												
	Gp	2,3	min.	5	+	8	=	13	sec												
	Hp	1,3	min.	5	+	7	=	12	sec												

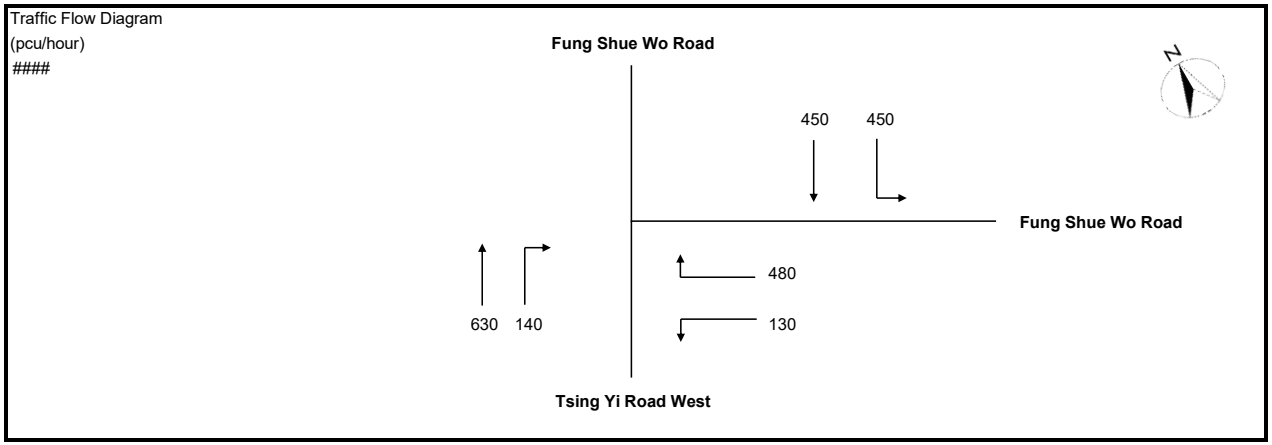
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2028 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

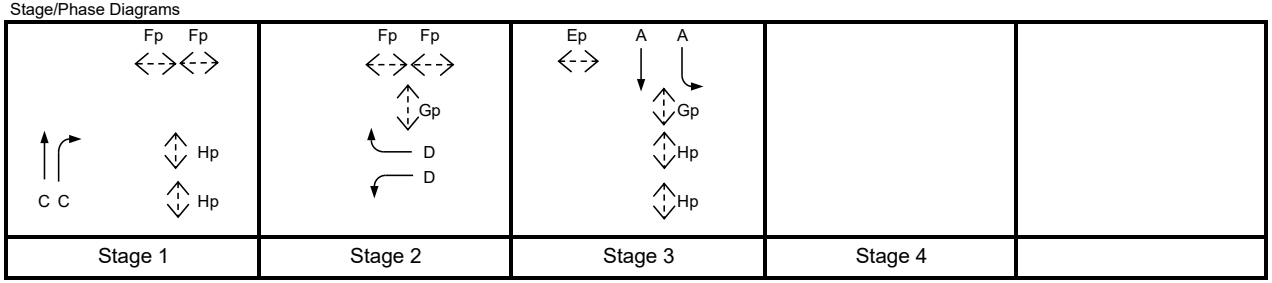
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.450	
Lost time	L =	12	sec
Total Flow	=	2,280	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		42	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	79.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	24	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 3 I/G = 2

Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 80%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		378		378			1956	0.193	
↱	C	1	3.410	1		17	0	0		0		2096		252	140	392		36%	2032	0.193	0.193
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	130		179	309	42%	58%	2079	0.148	0.148
↱	D	2	3.615	1		35	0	0		0		2116.5			301	301		100%	2030	0.148	
↳	A	3	4.015	2	150			1		0		4173	450			450	100%		4132	0.109	0.109
↓	A	3	3.955	2				0		0		4301		450		450			4301	0.105	
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	8	=	13	sec												
	Fp	1,2	min.	5	+	8	=	13	sec												
	Gp	2,3	min.	5	+	8	=	13	sec												
	Hp	1,3	min.	5	+	7	=	12	sec												

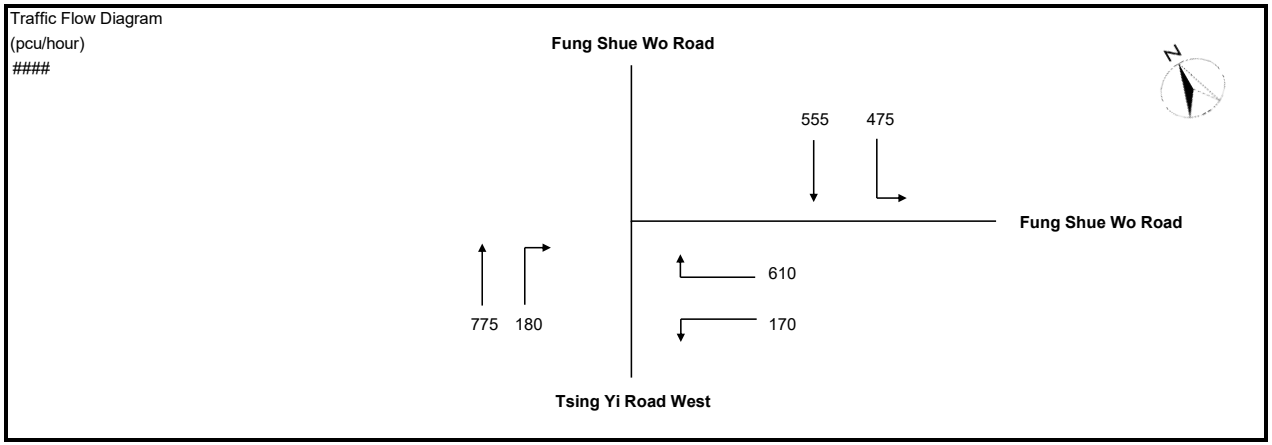
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2028 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

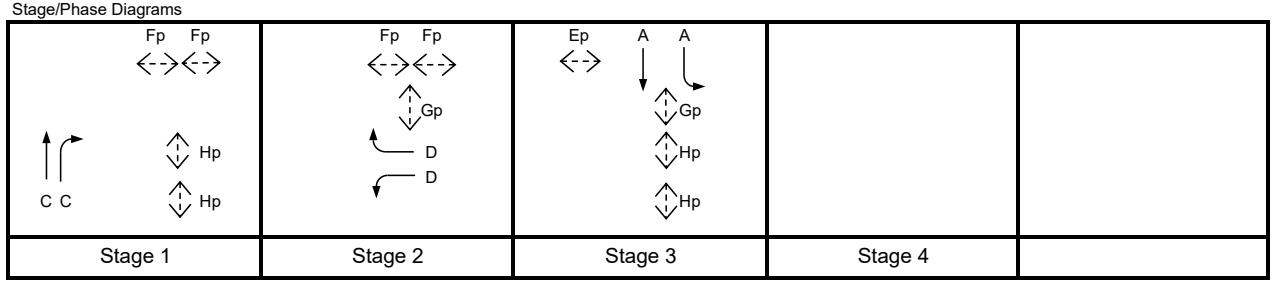
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.558	
Lost time	L =	12	sec
Total Flow	=	2,765	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		52	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	45.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	32	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 3 I/G = 2

Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 45%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		469		469			1956	0.240	0.240
↱	C	1	3.410	1		17	0	0		0		2096		306	180	486		37%	2030	0.240	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	170		225	395	43%	57%	2079	0.190	0.190
↱	D	2	3.615	1		35	0	0		0		2116.5			385	385		100%	2030	0.190	
↳	A	3	4.015	2	150			1		0		4173	475			475	100%		4132	0.115	
↓	A	3	3.955	2				0		0		4301		555		555			4301	0.129	0.129

Pedestrain Crossing			GM		FGM		Total													
Ep	3	min.	5	+	8	=	13	sec												
Fp	1,2	min.	5	+	8	=	13	sec												
Gp	2,3	min.	5	+	8	=	13	sec												
Hp	1,3	min.	5	+	7	=	12	sec												

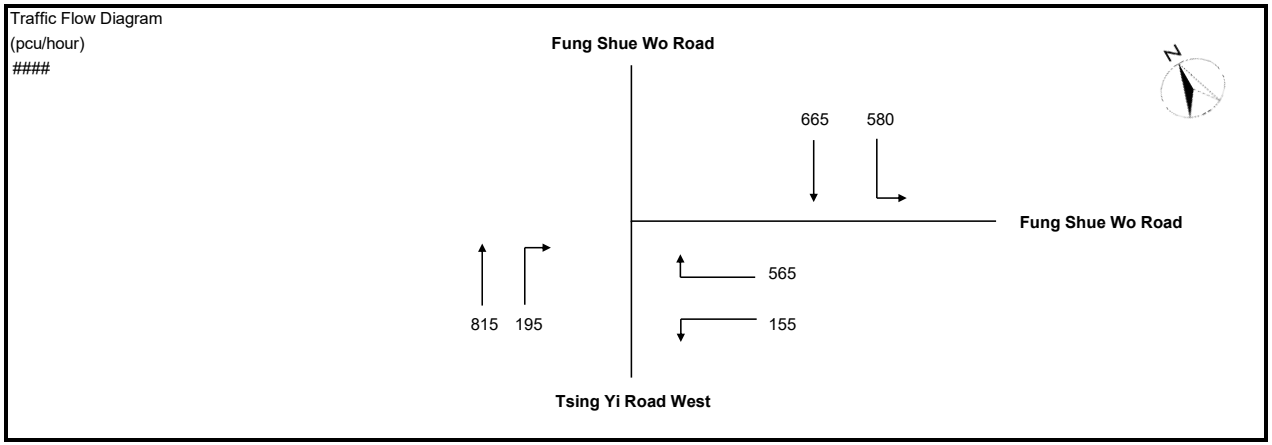
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2028 Design Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

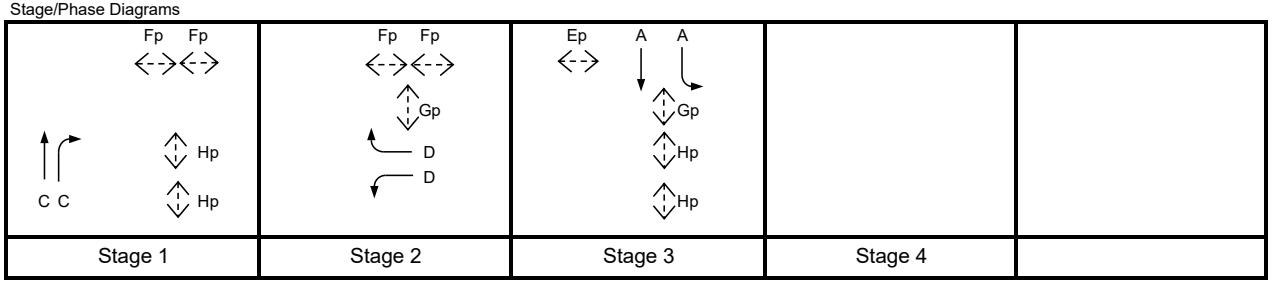
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.583	
Lost time	L =	12	sec
Total Flow	=	2,975	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		55	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	29	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	38.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	34	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 39%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		496		496			1956	0.254	0.254
↱	C	1	3.410	1		17	0	0		0		2096		319	195	514		38%	2028	0.254	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	155		209	364	43%	57%	2079	0.175	0.175
↱	D	2	3.615	1		35	0	0		0		2116.5			356	356		100%	2030	0.175	
↳	A	3	4.015	2	150			1		0		4173	580			580	100%		4132	0.140	
↓	A	3	3.955	2				0		0		4301		665		665			4301	0.155	0.155
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	8	=	13	sec												
	Fp	1,2	min.	5	+	8	=	13	sec												
	Gp	2,3	min.	5	+	8	=	13	sec												
	Hp	1,3	min.	5	+	7	=	12	sec												

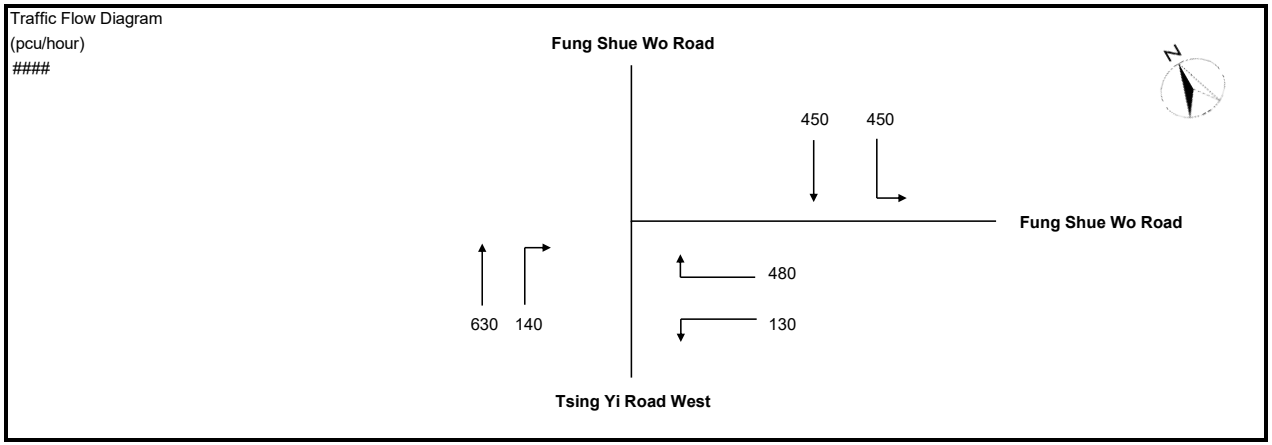
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2028 Design Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

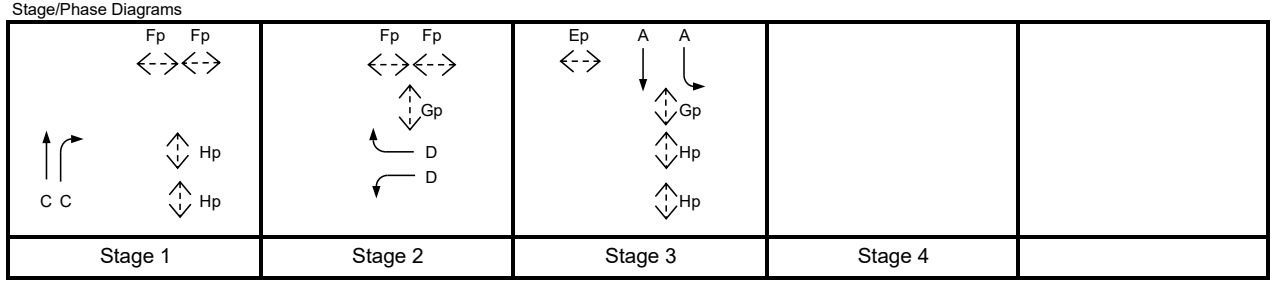
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.450	
Lost time	L =	12	sec
Total Flow	=	2,280	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		42	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	79.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	24	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 80%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		378		378			1956	0.193	
↱	C	1	3.410	1		17	0	0		0		2096		252	140	392		36%	2032	0.193	0.193
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	130		179	309	42%	58%	2079	0.148	0.148
↱	D	2	3.615	1		35	0	0		0		2116.5			301	301		100%	2030	0.148	
↳	A	3	4.015	2	150			1		0		4173	450			450	100%		4132	0.109	0.109
↓	A	3	3.955	2				0		0		4301		450		450			4301	0.105	
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	8	=	13	sec												
	Fp	1,2	min.	5	+	8	=	13	sec												
	Gp	2,3	min.	5	+	8	=	13	sec												
	Hp	1,3	min.	5	+	7	=	12	sec												

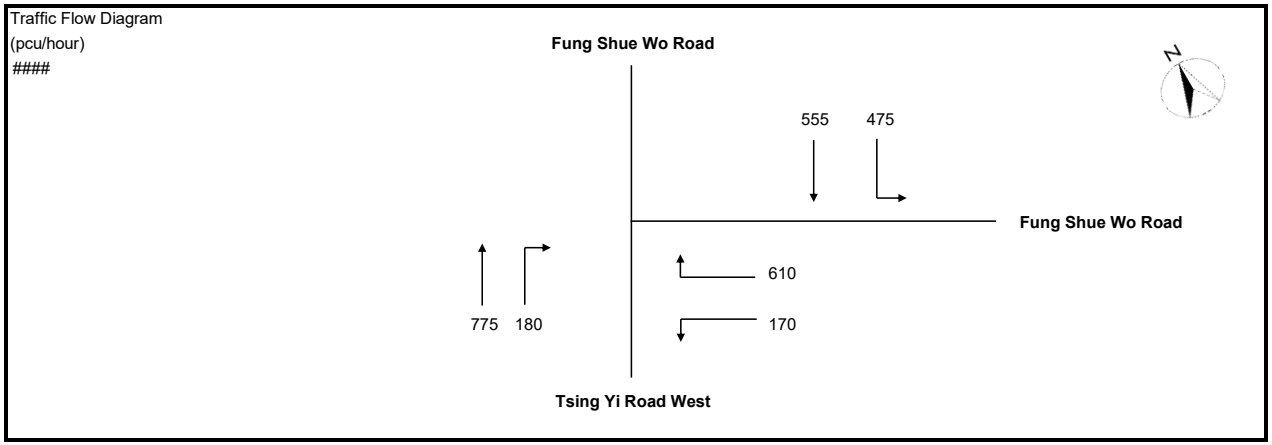
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2028 Design Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

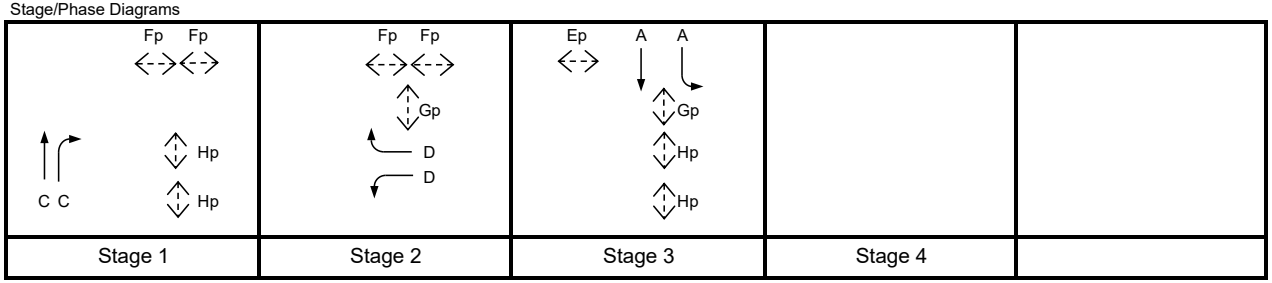
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.558	
Lost time	L =	12	sec
Total Flow	=	2,765	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		52	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	45.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	32	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 45%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		469		469			1956	0.240	0.240
↑↱	C	1	3.410	1		17	0	0		0		2096		306	180	486		37%	2030	0.240	
↑↓	D	2	4.035	1	35	35	0	1		0	150	2018.5	170		225	395	43%	57%	2079	0.190	0.190
↑	D	2	3.615	1		35	0	0		0		2116.5			385	385		100%	2030	0.190	
↳	A	3	4.015	2	150			1		0		4173	475			475	100%		4132	0.115	
↓	A	3	3.955	2				0		0		4301		555		555			4301	0.129	0.129

Pedestrain Crossing			GM		FGM		Total													
Ep	3	min.	5	+	8	=	13	sec												
Fp	1,2	min.	5	+	8	=	13	sec												
Gp	2,3	min.	5	+	8	=	13	sec												
Hp	1,3	min.	5	+	7	=	12	sec												

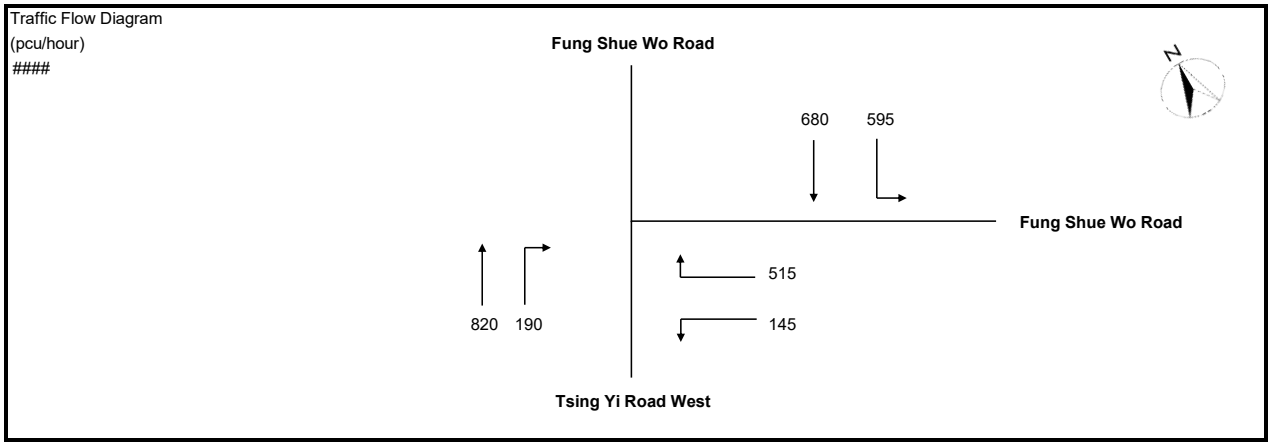
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

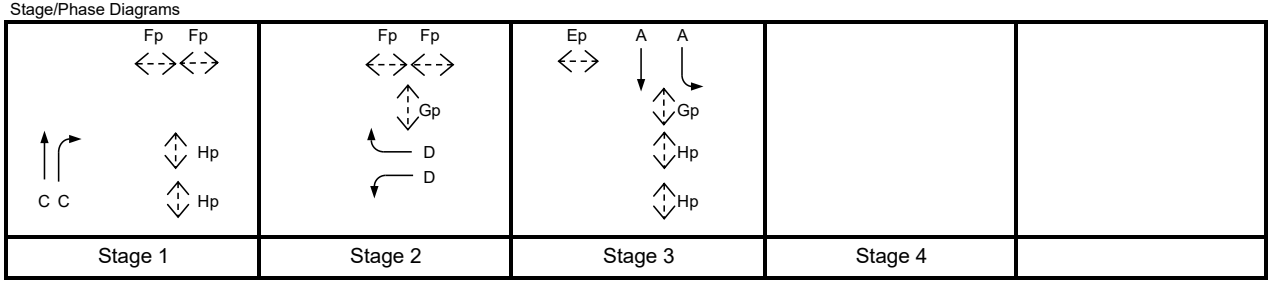
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.572	
Lost time	L =	12	sec
Total Flow	=	2,945	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		54	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	28	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	41.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	33	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 42%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		496		496			1956	0.253	0.253
↱	C	1	3.410	1		17	0	0		0		2096		324	190	514		37%	2030	0.253	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	145		189	334	43%	57%	2079	0.161	
↱	D	2	3.615	1		35	0	0		0		2116.5			326	326		100%	2030	0.161	0.161
↳	A	3	4.015	2	150			1		0		4173	595			595	100%		4132	0.144	
↓	A	3	3.955	2				0		0		4301		680		680			4301	0.158	0.158
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	8	=	13	sec												
	Fp	1,2	min.	5	+	8	=	13	sec												
	Gp	2,3	min.	5	+	8	=	13	sec												
	Hp	1,3	min.	5	+	7	=	12	sec												

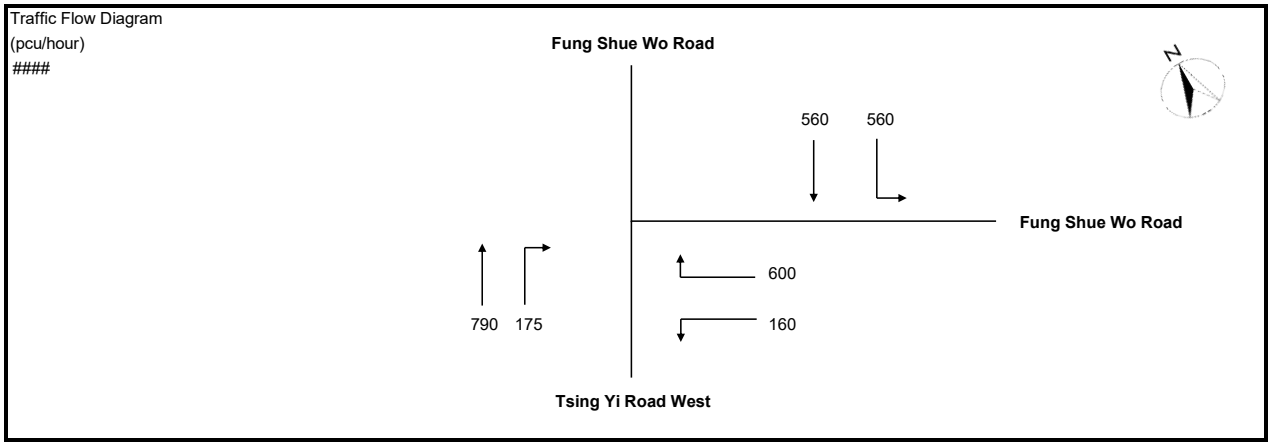
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

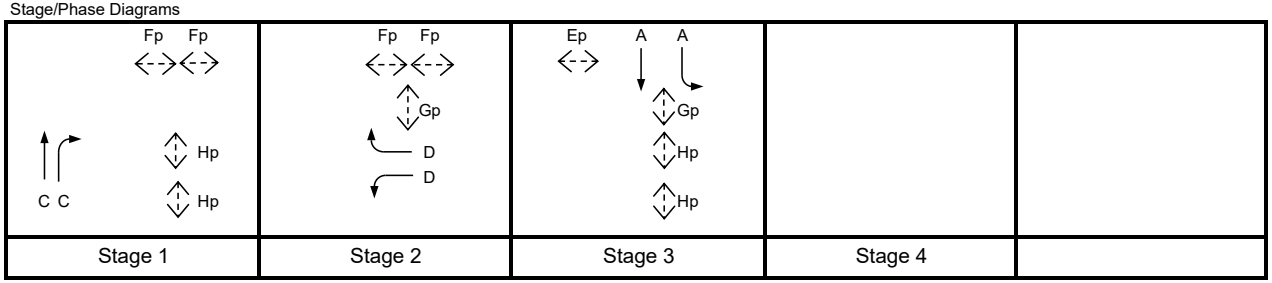
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.562	
Lost time	L =	12	sec
Total Flow	=	2,845	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		53	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	44.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	32	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 3 I/G = 2

Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 44%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		473		473			1956	0.242	0.242
↱	C	1	3.410	1		17	0	0		0		2096		317	175	492		36%	2032	0.242	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	160		225	385	42%	58%	2079	0.185	
↱	D	2	3.615	1		35	0	0		0		2116.5			375	375		100%	2030	0.185	0.185
↳	A	3	4.015	2	150			1		0		4173	560			560	100%		4132	0.136	0.136
↓	A	3	3.955	2				0		0		4301		560		560			4301	0.130	

Pedestrain Crossing			GM		FGM		Total													
Ep	3	min.	5	+	8	=	13	sec												
Fp	1,2	min.	5	+	8	=	13	sec												
Gp	2,3	min.	5	+	8	=	13	sec												
Hp	1,3	min.	5	+	7	=	12	sec												

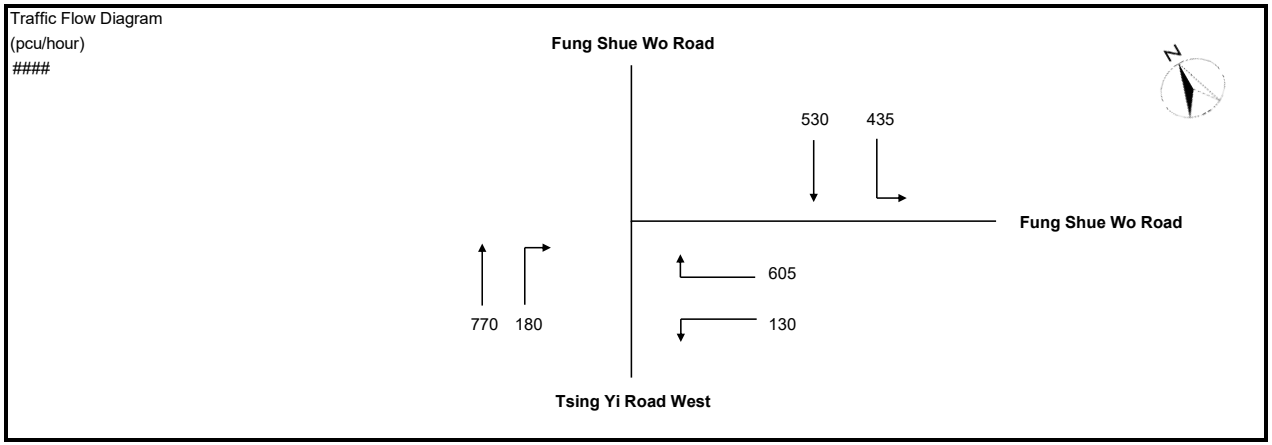
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

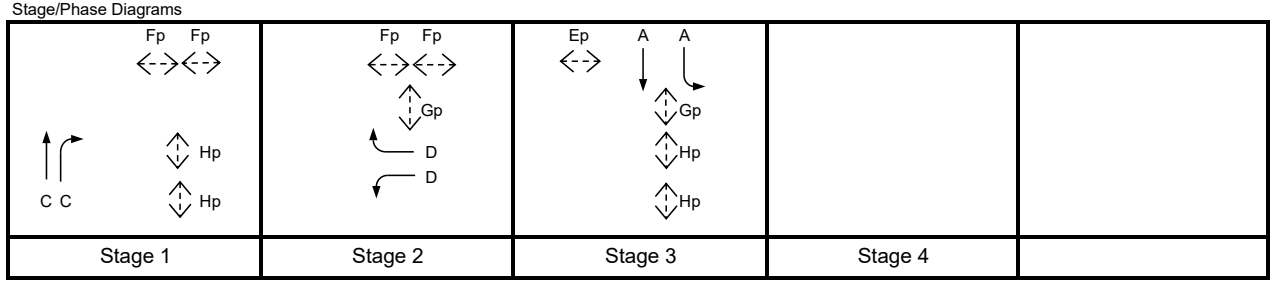
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.540	
Lost time	L =	12	sec
Total Flow	=	2,650	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		50	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	26	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	49.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	30	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 50%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		466		466			1956	0.238	
↱	C	1	3.410	1		17	0	0		0		2096		304	180	484		37%	2029	0.238	0.238
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	130		242	372	35%	65%	2079	0.179	0.179
↑	D	2	3.615	1		35	0	0		0		2116.5			363	363		100%	2030	0.179	
↳	A	3	4.015	2	150			1		0		4173	435			435	100%		4132	0.105	
↓	A	3	3.955	2				0		0		4301		530		530			4301	0.123	0.123

Pedestrain Crossing			GM		FGM		Total													
Ep	3	min.	5	+	8	=	13	sec												
Fp	1,2	min.	5	+	8	=	13	sec												
Gp	2,3	min.	5	+	8	=	13	sec												
Hp	1,3	min.	5	+	7	=	12	sec												

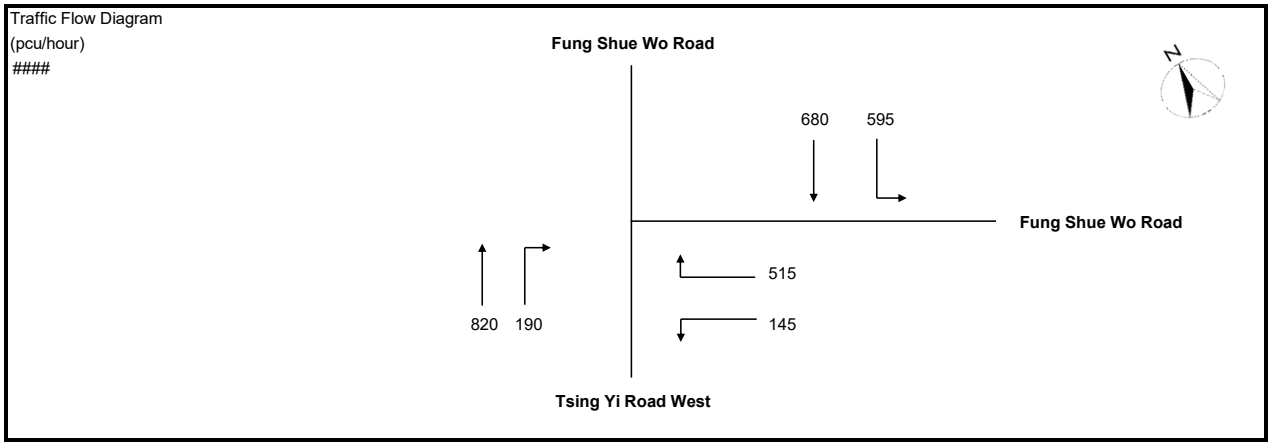
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Scenario A AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

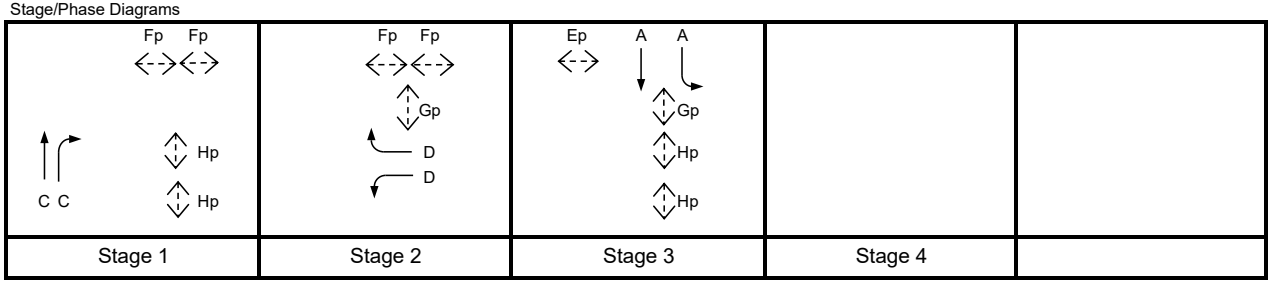
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.572	
Lost time	L =	12	sec
Total Flow	=	2,945	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		54	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	28	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	41.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	33	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 42%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		496		496			1956	0.253	0.253
↱	C	1	3.410	1		17	0	0		0		2096		324	190	514		37%	2030	0.253	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	145		189	334	43%	57%	2079	0.161	
↱	D	2	3.615	1		35	0	0		0		2116.5			326	326		100%	2030	0.161	0.161
↳	A	3	4.015	2	150			1		0		4173	595			595	100%		4132	0.144	
↓	A	3	3.955	2				0		0		4301		680		680			4301	0.158	0.158

Pedestrain Crossing			GM		FGM		Total														
Ep	3	min.	5	+	8	=	13	sec													
Fp	1,2	min.	5	+	8	=	13	sec													
Gp	2,3	min.	5	+	8	=	13	sec													
Hp	1,3	min.	5	+	7	=	12	sec													

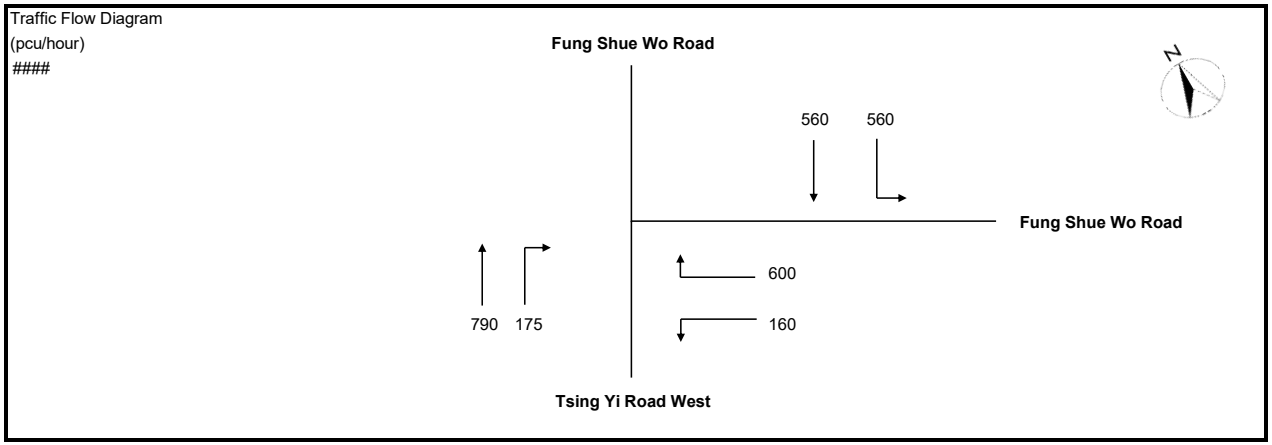
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Scenario A NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

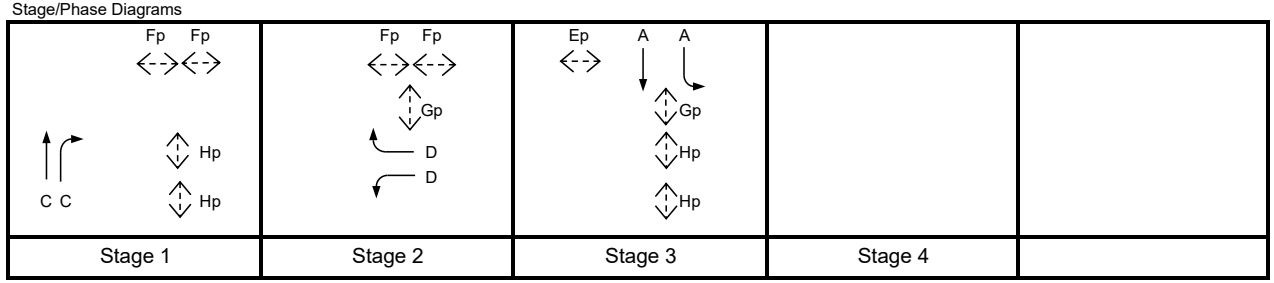
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.562	
Lost time	L =	12	sec
Total Flow	=	2,845	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		53	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	44.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	32	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 3 I/G = 2

Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 44%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		473		473			1956	0.242	0.242
↱	C	1	3.410	1		17	0	0		0		2096		317	175	492		36%	2032	0.242	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	160		225	385	42%	58%	2079	0.185	
↱	D	2	3.615	1		35	0	0		0		2116.5			375	375		100%	2030	0.185	0.185
↳	A	3	4.015	2	150			1		0		4173	560			560	100%		4132	0.136	0.136
↓	A	3	3.955	2				0		0		4301		560		560			4301	0.130	
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	8	=	13	sec												
	Fp	1,2	min.	5	+	8	=	13	sec												
	Gp	2,3	min.	5	+	8	=	13	sec												
	Hp	1,3	min.	5	+	7	=	12	sec												

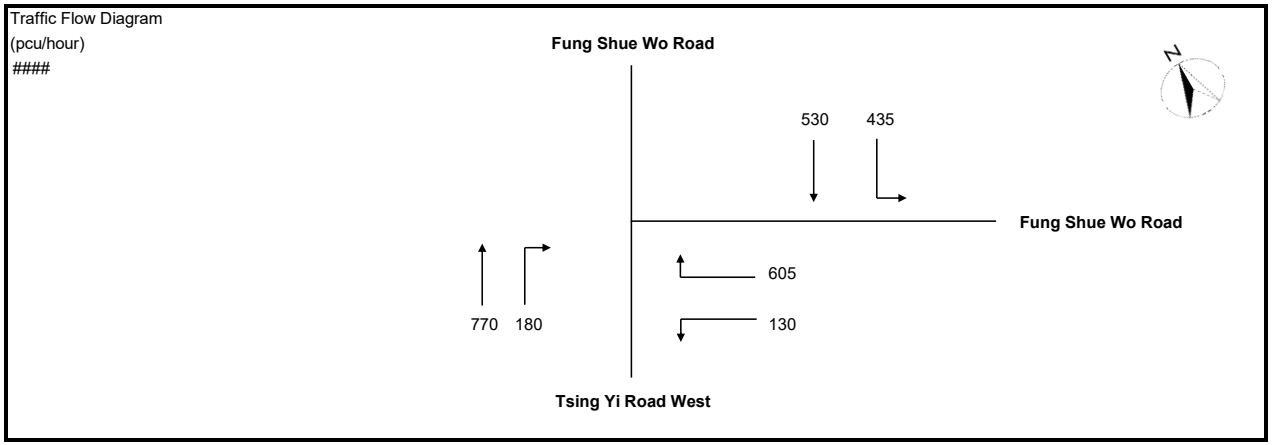
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Scenario A PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

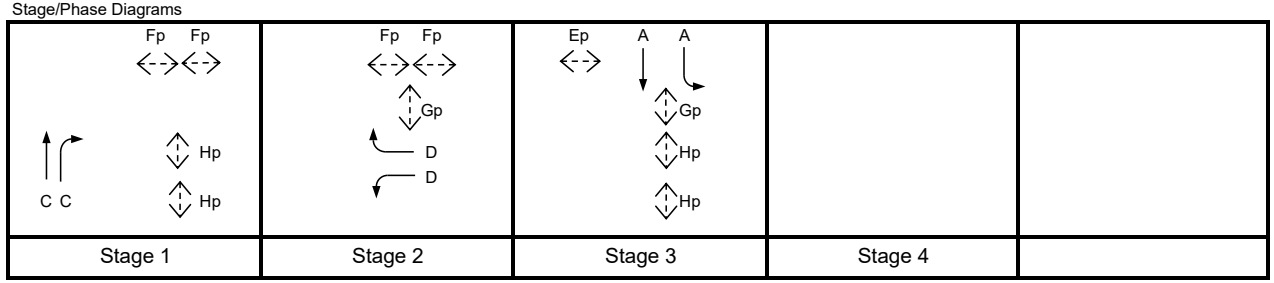
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.540	
Lost time	L =	12	sec
Total Flow	=	2,650	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		50	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	26	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	49.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	30	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 50%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		466		466			1956	0.238	
↱	C	1	3.410	1		17	0	0		0		2096		304	180	484		37%	2029	0.238	0.238
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	130		242	372	35%	65%	2079	0.179	0.179
↱	D	2	3.615	1		35	0	0		0		2116.5			363	363		100%	2030	0.179	
↳	A	3	4.015	2	150			1		0		4173	435			435	100%		4132	0.105	
↓	A	3	3.955	2				0		0		4301		530		530			4301	0.123	0.123

Pedestrain Crossing			GM		FGM		Total							
Ep	3	min.	5	+	8	=	13	sec						
Fp	1,2	min.	5	+	8	=	13	sec						
Gp	2,3	min.	5	+	8	=	13	sec						
Hp	1,3	min.	5	+	7	=	12	sec						

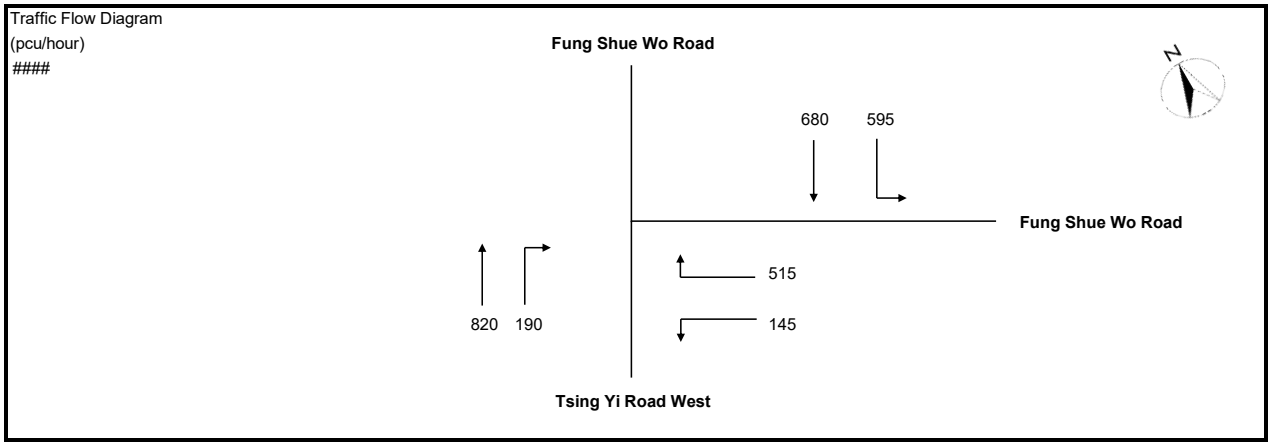
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Scenario B AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

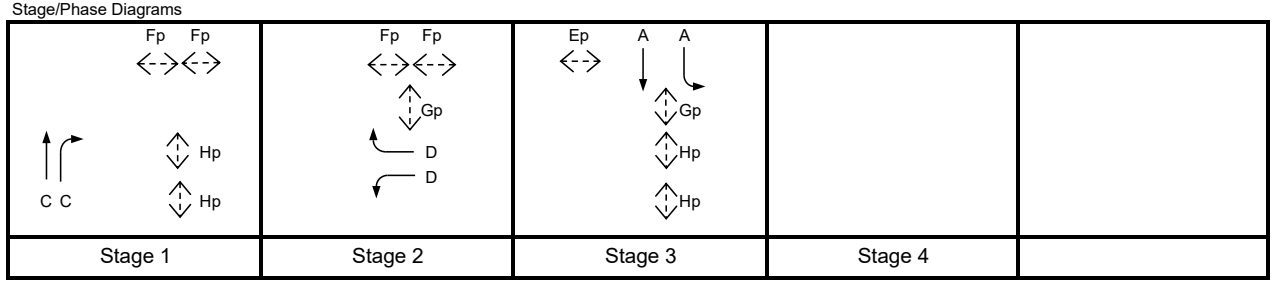
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.572	
Lost time	L =	12	sec
Total Flow	=	2,945	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	54	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	28	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	41.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	33	sec
Y_{max}	$= 1-L/C$ =	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 42%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		496		496			1956	0.253	0.253
↱	C	1	3.410	1		17	0	0		0		2096		324	190	514		37%	2030	0.253	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	145		189	334	43%	57%	2079	0.161	
↱	D	2	3.615	1		35	0	0		0		2116.5			326	326		100%	2030	0.161	0.161
↳	A	3	4.015	2	150			1		0		4173	595			595	100%		4132	0.144	
↓	A	3	3.955	2				0		0		4301		680		680			4301	0.158	0.158

Pedestrain Crossing			GM		FGM		Total														
Ep	3	min.	5	+	8	=	13	sec													
Fp	1,2	min.	5	+	8	=	13	sec													
Gp	2,3	min.	5	+	8	=	13	sec													
Hp	1,3	min.	5	+	7	=	12	sec													

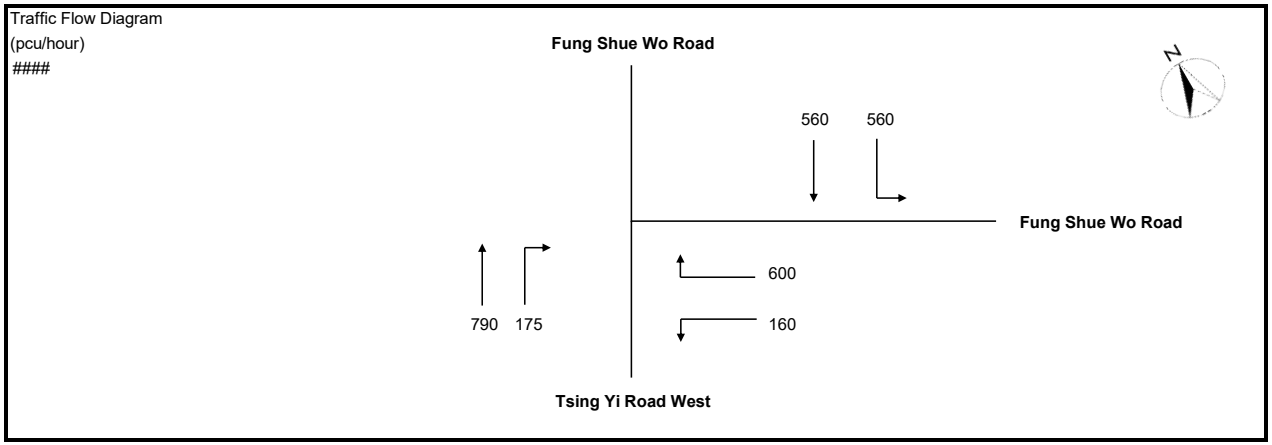
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Scenario B NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

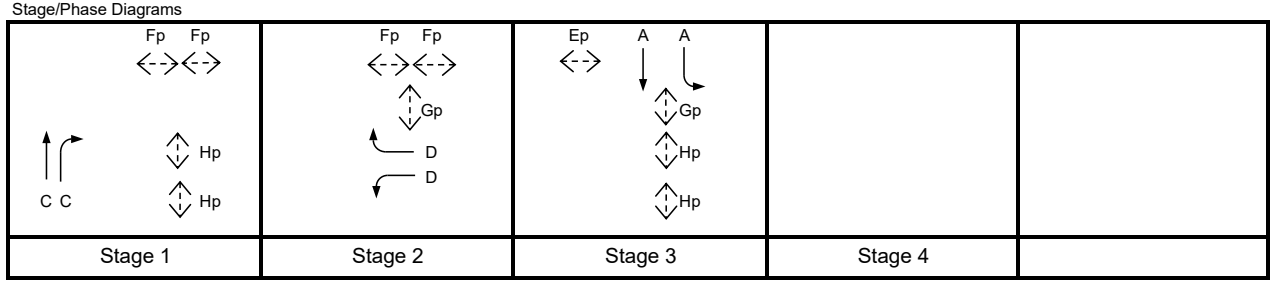
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.562	
Lost time	L =	12	sec
Total Flow	=	2,845	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		53	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	44.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	32	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 3 I/G = 2

Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 44%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		473		473			1956	0.242	0.242
↱	C	1	3.410	1		17	0	0		0		2096		317	175	492		36%	2032	0.242	
↰↓	D	2	4.035	1	35	35	0	1		0	150	2018.5	160		225	385	42%	58%	2079	0.185	
↰	D	2	3.615	1		35	0	0		0		2116.5			375	375		100%	2030	0.185	0.185
↳	A	3	4.015	2	150			1		0		4173	560			560	100%		4132	0.136	0.136
↓	A	3	3.955	2				0		0		4301		560		560			4301	0.130	

Pedestrain Crossing			GM		FGM		Total													
Ep	3	min.	5	+	8	=	13	sec												
Fp	1,2	min.	5	+	8	=	13	sec												
Gp	2,3	min.	5	+	8	=	13	sec												
Hp	1,3	min.	5	+	7	=	12	sec												

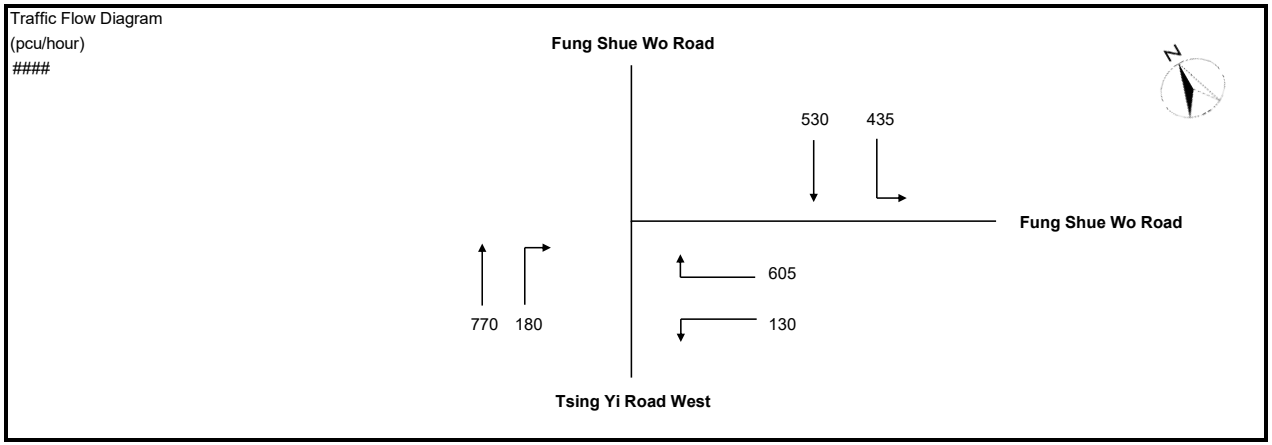
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Scenario B PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

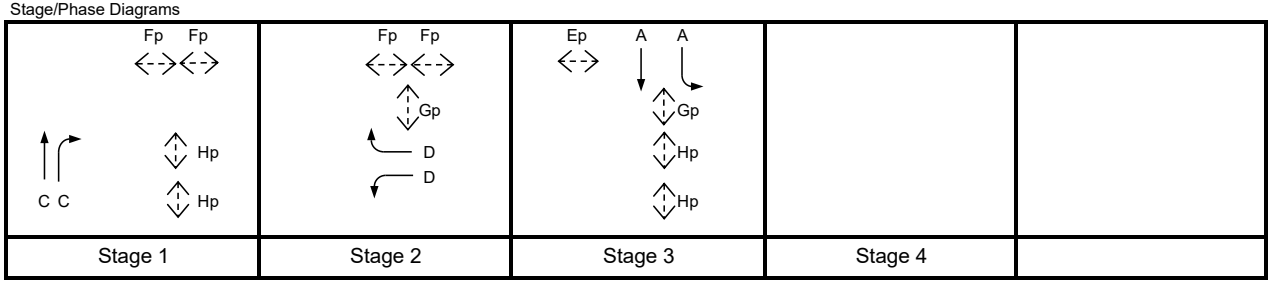
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.540	
Lost time	L =	12	sec
Total Flow	=	2,650	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		50	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	26	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	49.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	30	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 50%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		466		466			1956	0.238	
↱	C	1	3.410	1		17	0	0		0		2096		304	180	484		37%	2029	0.238	0.238
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	130		242	372	35%	65%	2079	0.179	0.179
↑	D	2	3.615	1		35	0	0		0		2116.5			363	363		100%	2030	0.179	
↳	A	3	4.015	2	150			1		0		4173	435			435	100%		4132	0.105	
↓	A	3	3.955	2				0		0		4301		530		530			4301	0.123	0.123

Pedestrain Crossing			GM		FGM		Total													
Ep	3	min.	5	+	8	=	13	sec												
Fp	1,2	min.	5	+	8	=	13	sec												
Gp	2,3	min.	5	+	8	=	13	sec												
Hp	1,3	min.	5	+	7	=	12	sec												

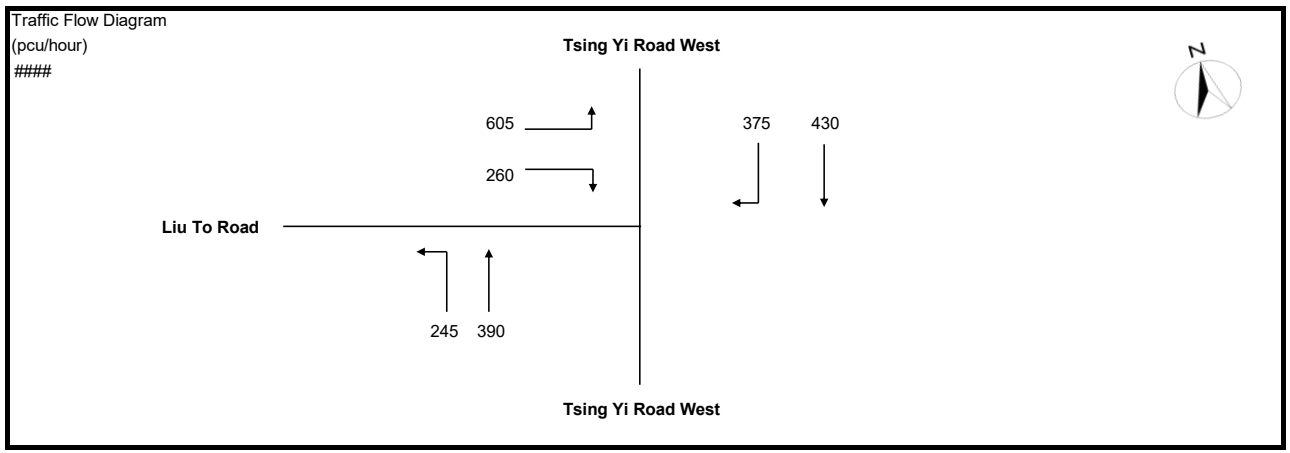
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2025 Survey Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

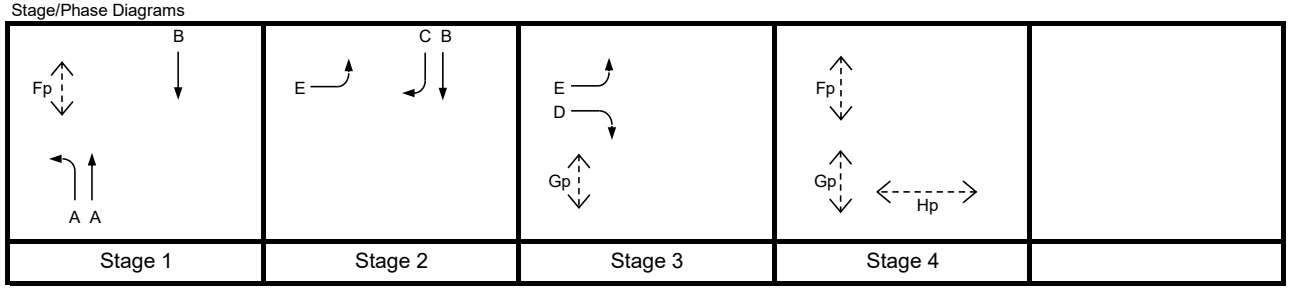
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	130	sec
Sum(y)	Y =	0.498	
Lost time	L =	38	sec
Total Flow	=	2,305	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	123	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	76	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	23.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	85	sec
Y_{max}	$= 1-L/C$ =	0.708	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 28%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	605			605	100%		1845	0.328	
D	D	3	3.790	1		17	0	0		0		2134			260	260		100%	1961	0.133	0.133
A	A	1	3.310	1	15			1		0		1946	245	43		288	85%		1793	0.161	0.161
A	A	1	4.060	1				0		0		2161		347		347			2161	0.161	
B	B	1,2	3.290	2				1		0		4028		430		430			4028	0.107	
C	C	2	3.290	1		11	0	0		0		2084			375	375		100%	1834	0.204	0.204
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

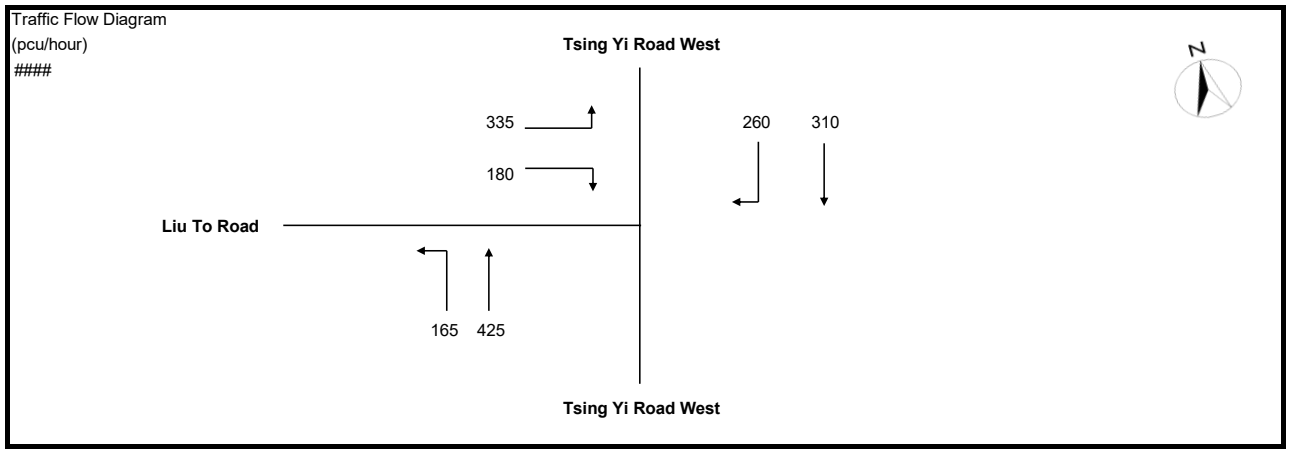
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2025 Survey Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

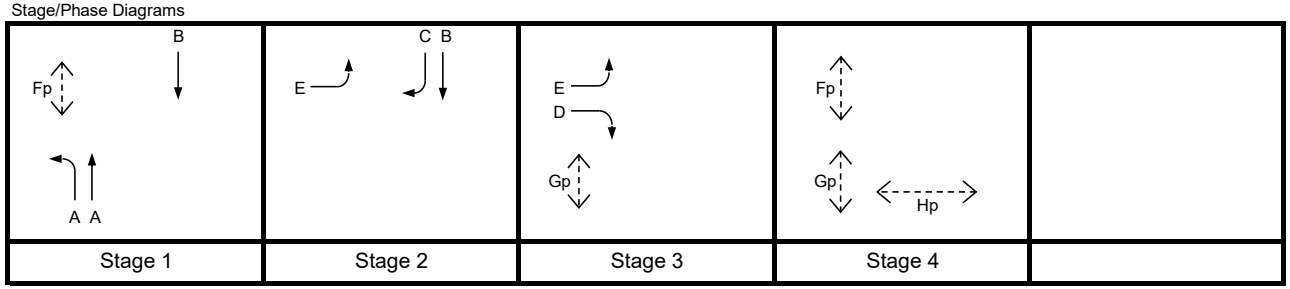
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.381	
Lost time	L =	38	sec
Total Flow	=	1,675	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	100	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	61	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	61.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	66	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 55%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	335			335	100%		1845	0.182	
D	D	3	3.790	1		17	0	0		0		2134			180	180		100%	1961	0.092	0.092
A	A	1	3.310	1	15			1		0		1946	165	106		271	61%		1834	0.148	
A	A	1	4.060	1				0		0		2161		319		319			2161	0.148	0.148
B	B	1,2	3.290	2				1		0		4028		310		310			4028	0.077	
C	C	2	3.290	1		11	0	0		0		2084			260	260		100%	1834	0.142	0.142
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

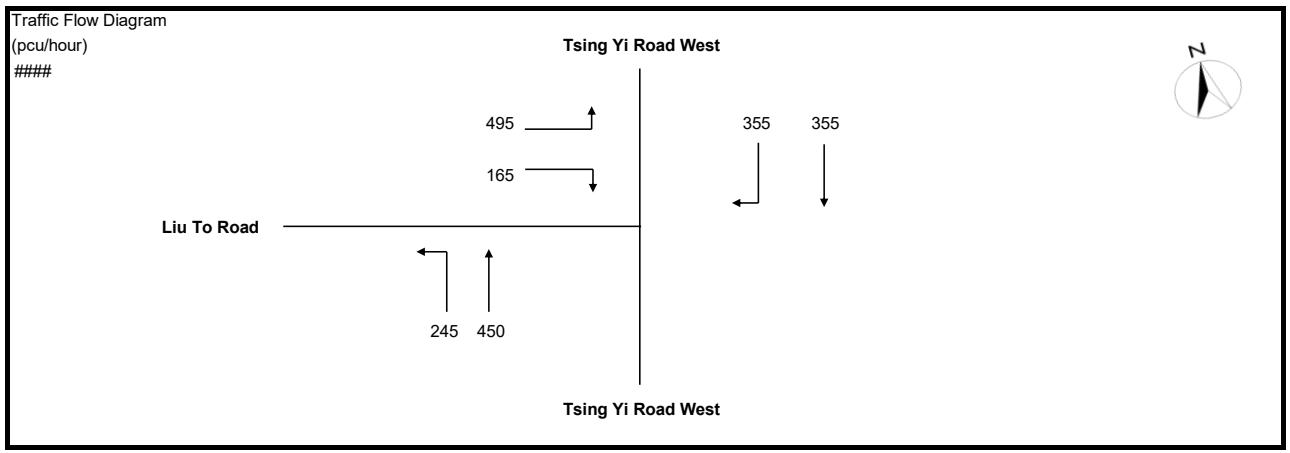
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2025 Survey Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

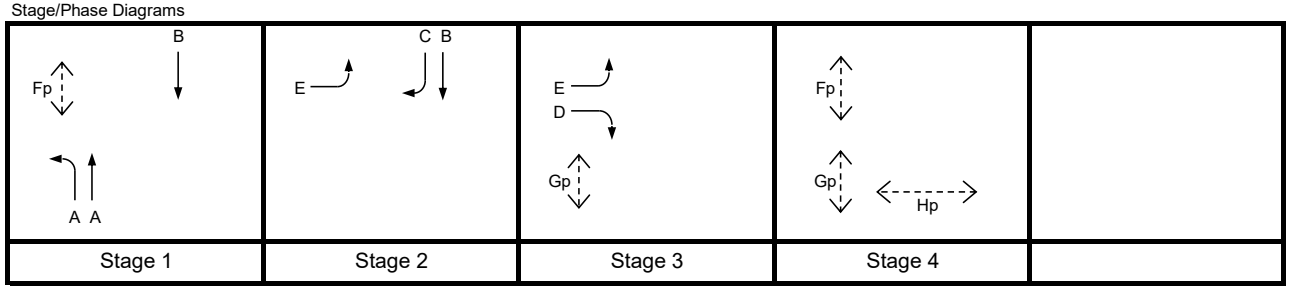
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.453	
Lost time	L =	38	sec
Total Flow	=	2,065	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	113	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	69	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	35.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	76	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 30%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	495			495	100%		1845	0.268	
D	D	3	3.790	1		17	0	0		0		2134			165	165		100%	1961	0.084	0.084
A	A	1	3.310	1	15			1		0		1946	245	71		316	77%		1806	0.175	0.175
A	A	1	4.060	1				0		0		2161		379		379			2161	0.175	
B	B	1,2	3.290	2				1		0		4028		355		355			4028	0.088	
C	C	2	3.290	1		11	0	0		0		2084			355	355		100%	1834	0.194	0.194

Pedestrain Crossing		GM		FGM		Total												
Fp	1,4	min.	5	+	9	=	14	sec										
Gp	3,4	min.	5	+	13	=	18	sec										
Hp	4	min.	5	+	8	=	13	sec										*

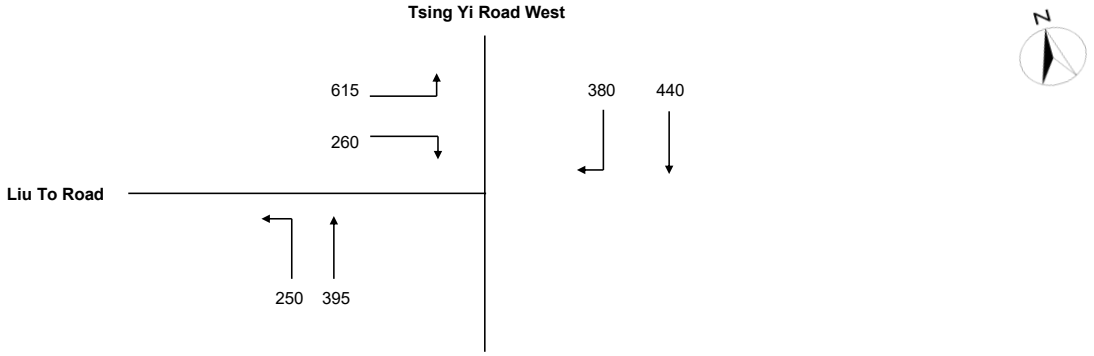
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2028 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

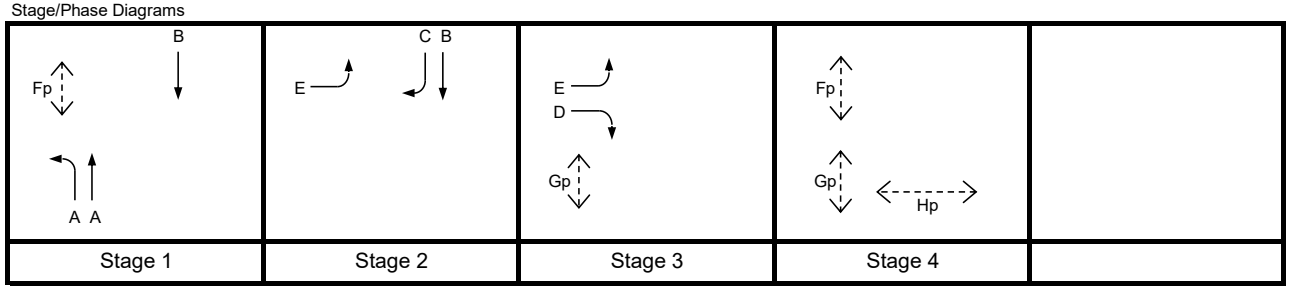
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	130	sec
Sum(y)	Y =	0.503	
Lost time	L =	38	sec
Total Flow	=	2,340	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	125	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	76	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	22.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	86	sec
Y_{max}	$= 1-L/C$ =	0.708	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 27%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	615			615	100%		1845	0.333	
D	D	3	3.790	1		17	0	0		0		2134			260	260		100%	1961	0.133	0.133
A	A	1	3.310	1	15			1		0		1946	250	42		292	85%		1793	0.163	0.163
A	A	1	4.060	1				0		0		2161		353		353			2161	0.163	
B	B	1,2	3.290	2				1		0		4028		440		440			4028	0.109	
C	C	2	3.290	1		11	0	0		0		2084			380	380		100%	1834	0.207	0.207
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

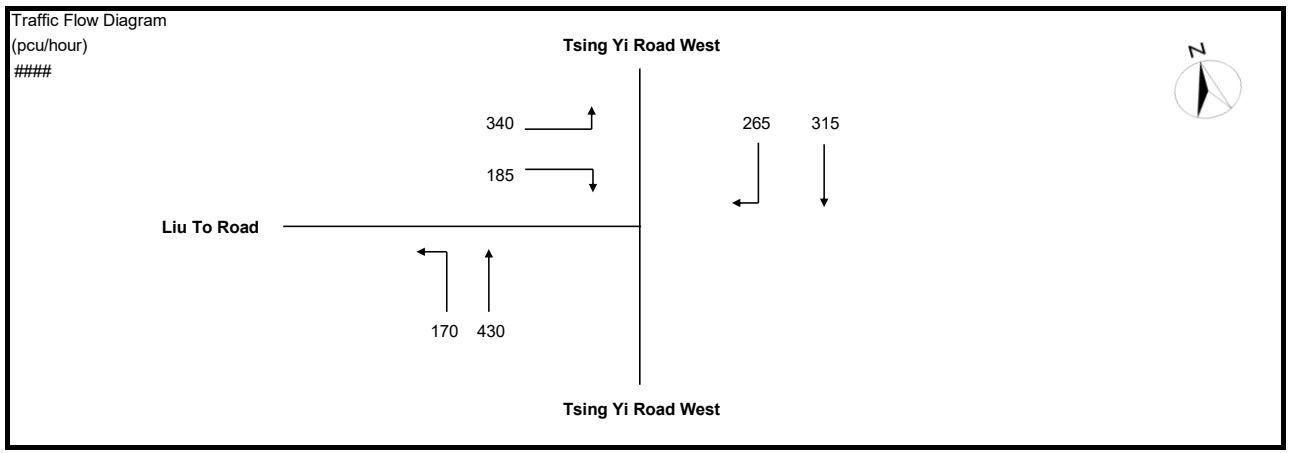
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2028 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

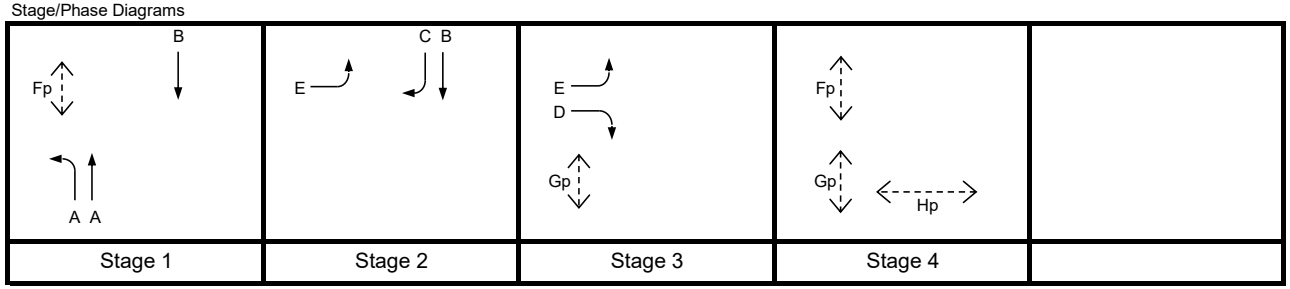
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.389	
Lost time	L =	38	sec
Total Flow	=	1,705	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	101	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	62	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	58.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	67	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



I/G = 7 I/G = 5 I/G = 11 G = 5 I/G = 11 2

Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 51%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	340			340	100%		1845	0.184	
D	D	3	3.790	1		17	0	0		0		2134			185	185		100%	1961	0.094	0.094
A	A	1	3.310	1	15			1		0		1946	170	105		275	62%		1833	0.150	0.150
A	A	1	4.060	1				0		0		2161		325		325			2161	0.150	
B	B	1,2	3.290	2				1		0		4028		315		315			4028	0.078	
C	C	2	3.290	1		11	0	0		0		2084			265	265		100%	1834	0.144	0.144
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

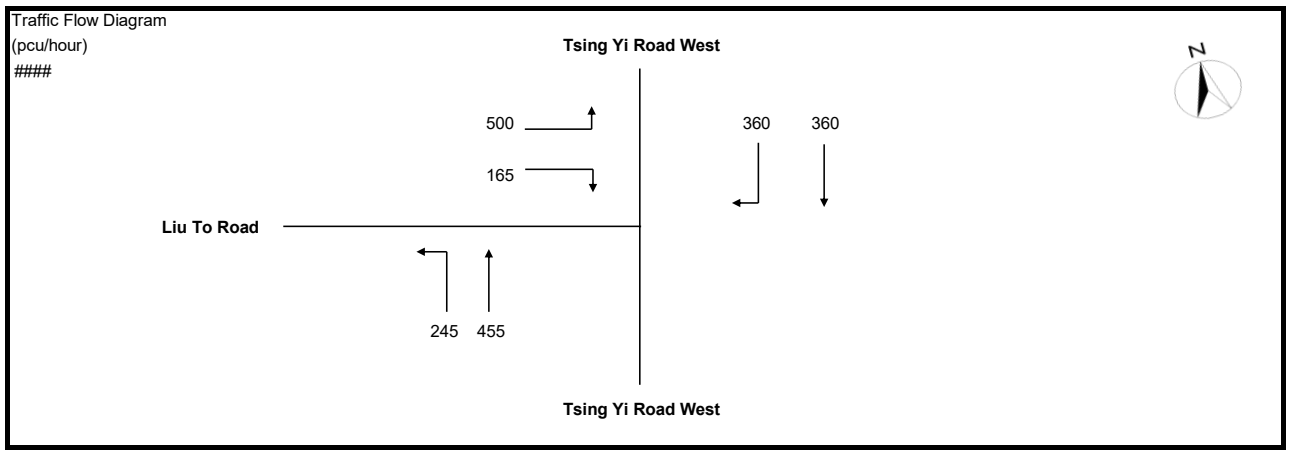
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2028 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

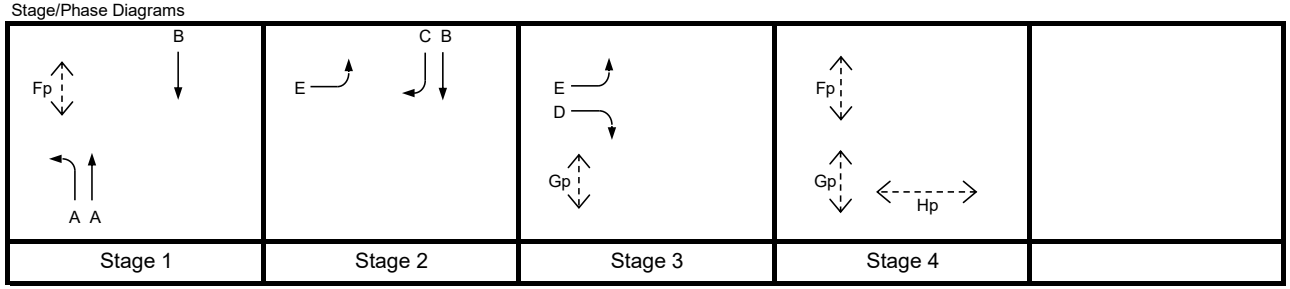
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.457	
Lost time	L =	38	sec
Total Flow	=	2,085	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	114	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	70	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	34.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	77	sec
Y_{max}	$= 1-L/C$	=	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 29%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	500			500	100%		1845	0.271	
D	D	3	3.790	1		17	0	0		0		2134			165	165		100%	1961	0.084	0.084
A	A	1	3.310	1	15			1		0		1946	245	74		319	77%		1807	0.176	0.176
A	A	1	4.060	1				0		0		2161		381		381			2161	0.176	
B	B	1,2	3.290	2				1		0		4028		360		360			4028	0.089	
C	C	2	3.290	1		11	0	0		0		2084			360	360		100%	1834	0.196	0.196
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

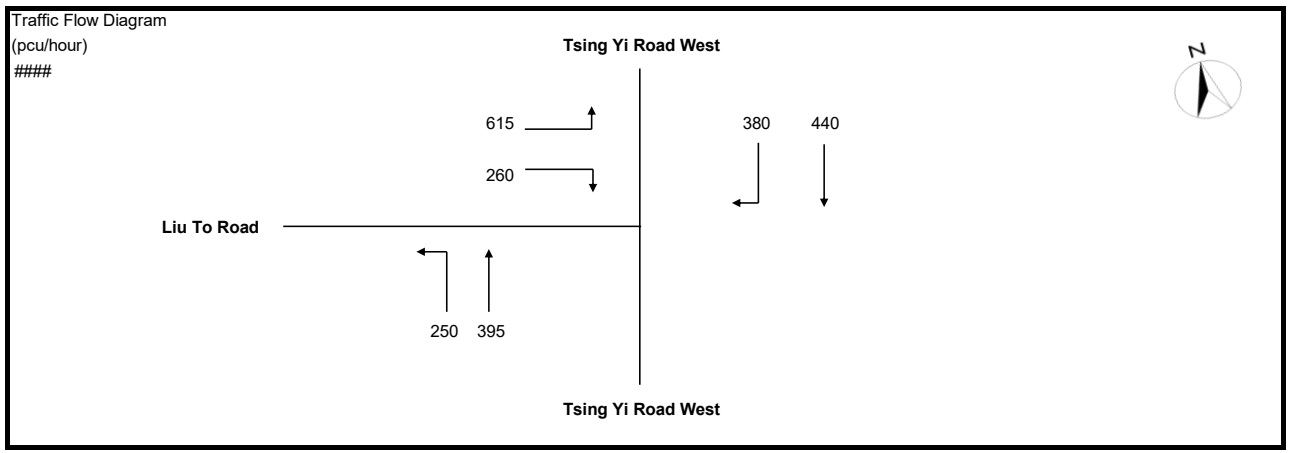
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2028 Design Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

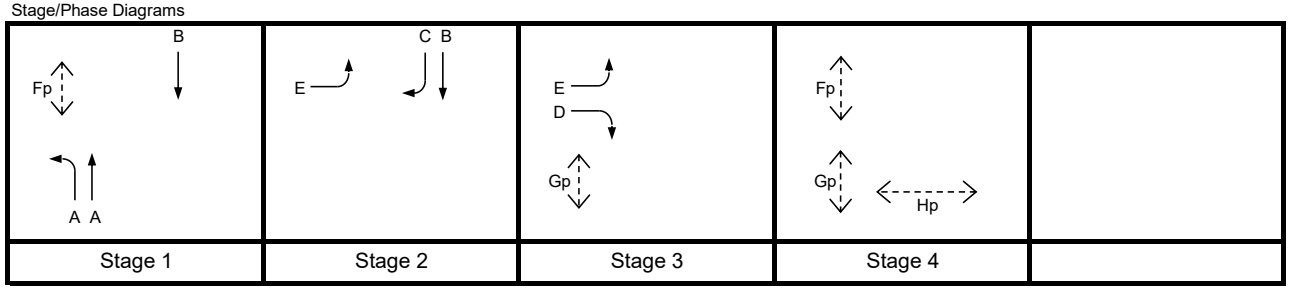
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	130	sec
Sum(y)	Y =	0.503	
Lost time	L =	38	sec
Total Flow	=	2,340	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	125	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	76	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	22.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	86	sec
Y_{max}	$= 1-L/C$	=	0.708	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 27%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	615			615	100%		1845	0.333	
D	D	3	3.790	1		17	0	0		0		2134			260	260		100%	1961	0.133	0.133
A	A	1	3.310	1	15			1		0		1946	250	42		292	85%		1793	0.163	0.163
A	A	1	4.060	1				0		0		2161		353		353			2161	0.163	
B	B	1,2	3.290	2				1		0		4028		440		440			4028	0.109	
C	C	2	3.290	1		11	0	0		0		2084			380	380		100%	1834	0.207	0.207
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

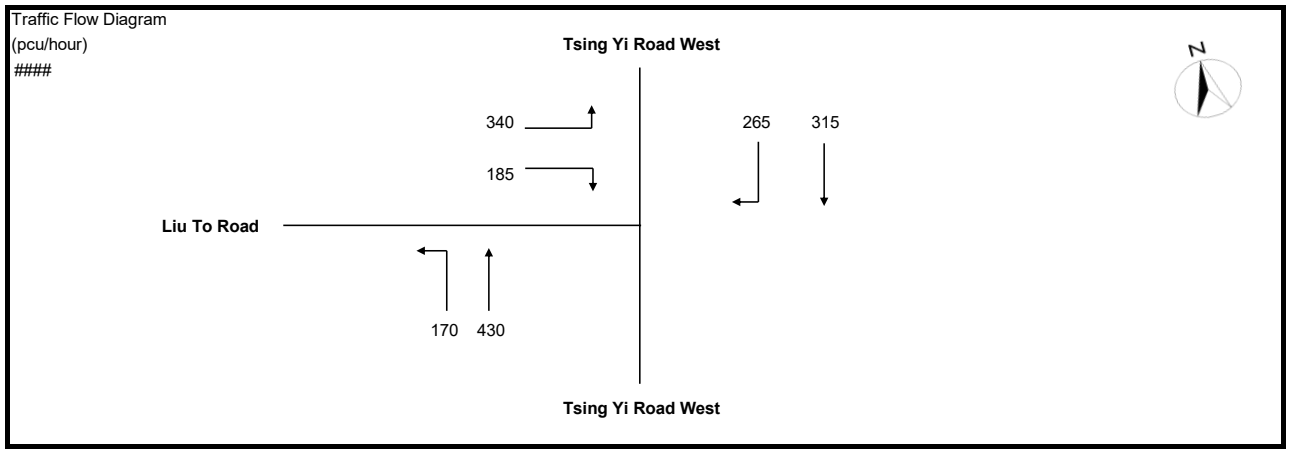
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2028 Design Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

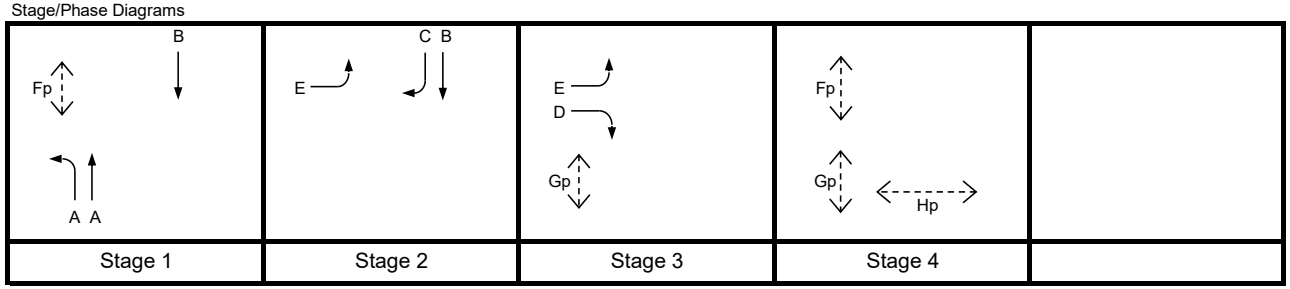
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.389	
Lost time	L =	38	sec
Total Flow	=	1,705	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	101	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	62	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	58.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	67	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 51%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	340			340	100%		1845	0.184	
D	D	3	3.790	1		17	0	0		0		2134			185	185		100%	1961	0.094	0.094
A	A	1	3.310	1	15			1		0		1946	170	105		275	62%		1833	0.150	0.150
A	A	1	4.060	1				0		0		2161		325		325			2161	0.150	
B	B	1,2	3.290	2				1		0		4028		315		315			4028	0.078	
C	C	2	3.290	1		11	0	0		0		2084			265	265		100%	1834	0.144	0.144
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

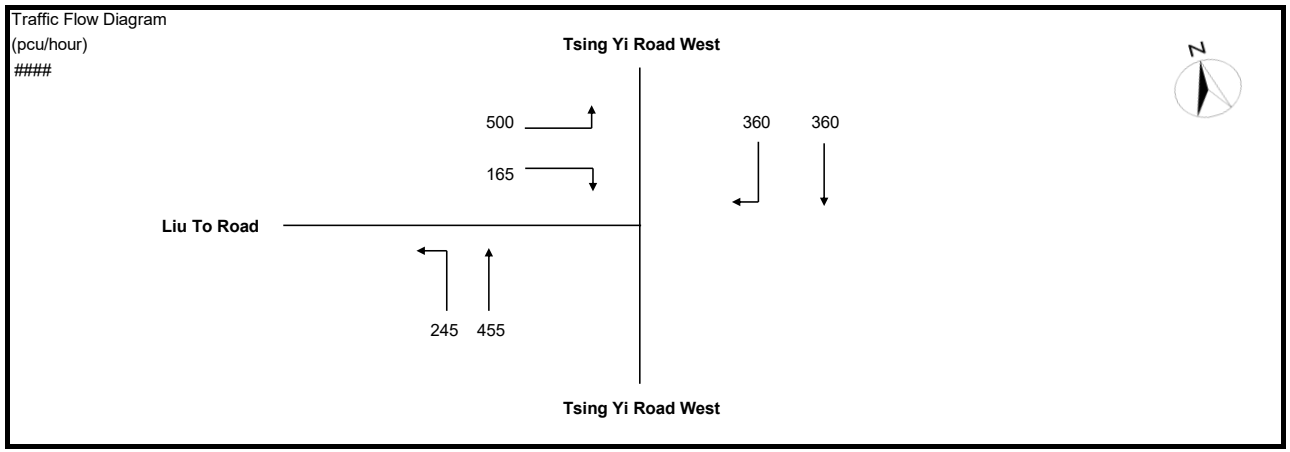
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2028 Design Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

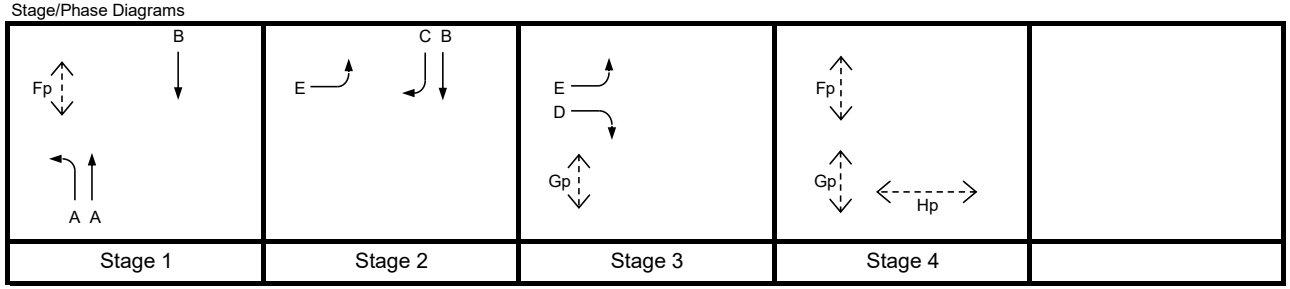
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.457	
Lost time	L =	38	sec
Total Flow	=	2,085	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	114	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	70	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	34.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	77	sec
Y_{max}	$= 1-L/C$	=	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 29%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	500			500	100%		1845	0.271	
D	D	3	3.790	1		17	0	0		0		2134			165	165		100%	1961	0.084	0.084
A	A	1	3.310	1	15			1		0		1946	245	74		319	77%		1807	0.176	0.176
A	A	1	4.060	1				0		0		2161		381		381			2161	0.176	
B	B	1,2	3.290	2				1		0		4028		360		360			4028	0.089	
C	C	2	3.290	1		11	0	0		0		2084			360	360		100%	1834	0.196	0.196
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

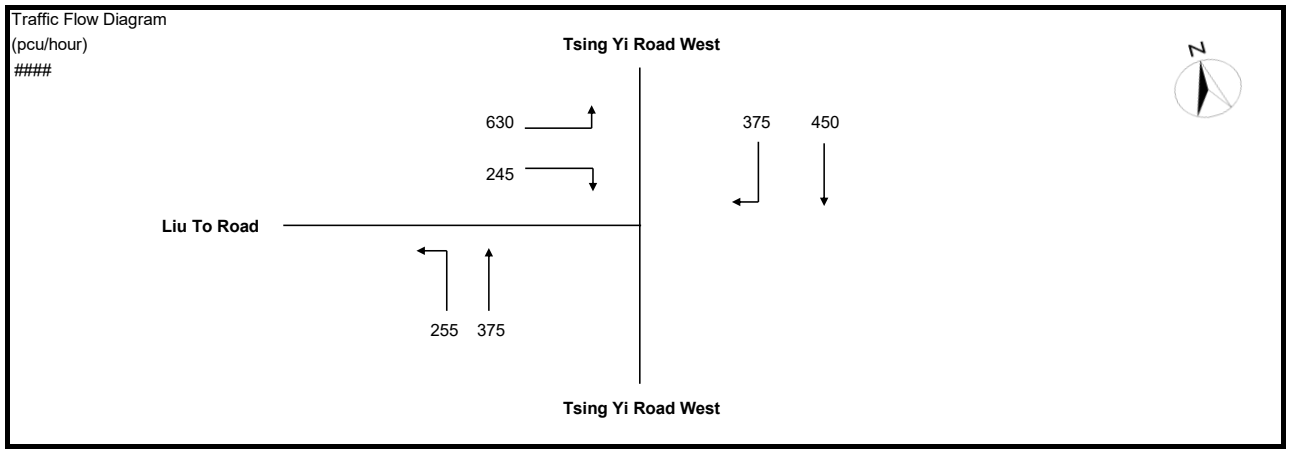
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

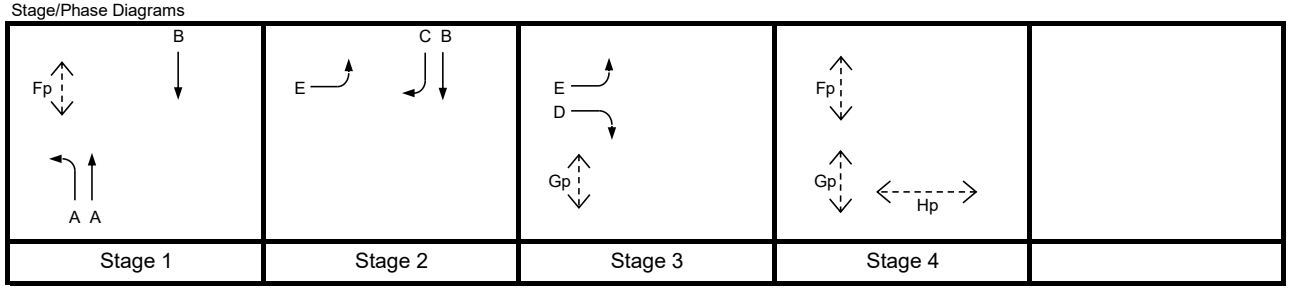
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	130	sec
Sum(y)	Y =	0.489	
Lost time	L =	38	sec
Total Flow	=	2,330	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	121	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	25.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	83	sec
Y_{max}	$= 1-L/C$ =	0.708	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 30%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	630			630	100%		1845	0.341	
D	D	3	3.790	1		17	0	0		0		2134			245	245		100%	1961	0.125	0.125
A	A	1	3.310	1	15			1		0		1946	255	30		285	89%		1786	0.160	0.160
A	A	1	4.060	1				0		0		2161		345		345			2161	0.160	
B	B	1,2	3.290	2				1		0		4028		450		450			4028	0.112	
C	C	2	3.290	1		11	0	0		0		2084			375	375		100%	1834	0.204	0.204
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

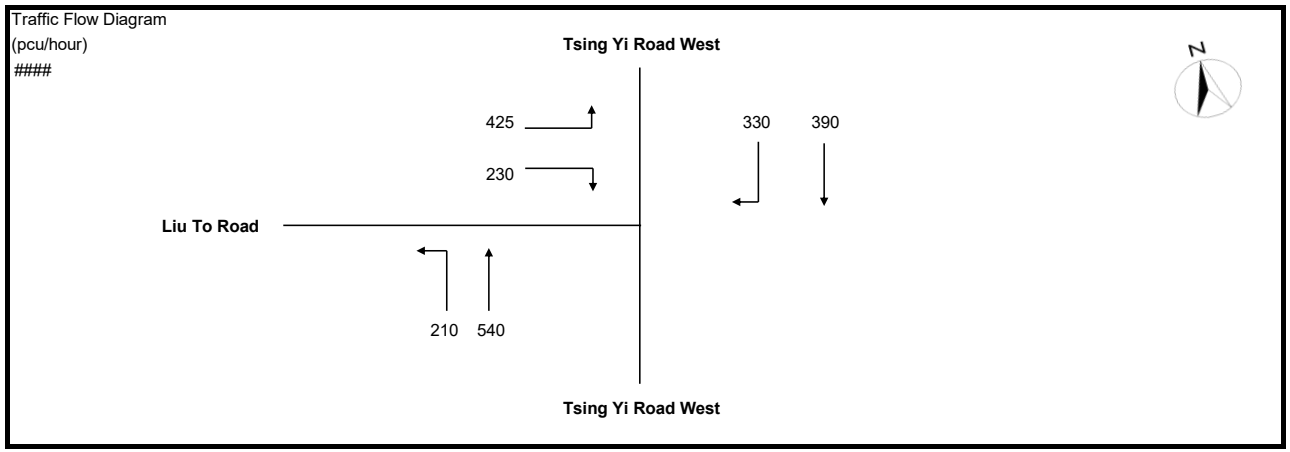
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

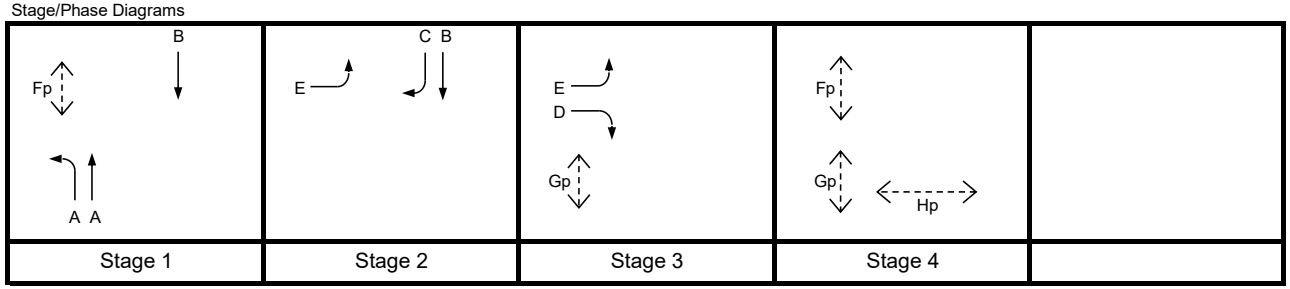
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.485	
Lost time	L =	38	sec
Total Flow	=	2,125	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	120	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	26.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	82	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 21%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	425			425	100%		1845	0.230	
D	D	3	3.790	1		17	0	0		0		2134			230	230		100%	1961	0.117	0.117
A	A	1	3.310	1	15			1		0		1946	210	134		344	61%		1834	0.188	
A	A	1	4.060	1				0		0		2161		406		406			2161	0.188	0.188
B	B	1,2	3.290	2				1		0		4028		390		390			4028	0.097	
C	C	2	3.290	1		11	0	0		0		2084			330	330		100%	1834	0.180	0.180
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

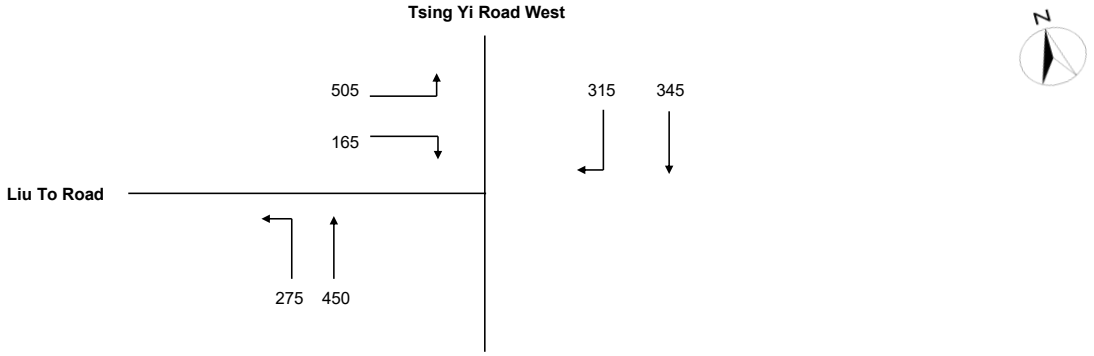
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

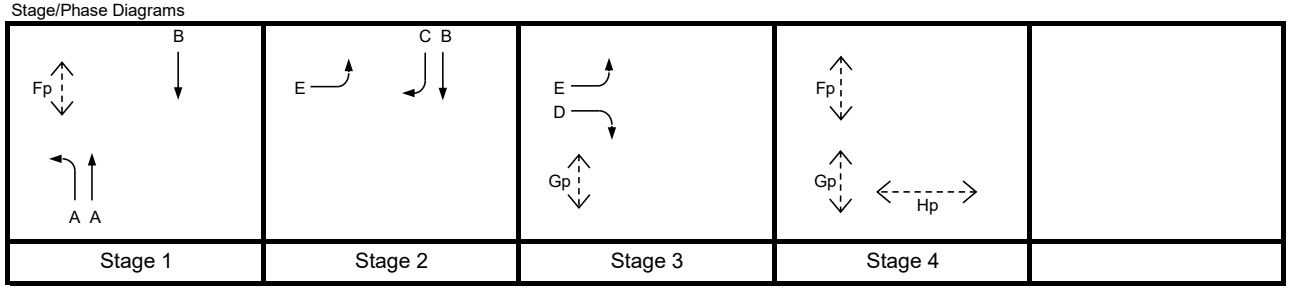
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.439	
Lost time	L =	38	sec
Total Flow	=	2,055	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	111	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	40.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	74	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 34%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	505			505	100%		1845	0.274	
D	D	3	3.790	1		17	0	0		0		2134			165	165		100%	1961	0.084	0.084
A	A	1	3.310	1	15			1		0		1946	275	54		329	84%		1796	0.183	0.183
A	A	1	4.060	1				0		0		2161		396		396			2161	0.183	
B	B	1,2	3.290	2				1		0		4028		345		345			4028	0.086	
C	C	2	3.290	1		11	0	0		0		2084			315	315		100%	1834	0.172	0.172
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

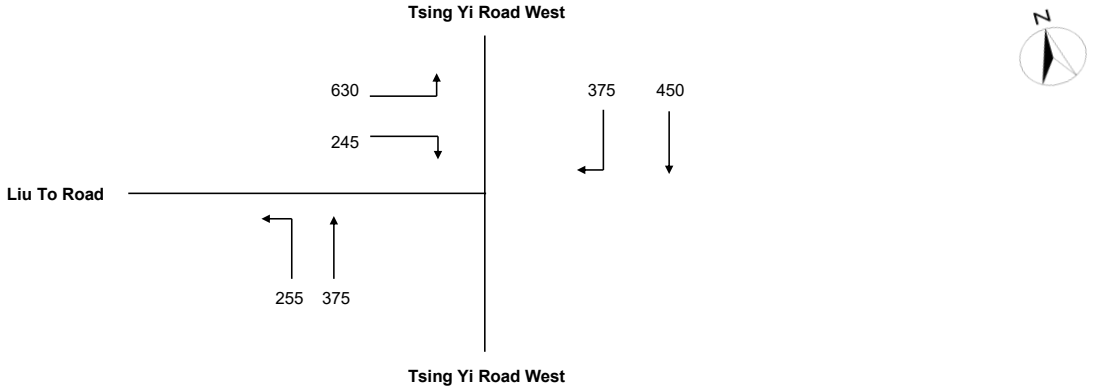
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Scenario A AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

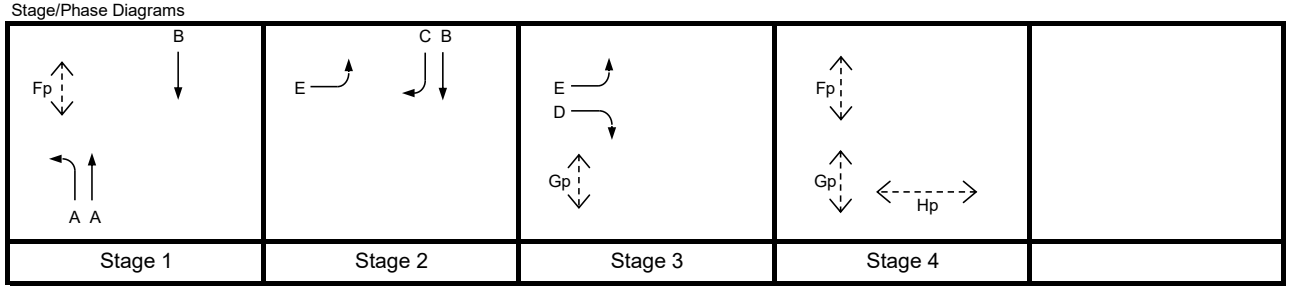
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	130	sec
Sum(y)	Y =	0.489	
Lost time	L =	38	sec
Total Flow	=	2,330	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	121	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	25.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	83	sec
Y_{max}	$= 1-L/C$ =	0.708	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 30%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	630			630	100%		1845	0.341	
D	D	3	3.790	1		17	0	0		0		2134			245	245		100%	1961	0.125	0.125
A	A	1	3.310	1	15			1		0		1946	255	30		285	89%		1786	0.160	0.160
A	A	1	4.060	1				0		0		2161		345		345			2161	0.160	
B	B	1,2	3.290	2				1		0		4028		450		450			4028	0.112	
C	C	2	3.290	1		11	0	0		0		2084			375	375		100%	1834	0.204	0.204
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

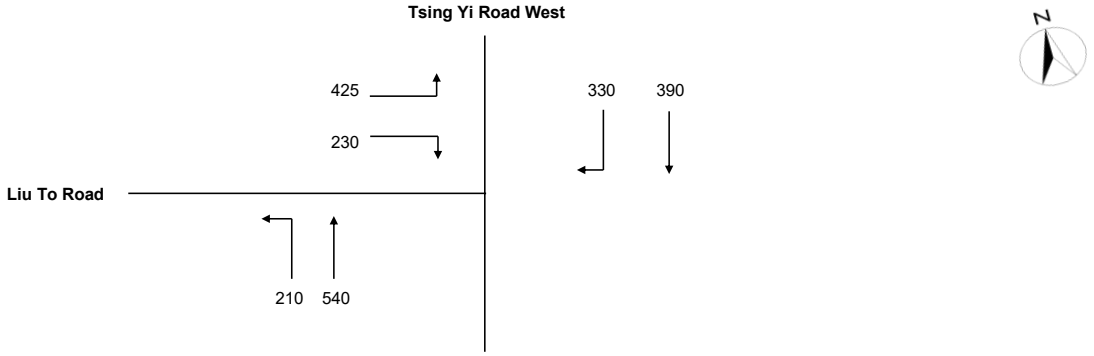
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Scenario A NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

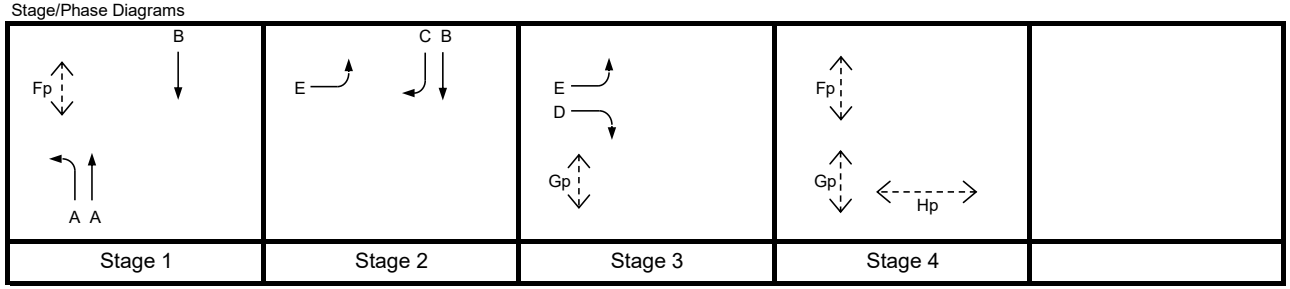
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.485	
Lost time	L =	38	sec
Total Flow	=	2,125	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	120	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	26.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	82	sec
Y_{max}	$= 1-L/C$	=	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 21%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	E	2,3	3.840	1	18			1		0		1999	425			425	100%		1845	0.230	
	D	3	3.790	1		17	0	0		0		2134			230	230		100%	1961	0.117	0.117
	A	1	3.310	1	15			1		0		1946	210	134		344	61%		1834	0.188	
	A	1	4.060	1				0		0		2161		406		406			2161	0.188	0.188
	B	1,2	3.290	2				1		0		4028		390		390			4028	0.097	
	C	2	3.290	1		11	0	0		0		2084			330	330		100%	1834	0.180	0.180
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

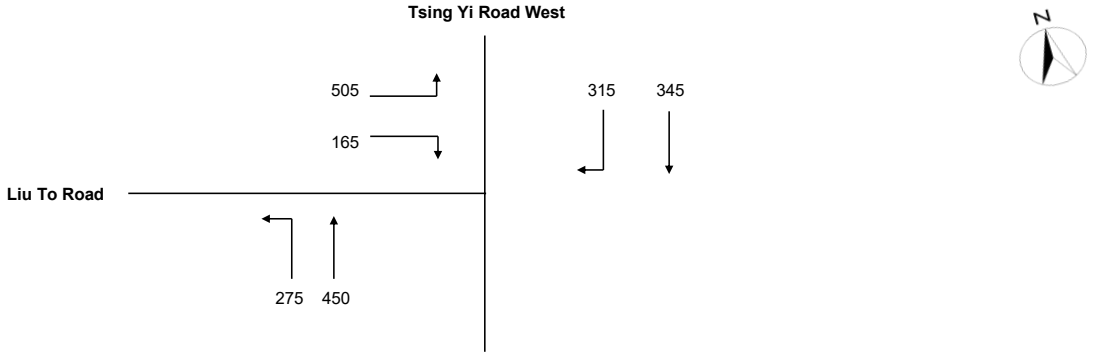
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Scenario A PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

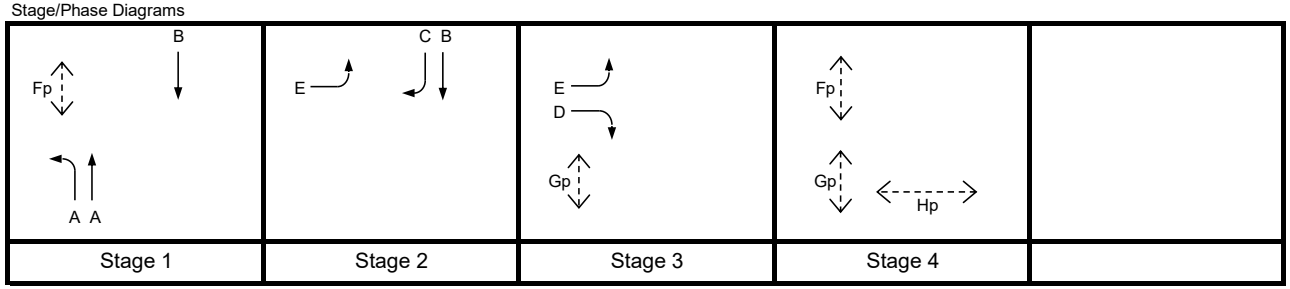
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.439	
Lost time	L =	38	sec
Total Flow	=	2,055	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	111	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	40.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	74	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 34%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	E	2,3	3.840	1	18			1		0		1999	505			505	100%		1845	0.274	
	D	3	3.790	1		17	0	0		0		2134			165	165		100%	1961	0.084	0.084
	A	1	3.310	1	15			1		0		1946	275	54		329	84%		1796	0.183	0.183
	A	1	4.060	1				0		0		2161		396		396			2161	0.183	
	B	1,2	3.290	2				1		0		4028		345		345			4028	0.086	
	C	2	3.290	1		11	0	0		0		2084			315	315		100%	1834	0.172	0.172
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

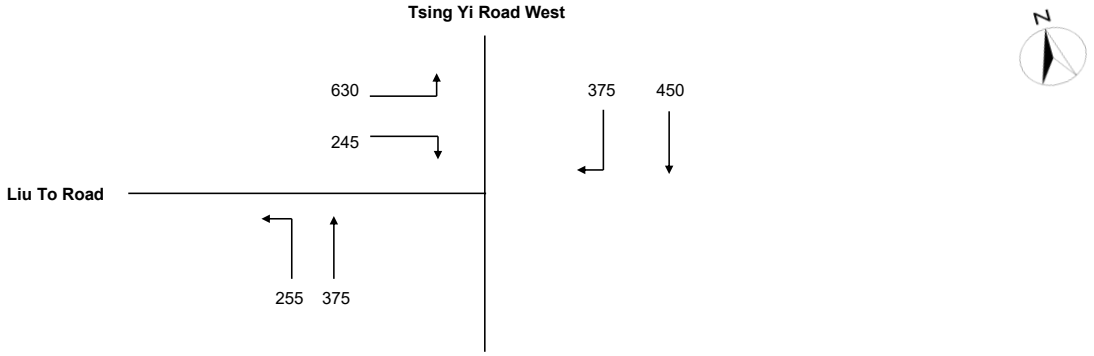
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Scenario B AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

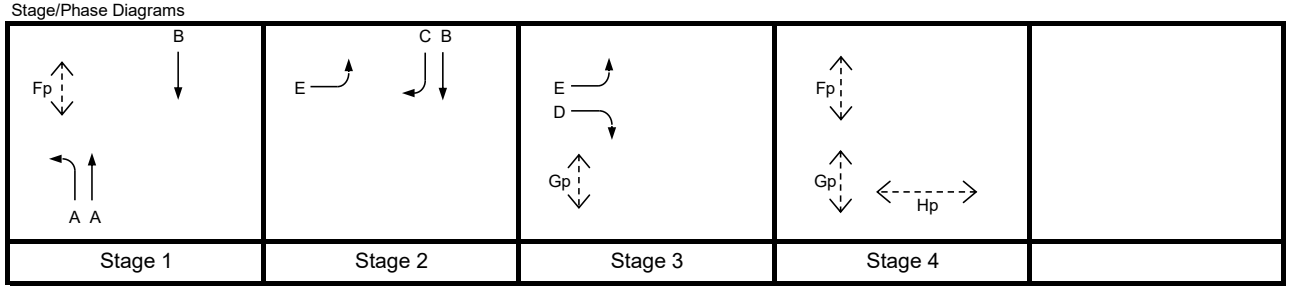
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	130	sec
Sum(y)	Y =	0.489	
Lost time	L =	38	sec
Total Flow	=	2,330	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	121	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	25.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	83	sec
Y_{max}	$= 1-L/C$ =	0.708	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 30%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	630			630	100%		1845	0.341	
D	D	3	3.790	1		17	0	0		0		2134			245	245		100%	1961	0.125	0.125
A	A	1	3.310	1	15			1		0		1946	255	30		285	89%		1786	0.160	0.160
A	A	1	4.060	1				0		0		2161		345		345			2161	0.160	
B	B	1,2	3.290	2				1		0		4028		450		450			4028	0.112	
C	C	2	3.290	1		11	0	0		0		2084			375	375		100%	1834	0.204	0.204
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

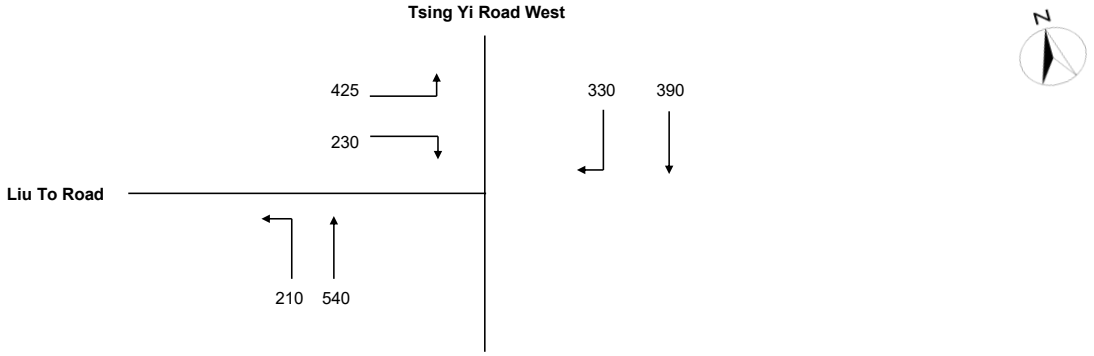
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Scenario B NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

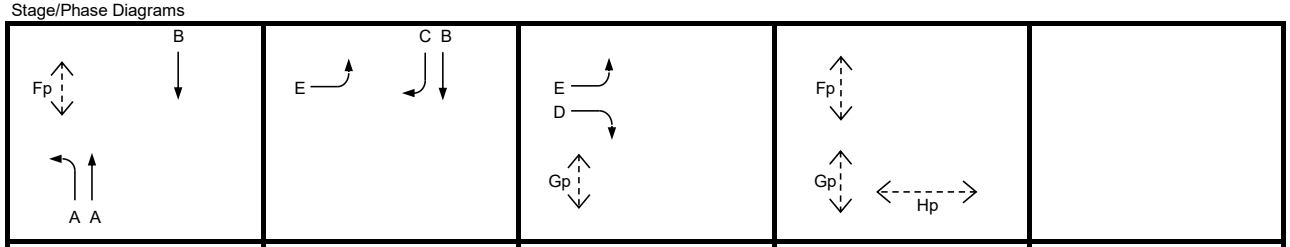
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.485	
Lost time	L =	38	sec
Total Flow	=	2,125	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	120	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.615	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	26.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	82	sec
Y_{max}	$= 1-L/C$	=	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 21%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	425			425	100%		1845	0.230	
D	D	3	3.790	1		17	0	0		0		2134			230	230		100%	1961	0.117	0.117
A	A	1	3.310	1	15			1		0		1946	210	134		344	61%		1834	0.188	
A	A	1	4.060	1				0		0		2161		406		406			2161	0.188	0.188
B	B	1,2	3.290	2				1		0		4028		390		390			4028	0.097	
C	C	2	3.290	1		11	0	0		0		2084			330	330		100%	1834	0.180	0.180
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

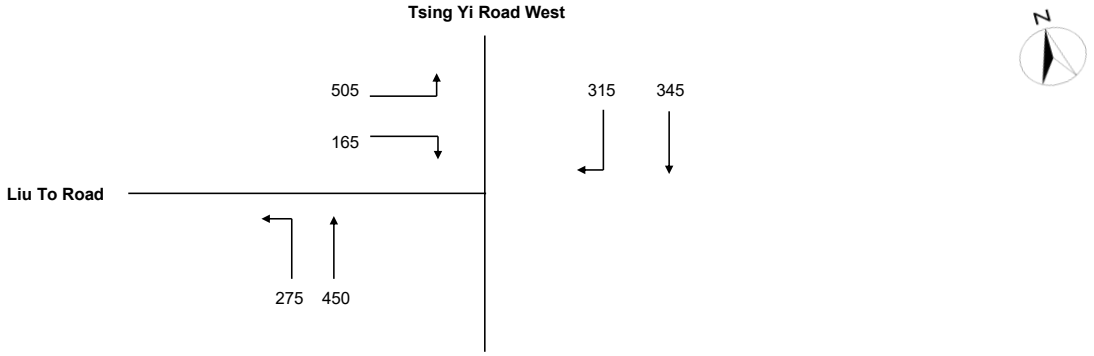
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Scenario B PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

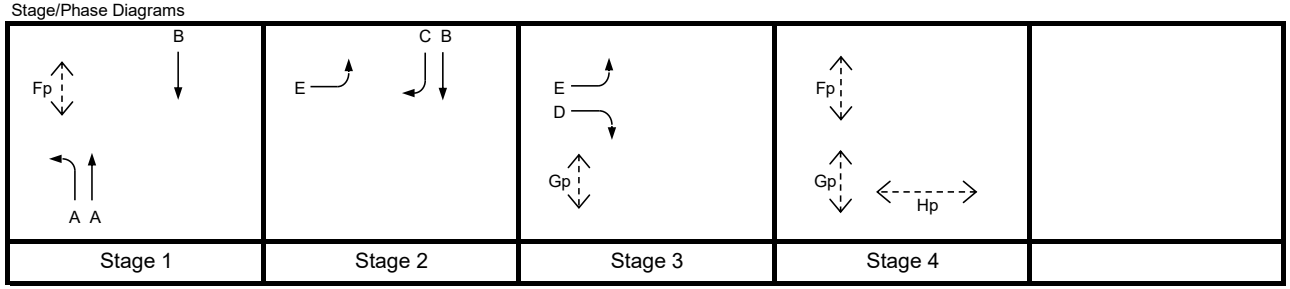
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.439	
Lost time	L =	38	sec
Total Flow	=	2,055	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	111	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	40.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	74	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 34%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	2,3	3.840	1	18		1			0		1999	505			505	100%		1845	0.274	
D	3	3.790	1		17	0	0		0		2134			165	165		100%	1961	0.084	0.084
A	1	3.310	1	15			1		0		1946	275	54		329	84%		1796	0.183	0.183
A	1	4.060	1				0		0		2161		396		396			2161	0.183	
B	1,2	3.290	2				1		0		4028		345		345			4028	0.086	
C	2	3.290	1		11	0	0		0		2084			315	315		100%	1834	0.172	0.172
Pedestrain Crossing				GM		FGM		Total												
	Fp	1,4	min.	5	+	9	=	14	sec											
	Gp	3,4	min.	5	+	13	=	18	sec											
	Hp	4	min.	5	+	8	=	13	sec											*

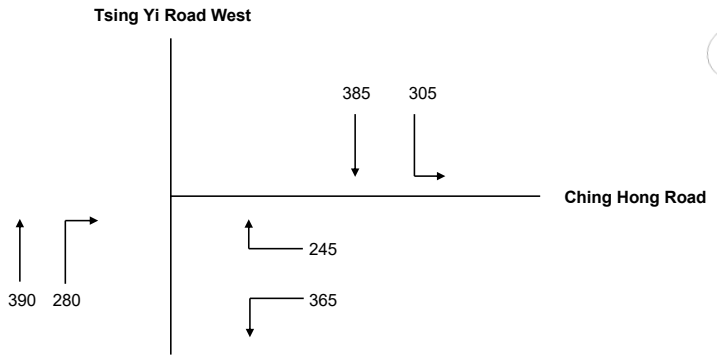
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2025 Survey Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

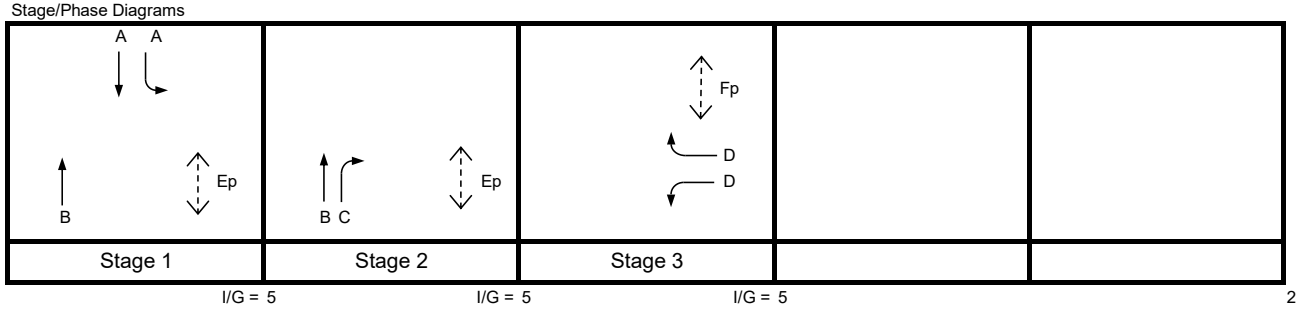
J8

Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle		N = 3	
Cycle time		C = 130	sec
Sum(y)		Y = 0.476	
Lost time		L = 14	sec
Total Flow		= 1,970	pcu
Optimum Cycle C_o	= (1.5×L+5)/(1-Y)	= 50	sec
Min. Cycle Time C_m	= L/(1-Y)	= 27	sec
Y_{ult}	= 0.9-0.0075×L	= 0.795	
R.C.$_{ult}$	= (Y_{ult}-Y)/Yx100%	= 67.0	%
Practical Cycle Time C_p	= 0.9×L/(0.9-Y)	= 30	sec
Y_{max}	= 1-L/C	= 0.892	

Stage/Phase Diagrams



Critical Case : A,C,D

R.C.(C) = (0.9xY_{max}-Y)/Yx100% = 69%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		390		390			4072	0.096	
	C	2	3.700	1		22	0	0		0		2125			280	280		100%	1989	0.141	0.141
	D	3	3.380	1	17			1		0		1953	294			294	100%		1795	0.164	
	D	3	3.380	1	17	18	0	0		0		2093	71		245	316	22%	78%	1930	0.164	0.164
	A	1	3.690	1	13			1		0		1984	305			305	100%		1779	0.171	0.171
	A	1	3.745	2				0		0		4259		385		385			4259	0.090	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

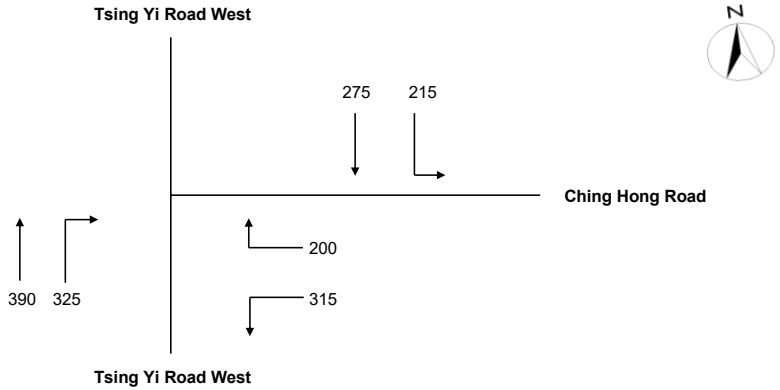
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2025 Survey Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

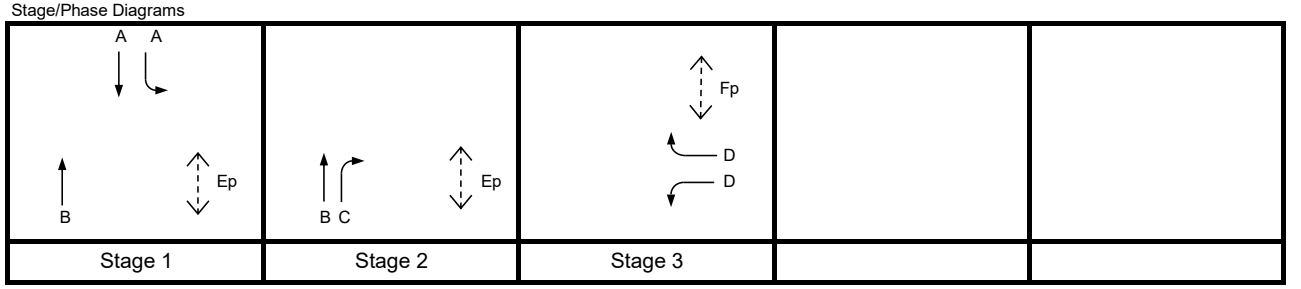
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.423	
Lost time	L =	14	sec
Total Flow	=	1,720	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	45	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	88.2	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 86%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		390		390			4072	0.096	
	C	2	3.700	1		22	0	0		0		2125			325	325		100%	1989	0.163	0.163
	D	3	3.380	1	17			1		0		1953	248			248	100%		1795	0.138	0.138
	D	3	3.380	1	17	18	0	0		0		2093	67		200	267	25%	75%	1930	0.138	
	A	1	3.690	1	13			1		0		1984	215			215	100%		1779	0.121	0.121
	A	1	3.745	2				0		0		4259		275		275			4259	0.065	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

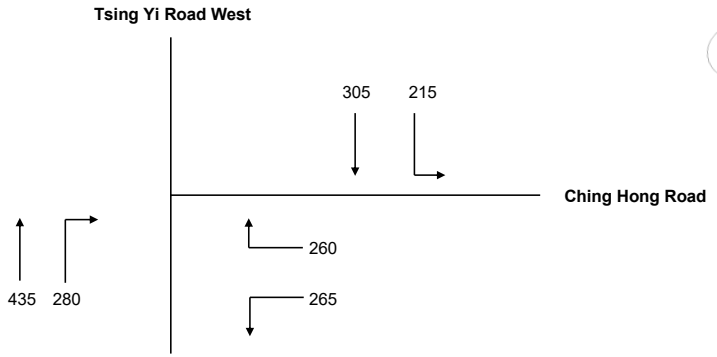
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2025 Survey Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

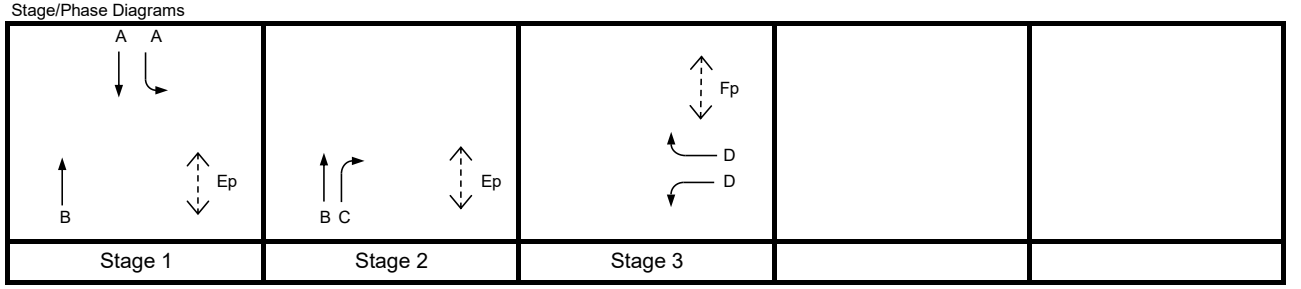
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.403	
Lost time	L =	14	sec
Total Flow	=	1,760	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	23	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	97.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	25	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 95%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		435		435			4072	0.107	
	C	2	3.700	1		22	0	0		0		2125			280	280		100%	1989	0.141	0.141
	D	3	3.380	1	17			1		0		1953	253			253	100%		1795	0.141	
	D	3	3.380	1	17	18	0	0		0		2093	12		260	272	4%	96%	1932	0.141	0.141
	A	1	3.690	1	13			1		0		1984	215			215	100%		1779	0.121	0.121
	A	1	3.745	2				0		0		4259		305		305			4259	0.072	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

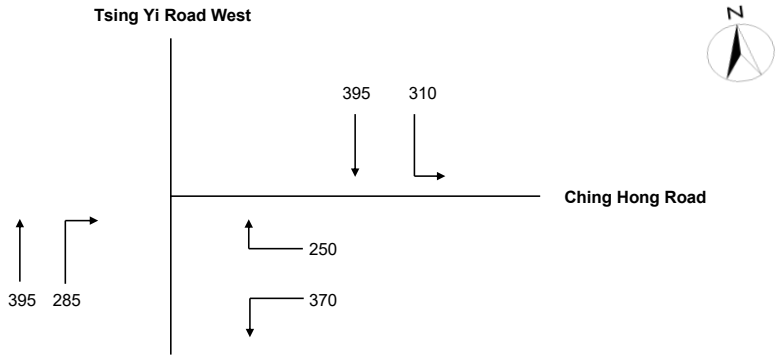
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2028 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

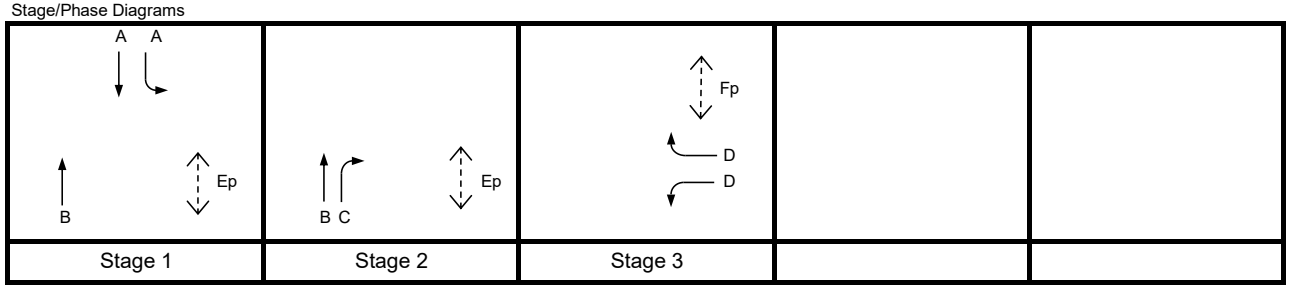
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	130	sec
Sum(y)	Y =	0.484	
Lost time	L =	14	sec
Total Flow	=	2,005	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	50	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	64.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	30	sec
Y_{max}	$= 1-L/C$ =	0.892	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 66%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		395		395			4072	0.097	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	299			299	100%		1795	0.166	0.166
	D	3	3.380	1	17	18	0	0		0		2093	71		250	321	22%	78%	1930	0.166	
	A	1	3.690	1	13			1		0		1984	310			310	100%		1779	0.174	0.174
	A	1	3.745	2				0		0		4259		395		395			4259	0.093	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

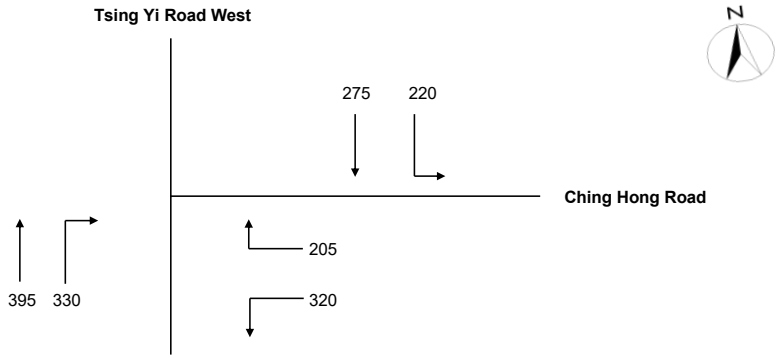
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2028 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

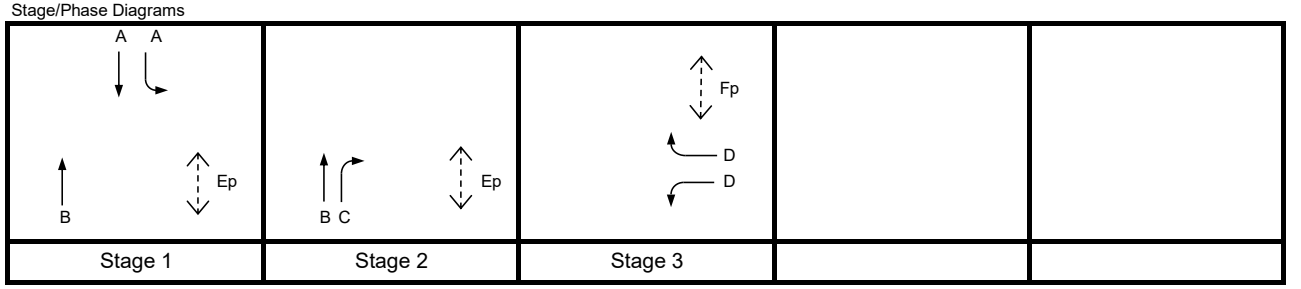
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.431	
Lost time	L =	14	sec
Total Flow	=	1,745	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	46	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	25	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	84.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	27	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

$R.C._{(C)} = (0.9xY_{max}-Y)/Yx100\% =$ 82%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		395		395			4072	0.097	
	C	2	3.700	1		22	0	0		0		2125			330	330		100%	1989	0.166	0.166
	D	3	3.380	1	17			1		0		1953	253			253	100%		1795	0.141	
	D	3	3.380	1	17	18	0	0		0		2093	67		205	272	25%	75%	1930	0.141	0.141
	A	1	3.690	1	13			1		0		1984	220			220	100%		1779	0.124	0.124
	A	1	3.745	2				0		0		4259		275		275			4259	0.065	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

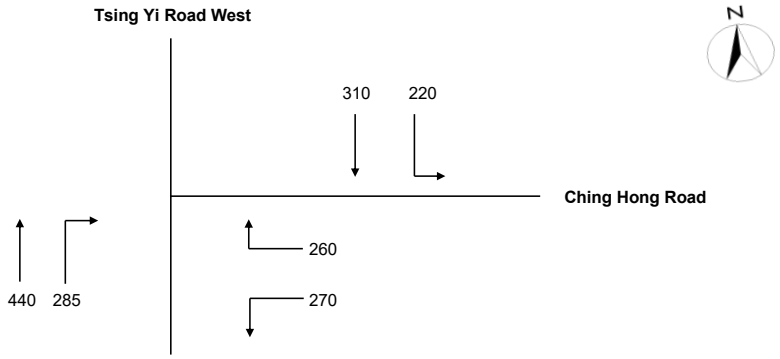
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2028 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

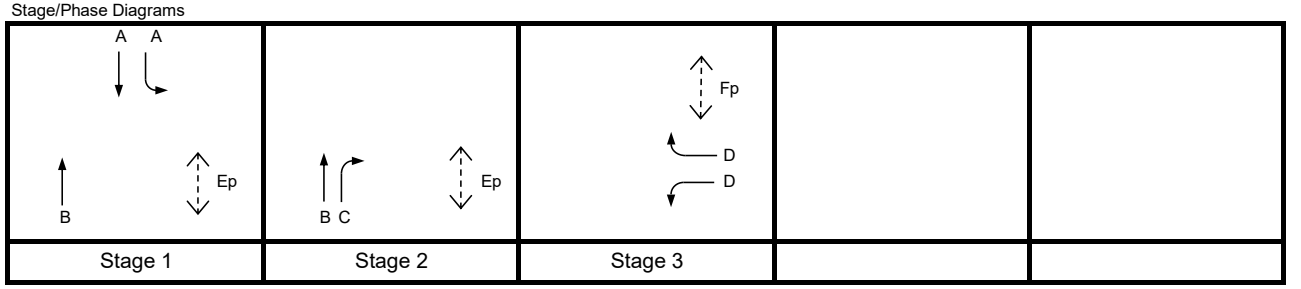
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.409	
Lost time	L =	14	sec
Total Flow	=	1,785	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	94.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 92%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		440		440			4072	0.108	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	255			255	100%		1795	0.142	
	D	3	3.380	1	17	18	0	0		0		2093	15		260	275	5%	95%	1932	0.142	0.142
	A	1	3.690	1	13			1		0		1984	220			220	100%		1779	0.124	0.124
	A	1	3.745	2				0		0		4259		310		310			4259	0.073	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

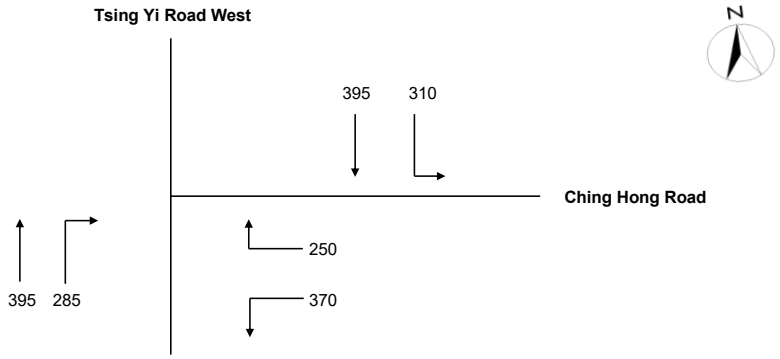
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2028 Design Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

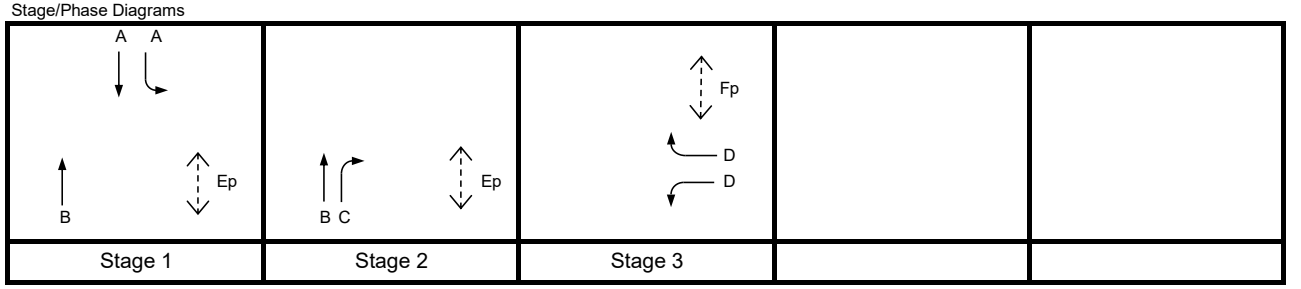
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	130	sec
Sum(y)	Y =	0.484	
Lost time	L =	14	sec
Total Flow	=	2,005	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	50	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	64.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	30	sec
Y_{max}	$= 1-L/C$ =	0.892	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 66%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		395		395			4072	0.097	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	299			299	100%		1795	0.166	0.166
	D	3	3.380	1	17	18	0	0		0		2093	71		250	321	22%	78%	1930	0.166	
	A	1	3.690	1	13			1		0		1984	310			310	100%		1779	0.174	0.174
	A	1	3.745	2				0		0		4259		395		395			4259	0.093	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

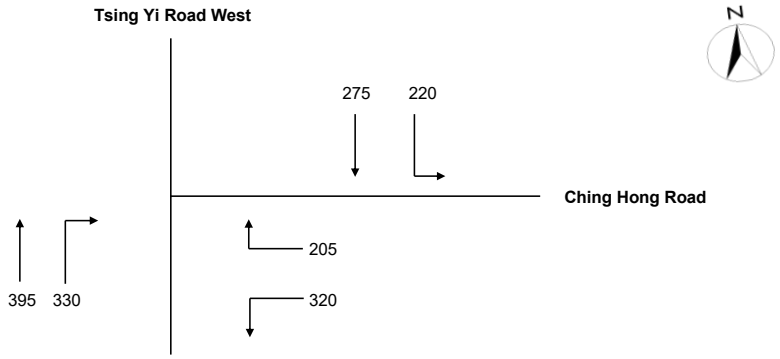
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2028 Design Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

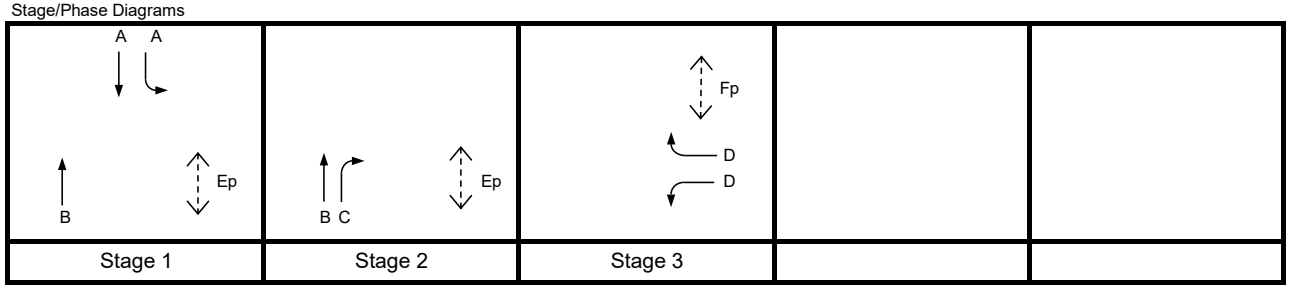
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.431	
Lost time	L =	14	sec
Total Flow	=	1,745	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	46	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	25	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	84.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	27	sec
Y_{max}	$= 1-L/C$	=	0.873	

Stage/Phase Diagrams



Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 82%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		395		395			4072	0.097	
	C	2	3.700	1		22	0	0		0		2125			330	330		100%	1989	0.166	0.166
	D	3	3.380	1	17			1		0		1953	253			253	100%		1795	0.141	
	D	3	3.380	1	17	18	0	0		0		2093	67		205	272	25%	75%	1930	0.141	0.141
	A	1	3.690	1	13			1		0		1984	220			220	100%		1779	0.124	0.124
	A	1	3.745	2				0		0		4259		275		275			4259	0.065	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

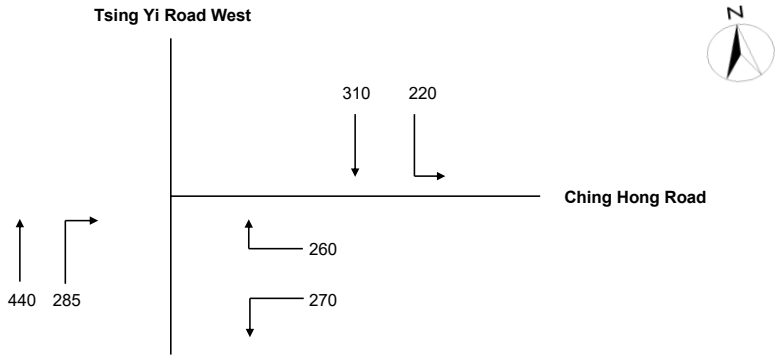
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2028 Design Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

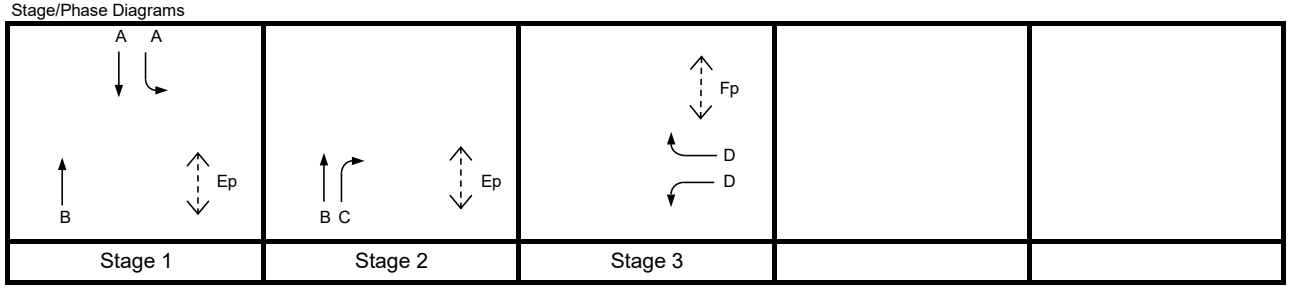
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.409	
Lost time	L =	14	sec
Total Flow	=	1,785	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	94.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 92%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		440		440			4072	0.108	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	255			255	100%		1795	0.142	
	D	3	3.380	1	17	18	0	0		0		2093	15		260	275	5%	95%	1932	0.142	0.142
	A	1	3.690	1	13			1		0		1984	220			220	100%		1779	0.124	0.124
	A	1	3.745	2				0		0		4259		310		310			4259	0.073	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

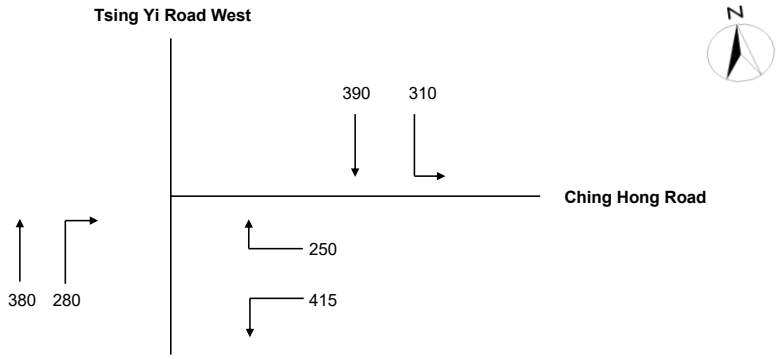
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

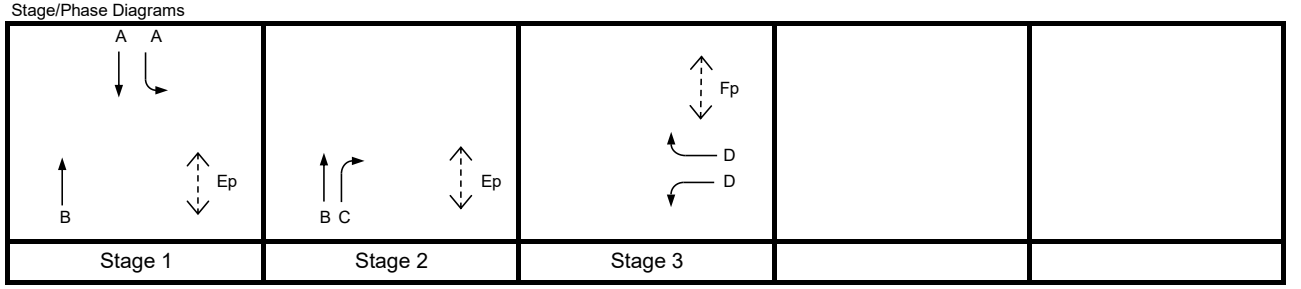
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	130	sec
Sum(y)	Y =	0.494	
Lost time	L =	14	sec
Total Flow	=	2,025	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	51	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	28	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	61.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	31	sec
Y_{max}	$= 1-L/C$ =	0.892	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 63%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		380		380			4072	0.093	
	C	2	3.700	1		22	0	0		0		2125			280	280		100%	1989	0.141	0.141
	D	3	3.380	1	17			1		0		1953	320			320	100%		1795	0.179	0.179
	D	3	3.380	1	17	18	0	0		0		2093	95		250	345	27%	73%	1930	0.179	
	A	1	3.690	1	13			1		0		1984	310			310	100%		1779	0.174	0.174
	A	1	3.745	2				0		0		4259		390		390			4259	0.092	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

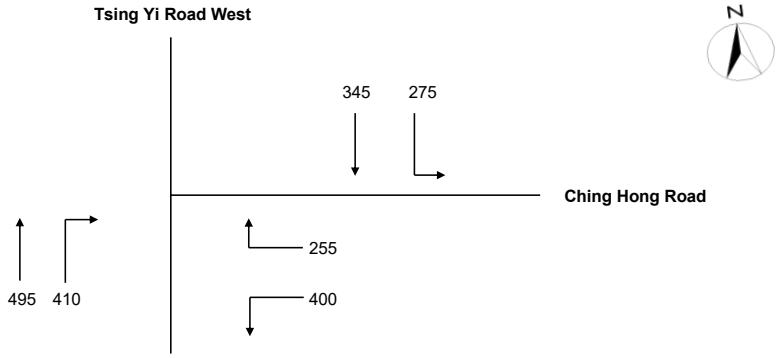
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

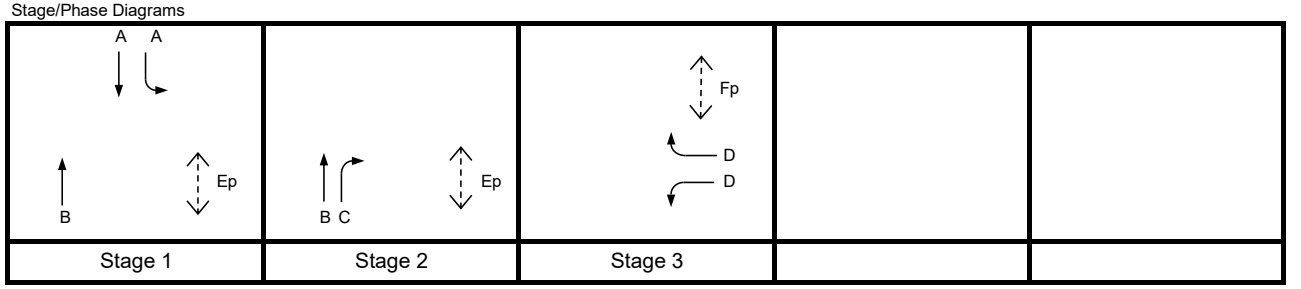
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.537	
Lost time	L =	14	sec
Total Flow	=	2,180	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	56	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	30	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	48.2	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	35	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 46%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		495		495			4072	0.122	
	C	2	3.700	1		22	0	0		0		2125			410	410		100%	1989	0.206	0.206
	D	3	3.380	1	17			1		0		1953	316			316	100%		1795	0.176	
	D	3	3.380	1	17	18	0	0		0		2093	84		255	339	25%	75%	1930	0.176	0.176
	A	1	3.690	1	13			1		0		1984	275			275	100%		1779	0.155	0.155
	A	1	3.745	2				0		0		4259		345		345			4259	0.081	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

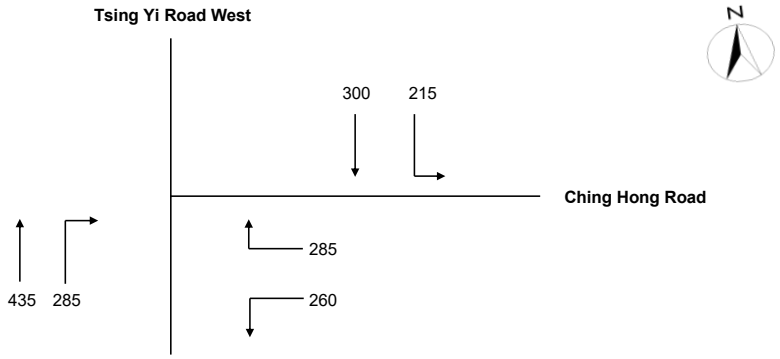
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

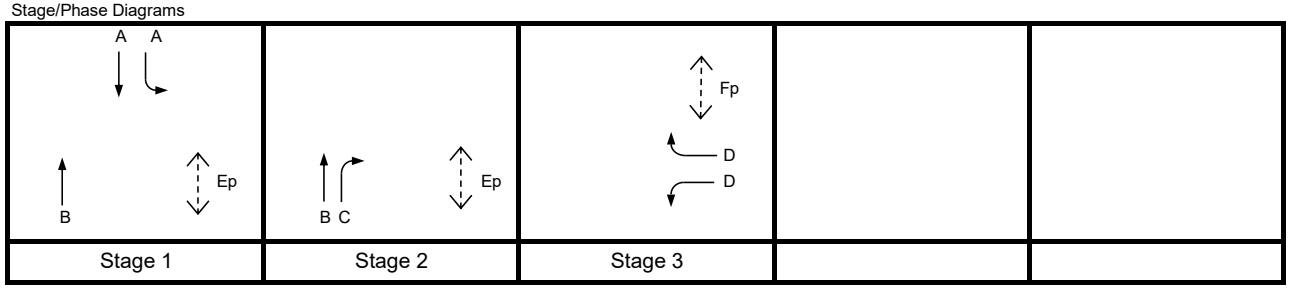
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.412	
Lost time	L =	14	sec
Total Flow	=	1,780	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	93.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 91%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		435		435			4072	0.107	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	260			260	100%		1795	0.145	
	D	3	3.380	1	17	18	0	0		0		2093	0		285	285	0%	100%	1932	0.148	0.148
	A	1	3.690	1	13			1		0		1984	215			215	100%		1779	0.121	0.121
	A	1	3.745	2				0		0		4259		300		300			4259	0.070	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

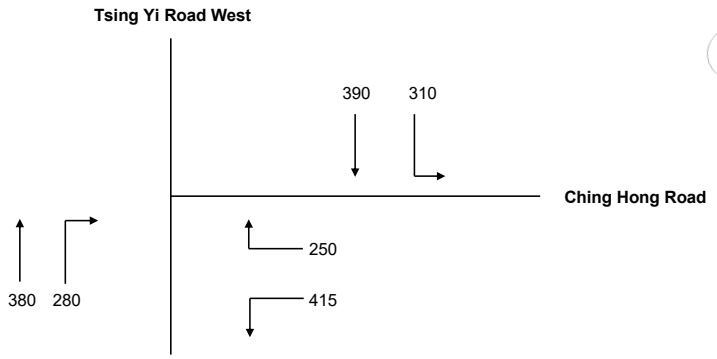
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Scenario A AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

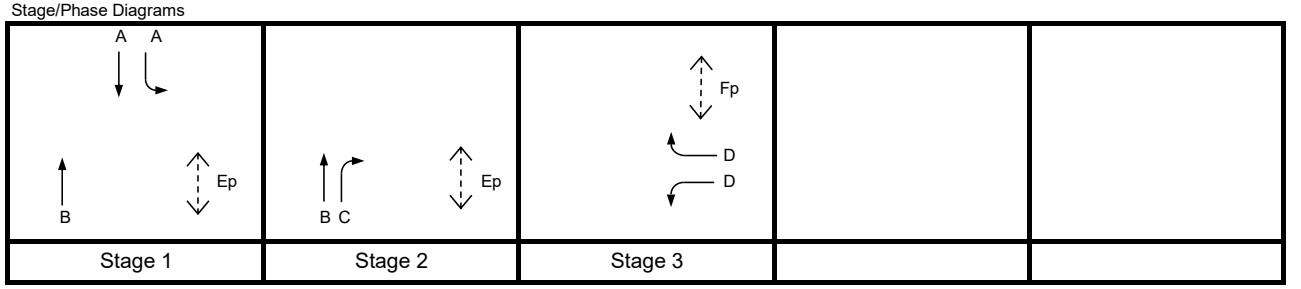
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	130	sec
Sum(y)	Y =	0.494	
Lost time	L =	14	sec
Total Flow	=	2,025	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	51	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	28	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	61.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	31	sec
Y_{max}	$= 1-L/C$	=	0.892	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 63%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		380		380			4072	0.093	
	C	2	3.700	1		22	0	0		0		2125			280	280		100%	1989	0.141	0.141
	D	3	3.380	1	17			1		0		1953	320			320	100%		1795	0.179	0.179
	D	3	3.380	1	17	18	0	0		0		2093	95		250	345	27%	73%	1930	0.179	
	A	1	3.690	1	13			1		0		1984	310			310	100%		1779	0.174	0.174
	A	1	3.745	2				0		0		4259		390		390			4259	0.092	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

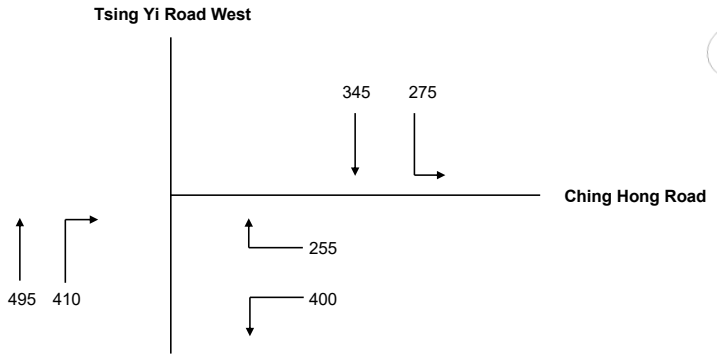
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Scenario A NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

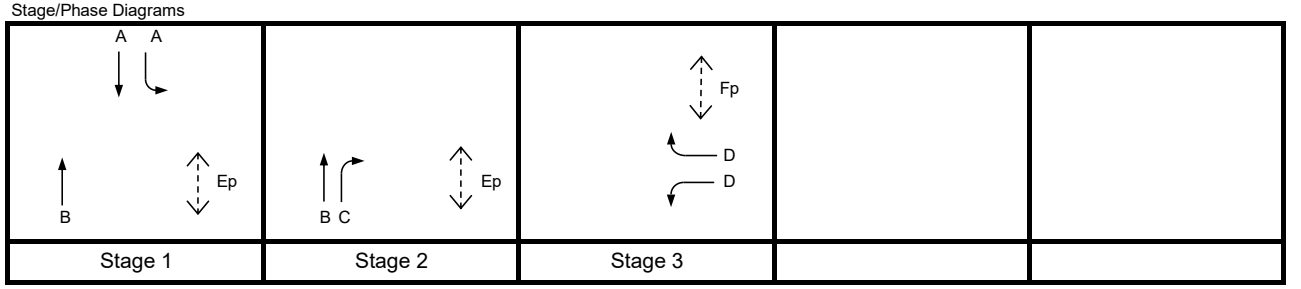
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.537	
Lost time	L =	14	sec
Total Flow	=	2,180	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	56	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	30	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	48.2	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	35	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 46%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		495		495			4072	0.122	
	C	2	3.700	1		22	0	0		0		2125			410	410		100%	1989	0.206	0.206
	D	3	3.380	1	17			1		0		1953	316			316	100%		1795	0.176	
	D	3	3.380	1	17	18	0	0		0		2093	84		255	339	25%	75%	1930	0.176	0.176
	A	1	3.690	1	13			1		0		1984	275			275	100%		1779	0.155	0.155
	A	1	3.745	2				0		0		4259		345		345			4259	0.081	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

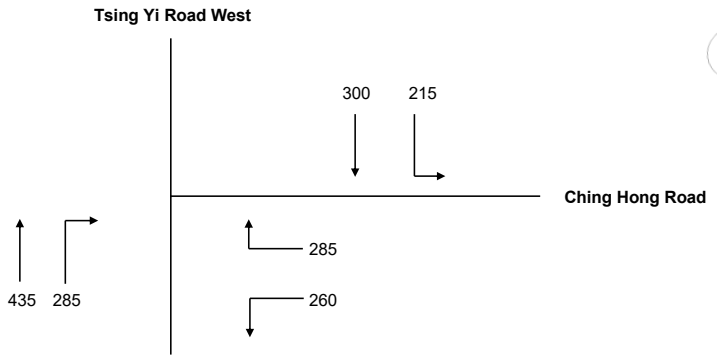
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Scenario A PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

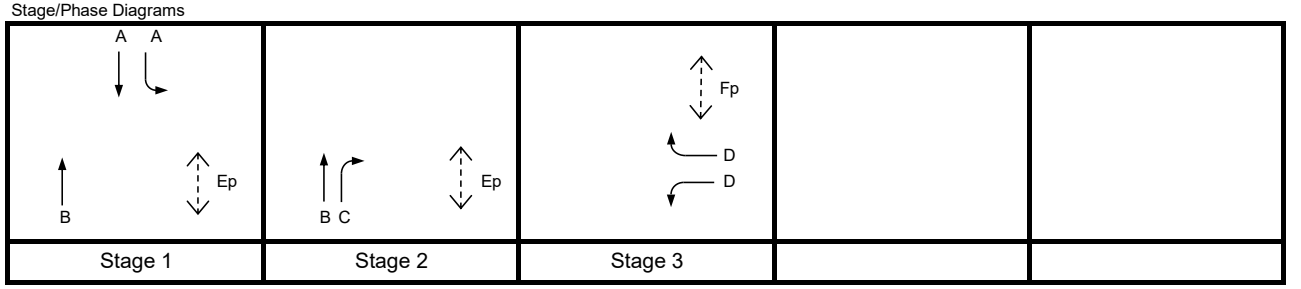
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.412	
Lost time	L =	14	sec
Total Flow	=	1,780	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	93.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 91%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		435		435			4072	0.107	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	260			260	100%		1795	0.145	
	D	3	3.380	1	17	18	0	0		0		2093	0		285	285	0%	100%	1932	0.148	0.148
	A	1	3.690	1	13			1		0		1984	215			215	100%		1779	0.121	0.121
	A	1	3.745	2				0		0		4259		300		300			4259	0.070	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

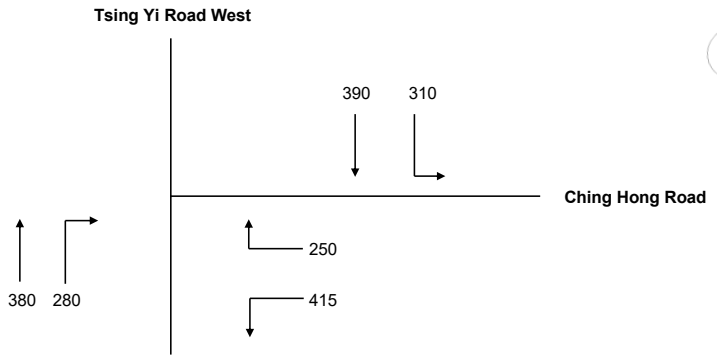
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Scenario B AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

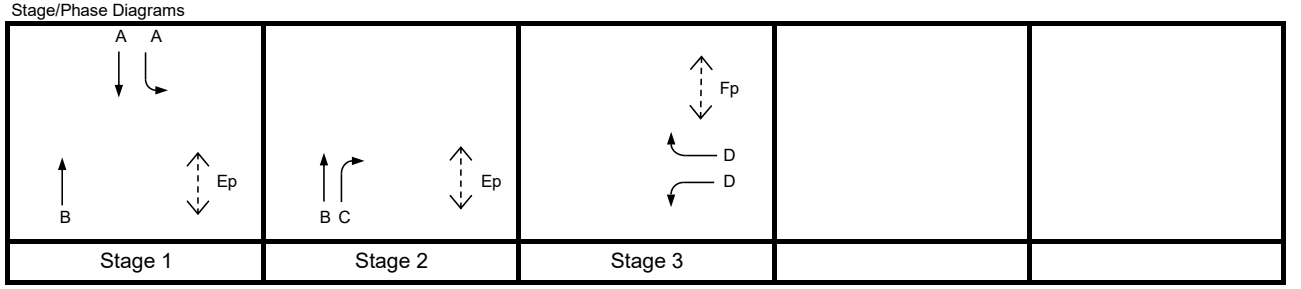
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	130	sec
Sum(y)	Y =	0.494	
Lost time	L =	14	sec
Total Flow	=	2,025	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	51	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	28	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	61.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	31	sec
Y_{max}	$= 1-L/C$ =	0.892	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 63%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		380		380			4072	0.093	
	C	2	3.700	1		22	0	0		0		2125			280	280		100%	1989	0.141	0.141
	D	3	3.380	1	17			1		0		1953	320			320	100%		1795	0.179	0.179
	D	3	3.380	1	17	18	0	0		0		2093	95		250	345	27%	73%	1930	0.179	
	A	1	3.690	1	13			1		0		1984	310			310	100%		1779	0.174	0.174
	A	1	3.745	2				0		0		4259		390		390			4259	0.092	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

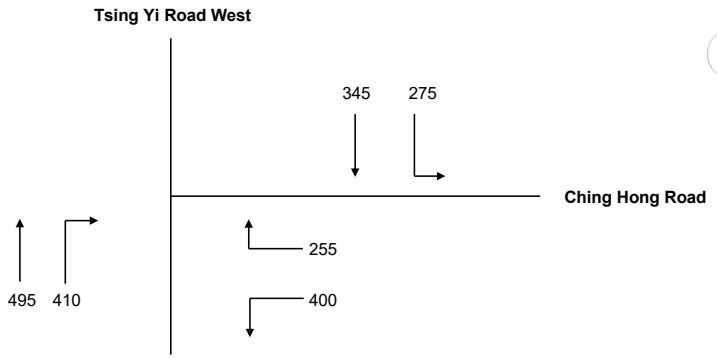
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Scenario B NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

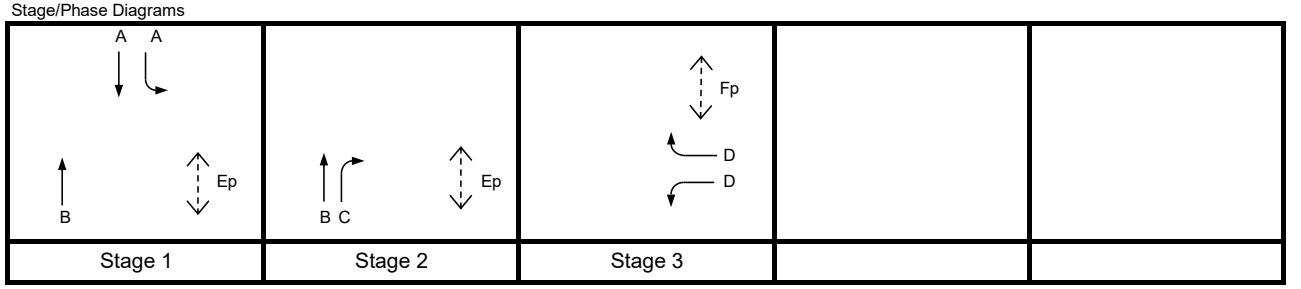
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.537	
Lost time	L =	14	sec
Total Flow	=	2,180	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	56	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	30	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	48.2	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	35	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 46%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		495		495			4072	0.122	
	C	2	3.700	1		22	0	0		0		2125			410	410		100%	1989	0.206	0.206
	D	3	3.380	1	17			1		0		1953	316			316	100%		1795	0.176	
	D	3	3.380	1	17	18	0	0		0		2093	84		255	339	25%	75%	1930	0.176	0.176
	A	1	3.690	1	13			1		0		1984	275			275	100%		1779	0.155	0.155
	A	1	3.745	2				0		0		4259		345		345			4259	0.081	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

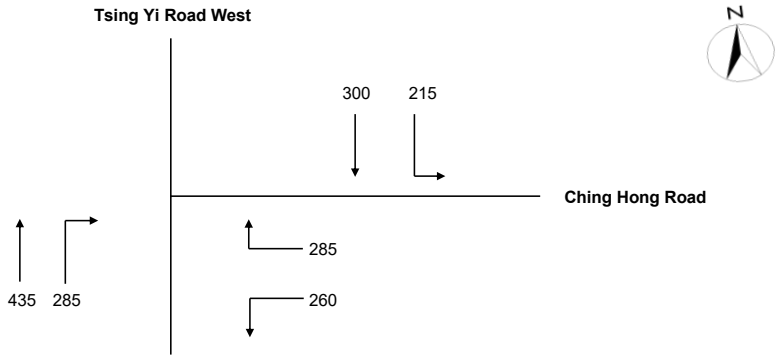
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Scenario B PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

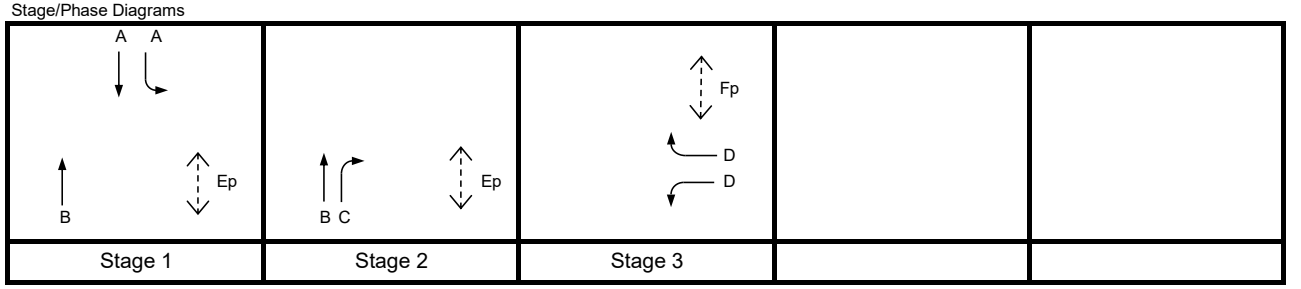
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.412	
Lost time	L =	14	sec
Total Flow	=	1,780	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	93.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 91%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		435		435			4072	0.107	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	260			260	100%		1795	0.145	
	D	3	3.380	1	17	18	0	0		0		2093	0		285	285	0%	100%	1932	0.148	0.148
	A	1	3.690	1	13			1		0		1984	215			215	100%		1779	0.121	0.121
	A	1	3.745	2				0		0		4259		300		300			4259	0.070	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

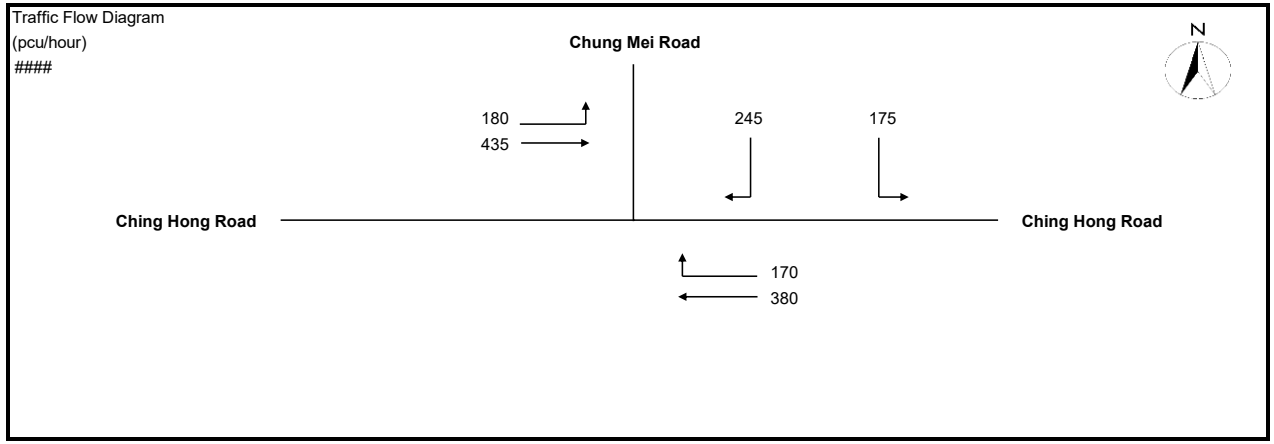
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2025 Survey Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

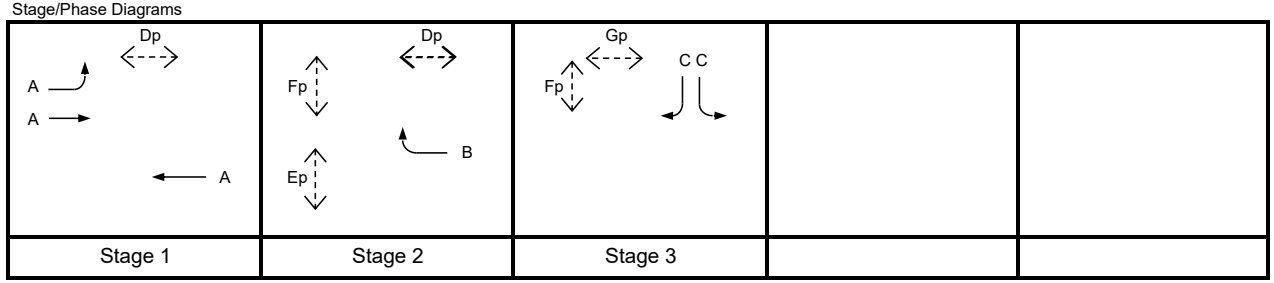
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.371	
Lost time	L =	15	sec
Total Flow	=	1,585	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	112.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 106%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
⇧⇨	A	1	3.640	1	14			1		0		1979	180	109		289	62%		1855	0.156	0.156
⇨	A	1	3.320	1				0		0		2087		326		326			2087	0.156	
⇦	A	1	3.730	2				1		0		4116		380		380			4116	0.092	
⇧⇦	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
⇩⇨	C	3	3.250	1	12			1		0		1940	175			175	100%		1724	0.101	
⇩⇦	C	3	2.960	1		21	0	0		0		2051			245	245		100%	1914	0.128	0.128

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

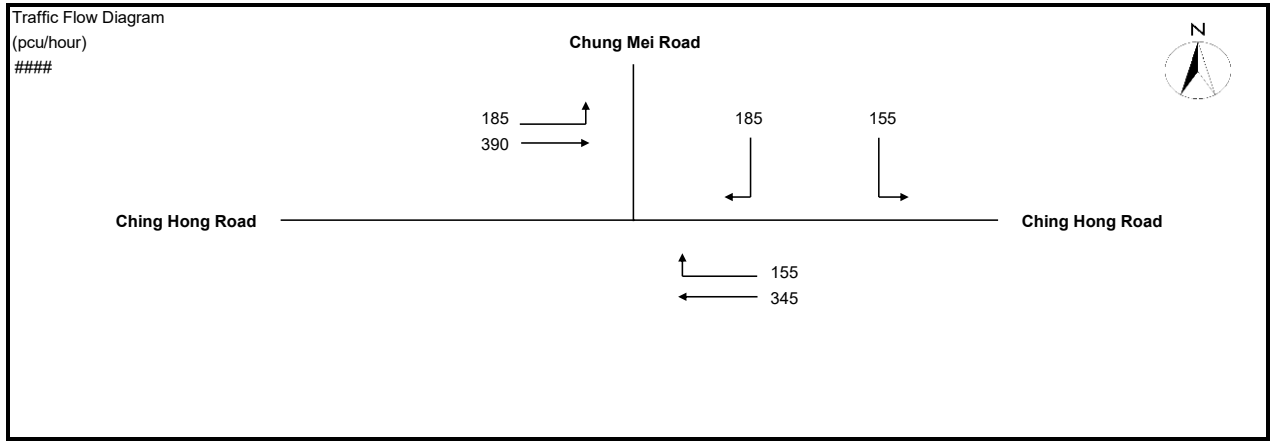
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2025 Survey Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

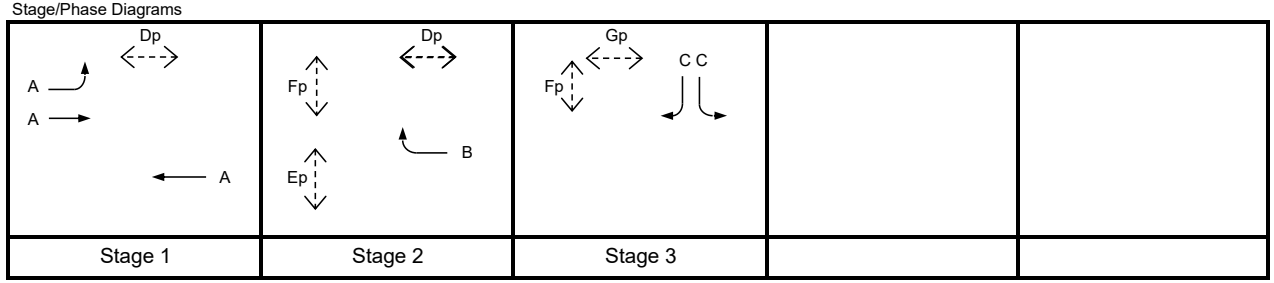
J9

Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.323	
Lost time	L =	15	sec
Total Flow	=	1,415	pcu
Optimum Cycle C_o = (1.5×L+5)/(1-Y)	=	41	sec
Min. Cycle Time C_m = L/(1-Y)	=	22	sec
Y_{ult} = 0.9-0.0075×L	=	0.788	
$R.C._{ult}$ = $(Y_{ult}-Y)/Y \times 100\%$	=	144.1	%
Practical Cycle Time C_p = 0.9×L/(0.9-Y)	=	23	sec
Y_{max} = 1-L/C	=	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) = $(0.9 \times Y_{max}-Y)/Y \times 100\%$ = 137%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	85		270	69%		1844	0.146	0.146
	A	1	3.320	1				0		0		2087		305		305			2087	0.146	
	A	1	3.730	2				1		0		4116		345		345			4116	0.084	
	B	2	3.730	1		16	0	0		0		2128			155	155		100%	1946	0.080	0.080
	C	3	3.250	1	12			1		0		1940	155			155	100%		1724	0.090	
	C	3	2.960	1		21	0	0		0		2051			185	185		100%	1914	0.097	0.097

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

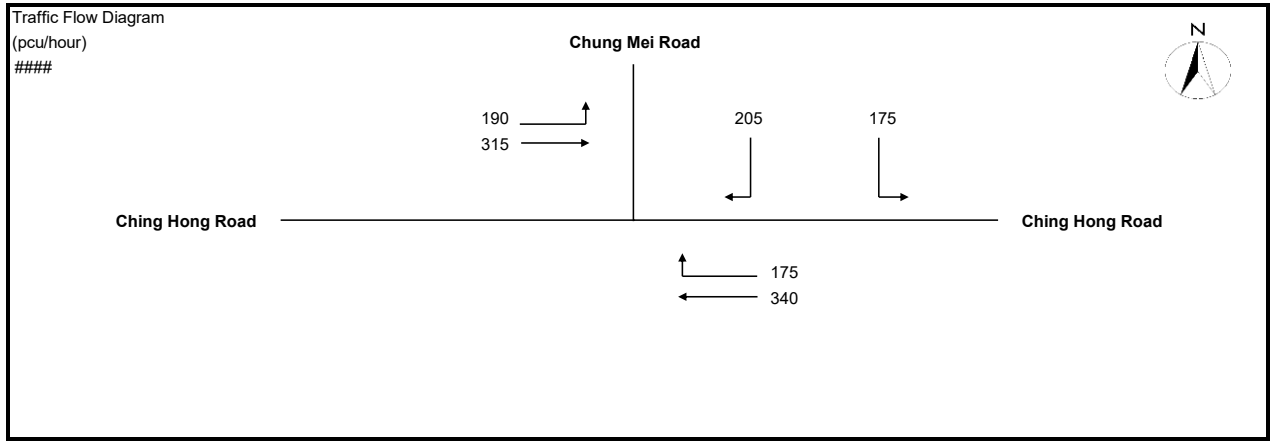
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2025 Survey Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

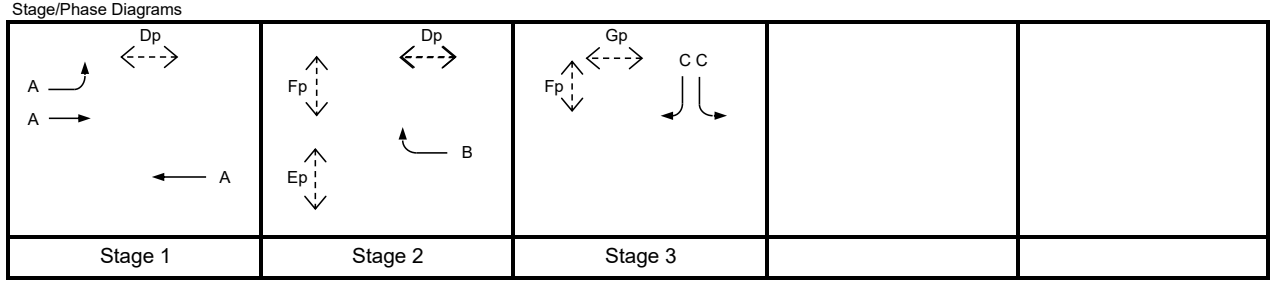
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.326	
Lost time	L =	15	sec
Total Flow	=	1,400	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	41	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	141.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.857	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 136%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	190	45		235	81%		1821	0.129	0.129
	A	1	3.320	1				0		0		2087		270		270			2087	0.129	
	A	1	3.730	2				1		0		4116		340		340			4116	0.083	
	B	2	3.730	1		16	0	0		0		2128			175	175		100%	1946	0.090	0.090
	C	3	3.250	1	12			1		0		1940	175			175	100%		1724	0.101	
	C	3	2.960	1		21	0	0		0		2051			205	205		100%	1914	0.107	0.107

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

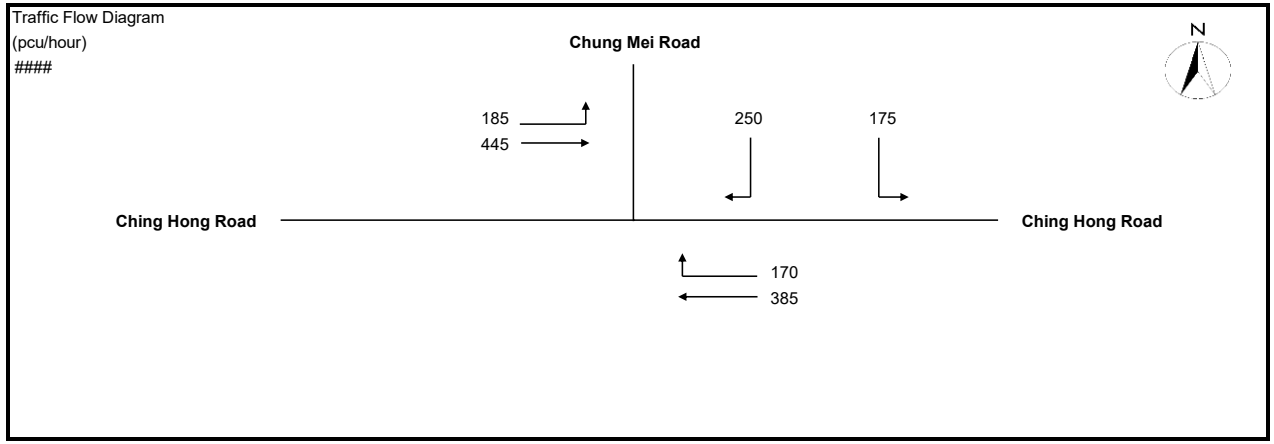
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2028 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

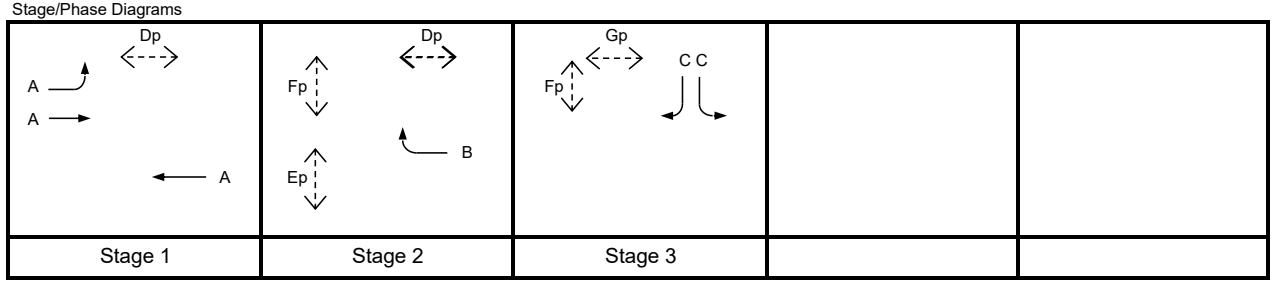
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.378	
Lost time	L =	15	sec
Total Flow	=	1,610	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	108.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 102%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	111		296	62%		1855	0.160	0.160
	A	1	3.320	1				0		0		2087		334		334			2087	0.160	
	A	1	3.730	2				1		0		4116		385		385			4116	0.094	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	175			175	100%		1724	0.101	
	C	3	2.960	1		21	0	0		0		2051			250	250		100%	1914	0.131	0.131

Pedestrain Crossing			GM		FGM		Total													
Dp	1,2	min.	5	+	6	=	11	sec												
Ep	2	min.	5	+	8	=	13	sec												
Fp	2,3	min.	5	+	6	=	11	sec												
Gp	3	min.	5	+	8	=	13	sec												

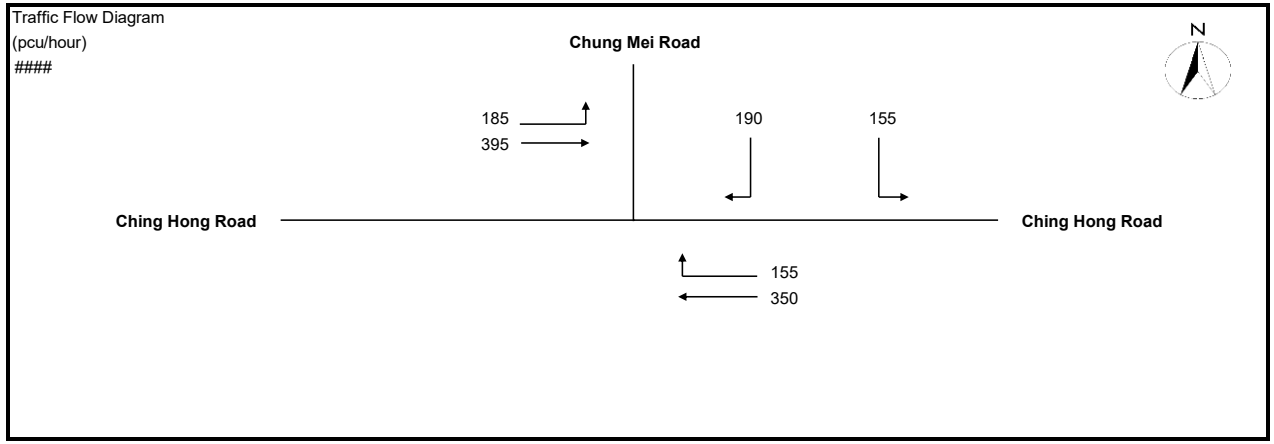
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2028 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

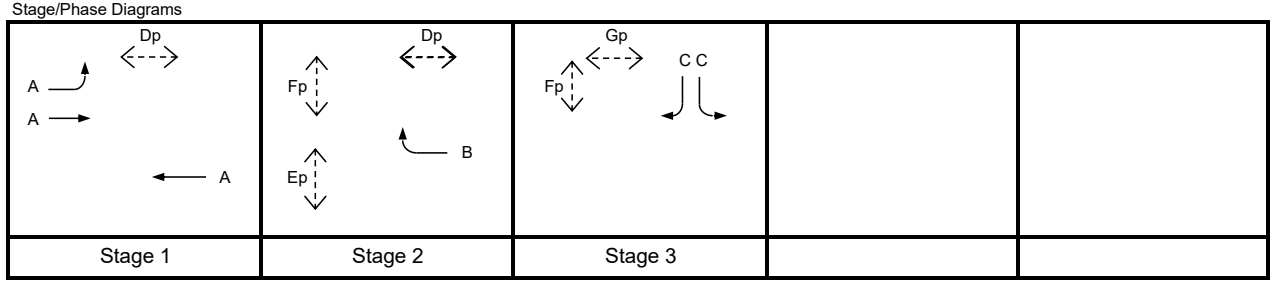
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.326	
Lost time	L =	15	sec
Total Flow	=	1,430	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	41	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	141.2	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 134%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	87		272	68%		1845	0.148	0.148
	A	1	3.320	1				0		0		2087		308		308			2087	0.148	
	A	1	3.730	2				1		0		4116		350		350			4116	0.085	
	B	2	3.730	1		16	0	0		0		2128			155	155		100%	1946	0.080	0.080
	C	3	3.250	1	12			1		0		1940	155			155	100%		1724	0.090	
	C	3	2.960	1		21	0	0		0		2051			190	190		100%	1914	0.099	0.099

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

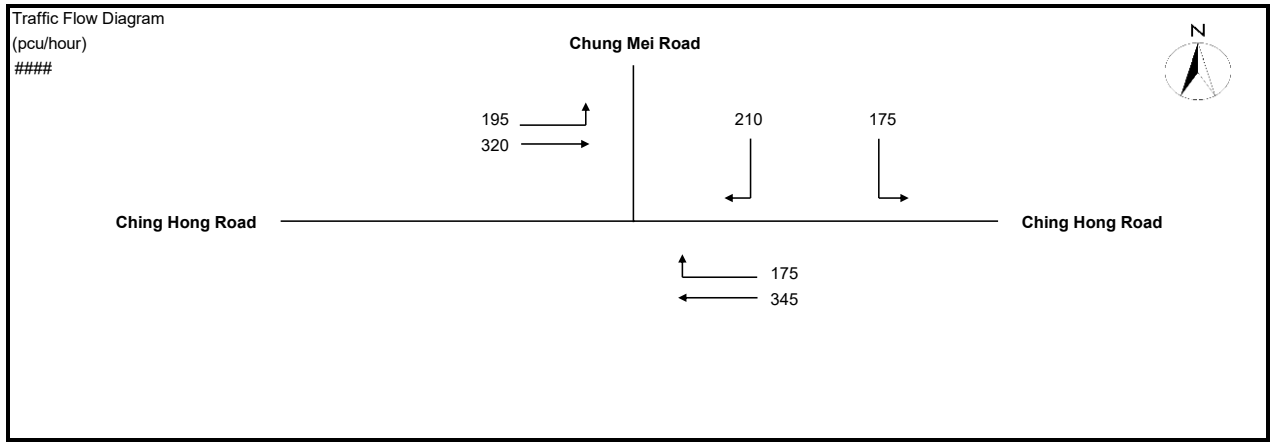
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2028 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

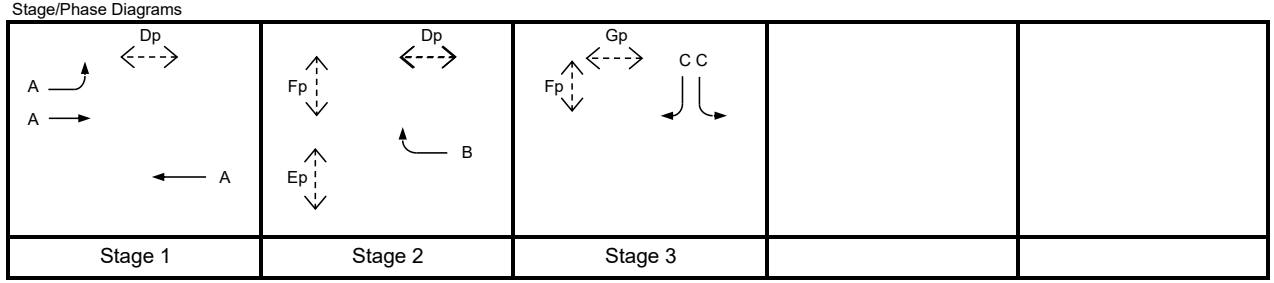
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.331	
Lost time	L =	15	sec
Total Flow	=	1,420	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	41	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	137.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.857	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 133%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	195	45		240	81%		1820	0.132	0.132
	A	1	3.320	1				0		0		2087		275		275			2087	0.132	
	A	1	3.730	2				1		0		4116		345		345			4116	0.084	
	B	2	3.730	1		16	0	0		0		2128			175	175		100%	1946	0.090	0.090
	C	3	3.250	1	12			1		0		1940	175			175	100%		1724	0.101	
	C	3	2.960	1		21	0	0		0		2051			210	210		100%	1914	0.110	0.110

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

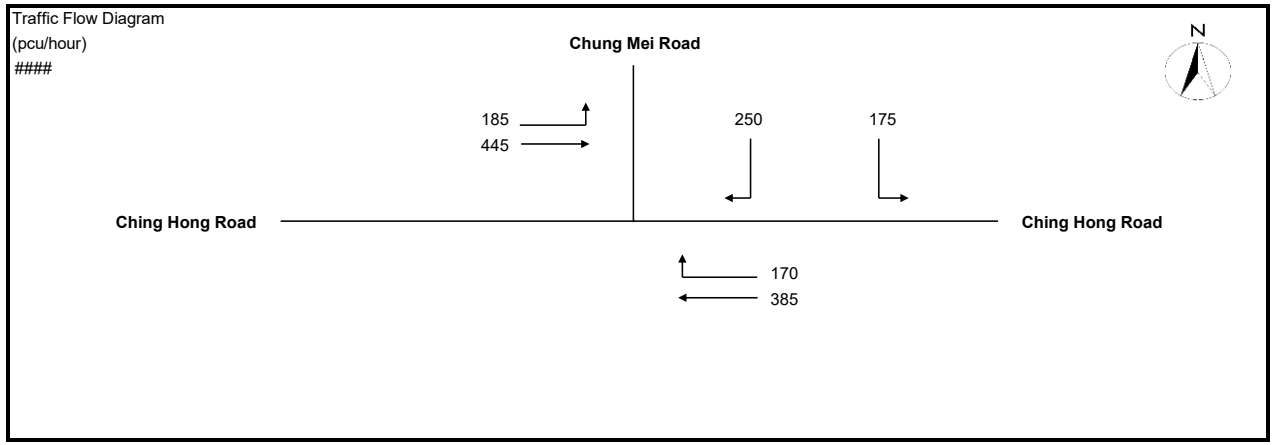
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2028 Design Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

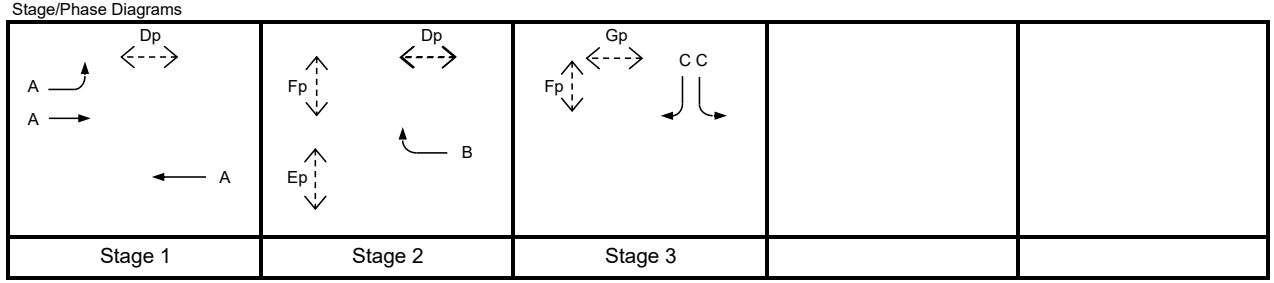
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.378	
Lost time	L =	15	sec
Total Flow	=	1,610	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	108.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 102%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	111		296	62%		1855	0.160	0.160
	A	1	3.320	1				0		0		2087		334		334			2087	0.160	
	A	1	3.730	2				1		0		4116		385		385			4116	0.094	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	175			175	100%		1724	0.101	
	C	3	2.960	1		21	0	0		0		2051			250	250		100%	1914	0.131	0.131

Pedestrain Crossing			GM		FGM		Total													
Dp	1,2	min.	5	+	6	=	11	sec												
Ep	2	min.	5	+	8	=	13	sec												
Fp	2,3	min.	5	+	6	=	11	sec												
Gp	3	min.	5	+	8	=	13	sec												

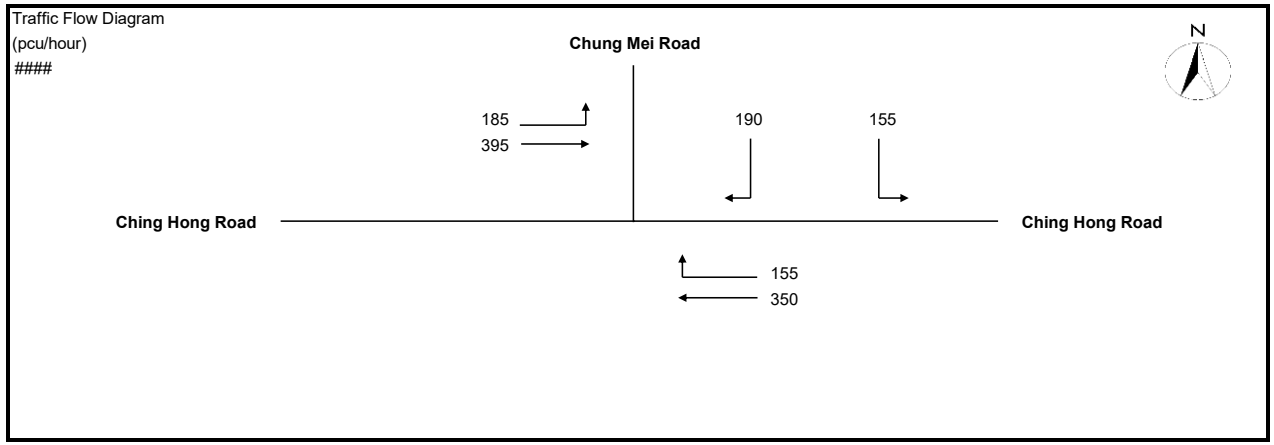
JUNCTION CAPACITY CALCULATION

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Junction J9 - Ching Hong Road / Chung Mei Road	2028 Design Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

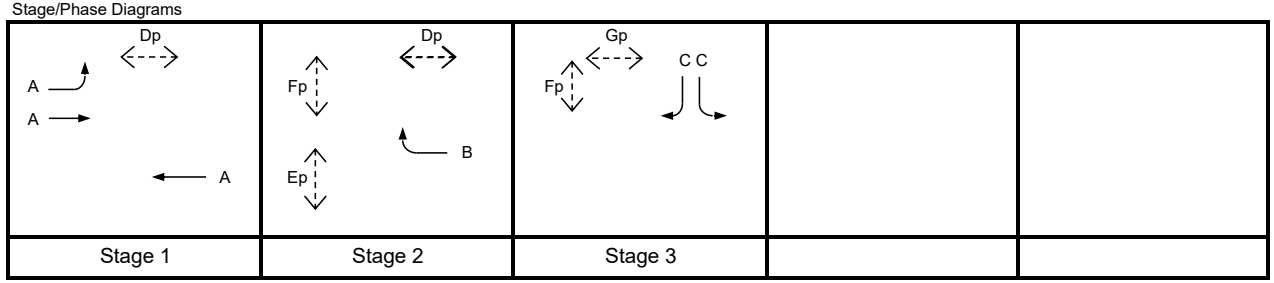
J9

Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.326	
Lost time	L =	15	sec
Total Flow	=	1,430	pcu
Optimum Cycle C_o = (1.5×L+5)/(1-Y)	=	41	sec
Min. Cycle Time C_m = L/(1-Y)	=	22	sec
Y_{ult} = 0.9-0.0075×L	=	0.788	
$R.C._{ult}$ = $(Y_{ult}-Y)/Y \times 100\%$	=	141.2	%
Practical Cycle Time C_p = 0.9×L/(0.9-Y)	=	24	sec
Y_{max} = 1-L/C	=	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) = $(0.9 \times Y_{max}-Y)/Y \times 100\%$ = 134%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	87		272	68%		1845	0.148	0.148
	A	1	3.320	1				0		0		2087		308		308			2087	0.148	
	A	1	3.730	2				1		0		4116		350		350			4116	0.085	
	B	2	3.730	1		16	0	0		0		2128			155	155		100%	1946	0.080	0.080
	C	3	3.250	1	12			1		0		1940	155			155	100%		1724	0.090	
	C	3	2.960	1		21	0	0		0		2051			190	190		100%	1914	0.099	0.099

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

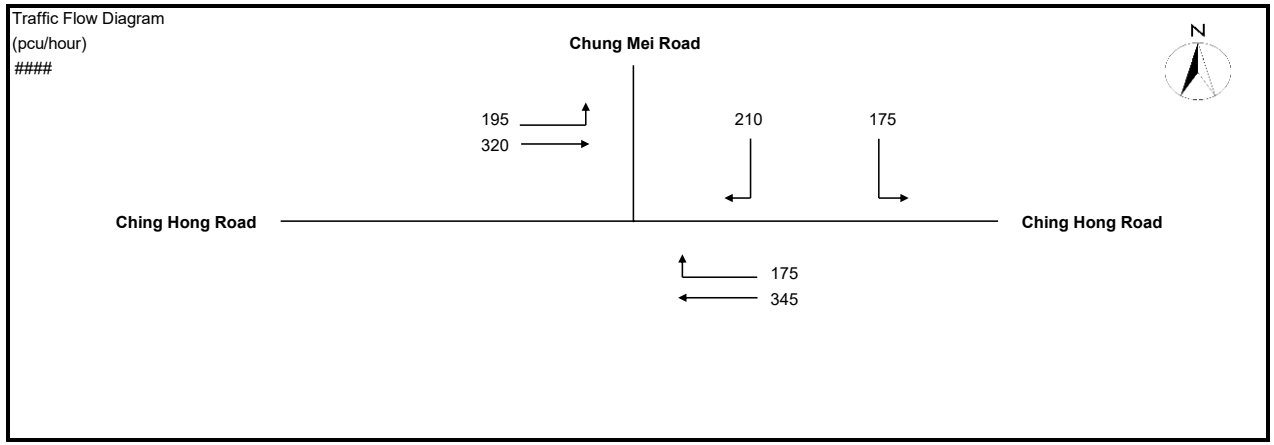
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2028 Design Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

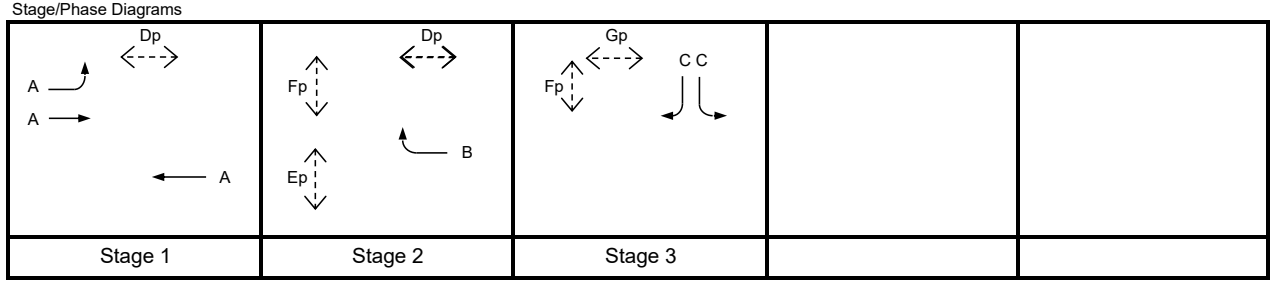
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.331	
Lost time	L =	15	sec
Total Flow	=	1,420	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	41	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	137.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.857	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 133%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	195	45		240	81%		1820	0.132	0.132
	A	1	3.320	1				0		0		2087		275		275			2087	0.132	
	A	1	3.730	2				1		0		4116		345		345			4116	0.084	
	B	2	3.730	1		16	0	0		0		2128			175	175		100%	1946	0.090	0.090
	C	3	3.250	1	12			1		0		1940	175			175	100%		1724	0.101	
	C	3	2.960	1		21	0	0		0		2051			210	210		100%	1914	0.110	0.110

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

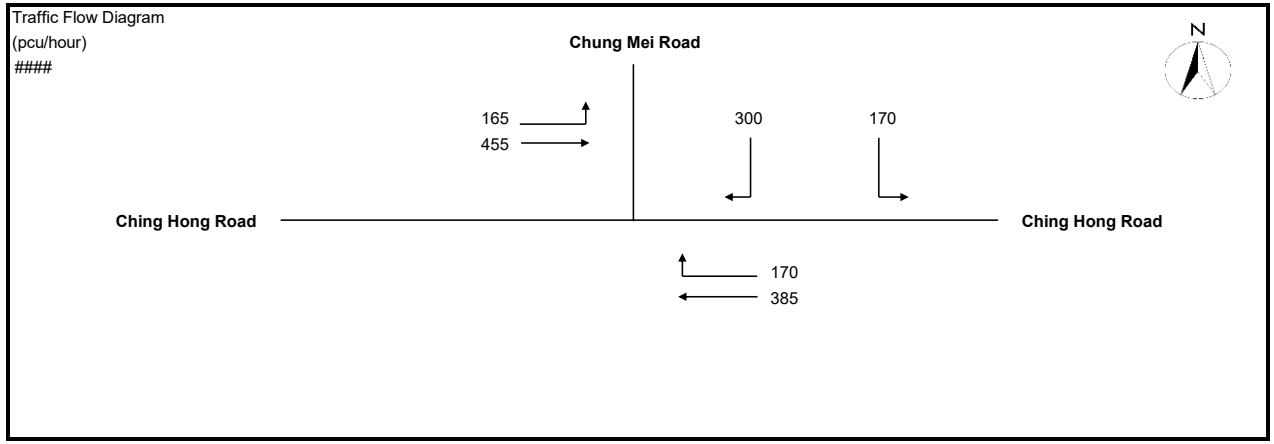
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

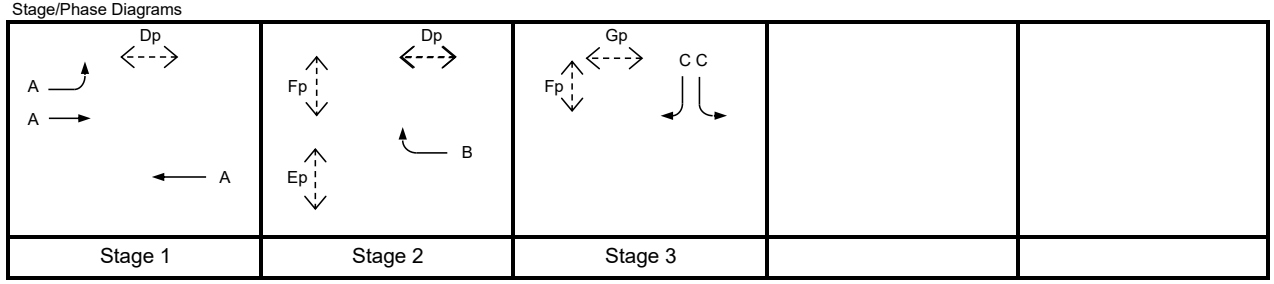
J9

Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.401	
Lost time	L =	15	sec
Total Flow	=	1,645	pcu
Optimum Cycle C_o = $(1.5 \times L+5)/(1-Y)$	=	46	sec
Min. Cycle Time C_m = $L/(1-Y)$	=	25	sec
Y_{ult} = $0.9-0.0075 \times L$	=	0.788	
$R.C._{ult}$ = $(Y_{ult}-Y)/Y \times 100\%$	=	96.4	%
Practical Cycle Time C_p = $0.9 \times L/(0.9-Y)$	=	27	sec
Y_{max} = $1-L/C$	=	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) = $(0.9 \times Y_{max}-Y)/Y \times 100\%$ = 91%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	165	128		293	56%		1866	0.157	0.157
	A	1	3.320	1				0		0		2087		327		327			2087	0.157	
	A	1	3.730	2				1		0		4116		385		385			4116	0.094	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	170			170	100%		1724	0.099	
	C	3	2.960	1		21	0	0		0		2051			300	300		100%	1914	0.157	0.157

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

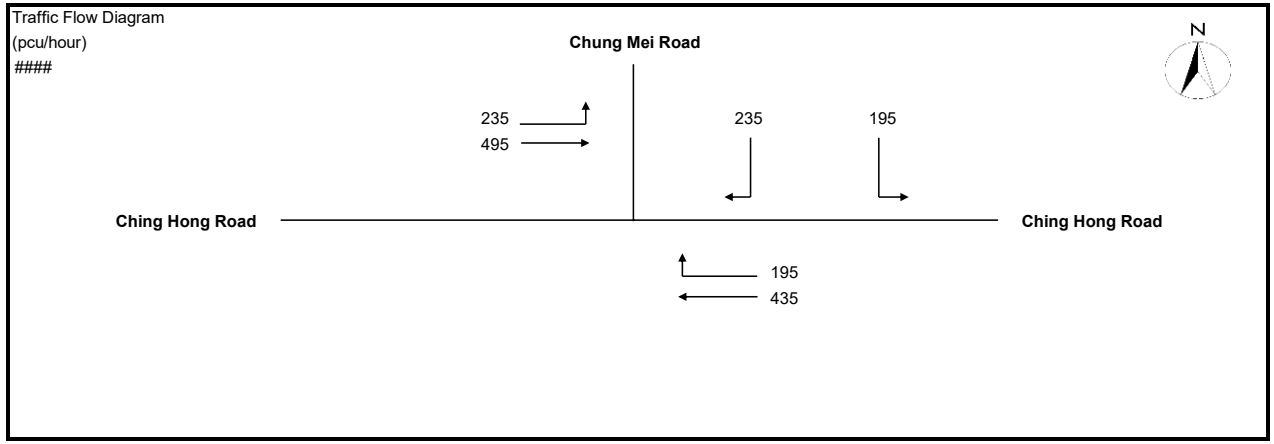
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

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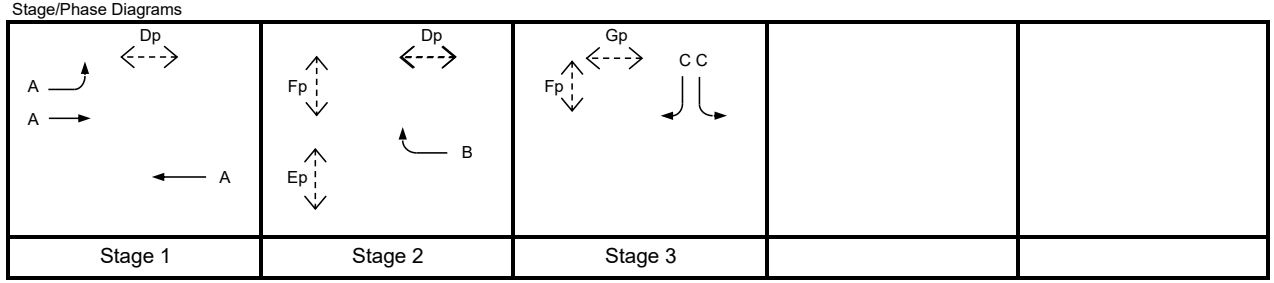
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.409	
Lost time	L =	15	sec
Total Flow	=	1,790	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	47	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	25	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	92.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	27	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 87%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	235	107		342	69%		1843	0.186	
	A	1	3.320	1				0		0		2087		388		388			2087	0.186	0.186
	A	1	3.730	2				1		0		4116		435		435			4116	0.106	
	B	2	3.730	1		16	0	0		0		2128			195	195		100%	1946	0.100	0.100
	C	3	3.250	1	12			1		0		1940	195			195	100%		1724	0.113	
	C	3	2.960	1		21	0	0		0		2051			235	235		100%	1914	0.123	0.123

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

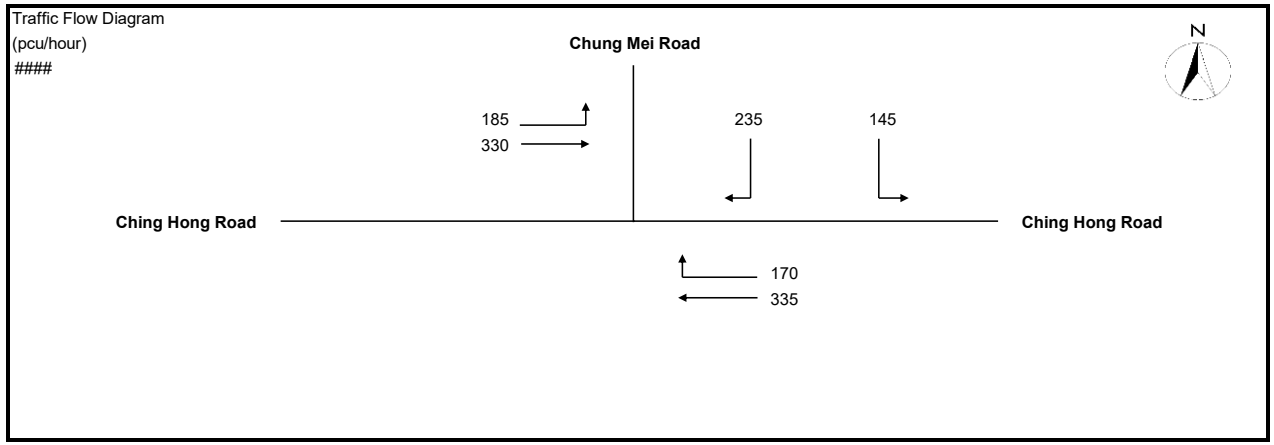
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

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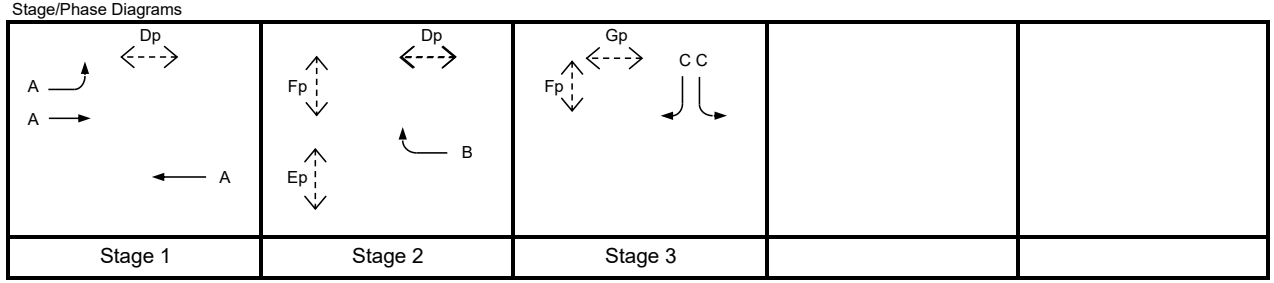
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.342	
Lost time	L =	15	sec
Total Flow	=	1,400	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	23	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	130.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.857	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 126%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	55		240	77%		1828	0.132	0.132
	A	1	3.320	1				0		0		2087		275		275			2087	0.132	
	A	1	3.730	2				1		0		4116		335		335			4116	0.081	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	145			145	100%		1724	0.084	
	C	3	2.960	1		21	0	0		0		2051			235	235		100%	1914	0.123	0.123

Pedestrain Crossing			GM		FGM		Total													
Dp	1,2	min.	5	+	6	=	11	sec												
Ep	2	min.	5	+	8	=	13	sec												
Fp	2,3	min.	5	+	6	=	11	sec												
Gp	3	min.	5	+	8	=	13	sec												

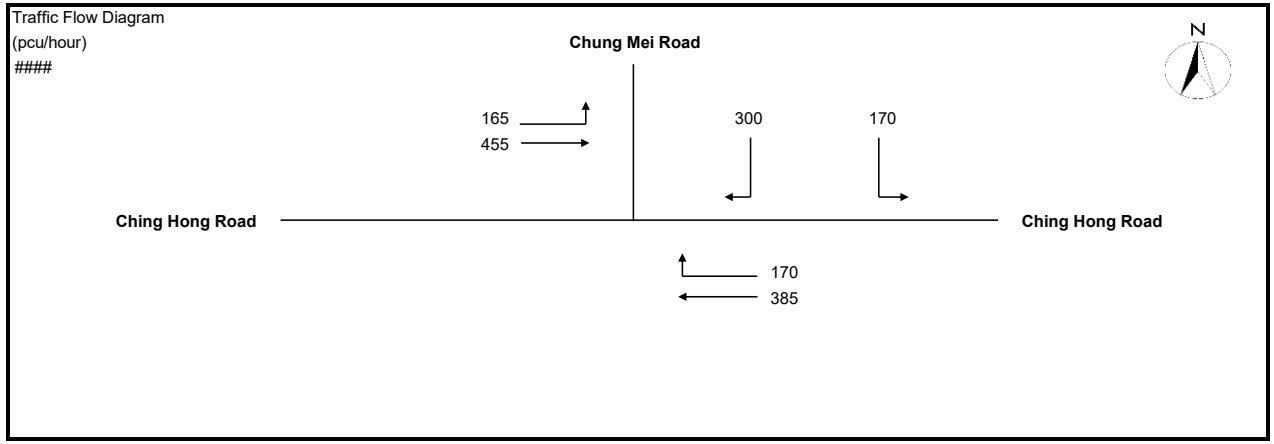
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Scenario A AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

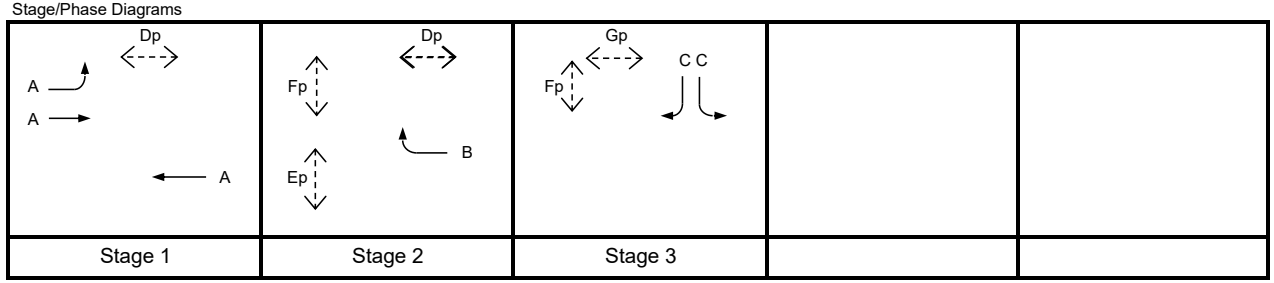
J9

Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.401	
Lost time	L =	15	sec
Total Flow	=	1,645	pcu
Optimum Cycle C_o = $(1.5 \times L+5)/(1-Y)$	=	46	sec
Min. Cycle Time C_m = $L/(1-Y)$	=	25	sec
Y_{ult} = $0.9-0.0075 \times L$	=	0.788	
$R.C._{ult}$ = $(Y_{ult}-Y)/Y \times 100\%$	=	96.4	%
Practical Cycle Time C_p = $0.9 \times L/(0.9-Y)$	=	27	sec
Y_{max} = $1-L/C$	=	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) = $(0.9 \times Y_{max}-Y)/Y \times 100\%$ = 91%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	165	128		293	56%		1866	0.157	0.157
	A	1	3.320	1				0		0		2087		327		327			2087	0.157	
	A	1	3.730	2				1		0		4116		385		385			4116	0.094	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	170			170	100%		1724	0.099	
	C	3	2.960	1		21	0	0		0		2051			300	300		100%	1914	0.157	0.157

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

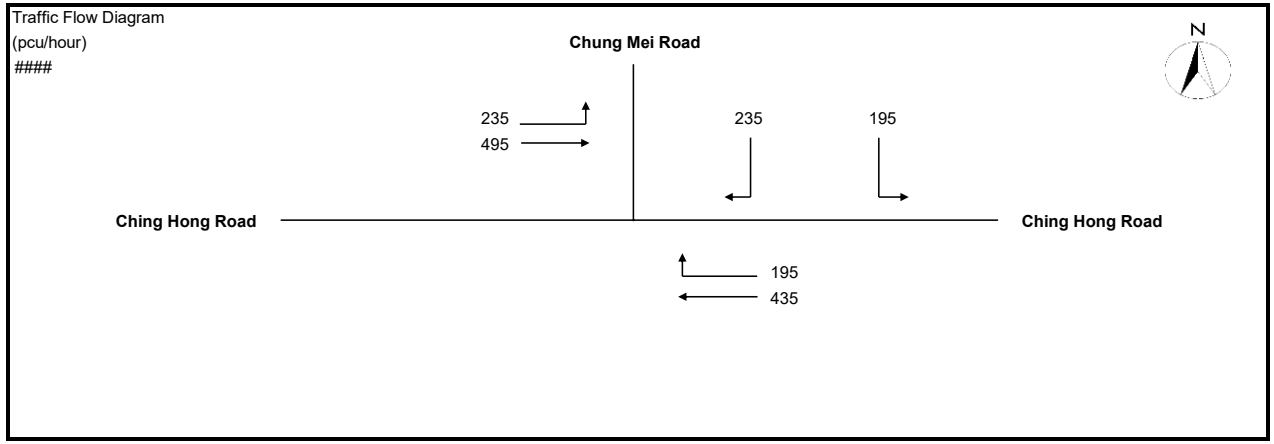
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Scenario A NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

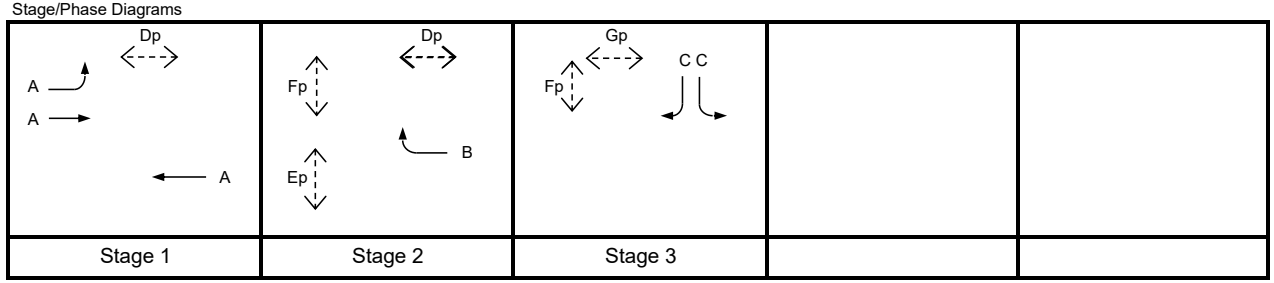
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.409	
Lost time	L =	15	sec
Total Flow	=	1,790	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	47	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	25	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	92.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	27	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 87%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	235	107		342	69%		1843	0.186	
	A	1	3.320	1				0		0		2087		388		388			2087	0.186	0.186
	A	1	3.730	2				1		0		4116		435		435			4116	0.106	
	B	2	3.730	1		16	0	0		0		2128			195	195		100%	1946	0.100	0.100
	C	3	3.250	1	12			1		0		1940	195			195	100%		1724	0.113	
	C	3	2.960	1		21	0	0		0		2051			235	235		100%	1914	0.123	0.123

Pedestrain Crossing			GM		FGM		Total													
Dp	1,2	min.	5	+	6	=	11	sec												
Ep	2	min.	5	+	8	=	13	sec												
Fp	2,3	min.	5	+	6	=	11	sec												
Gp	3	min.	5	+	8	=	13	sec												

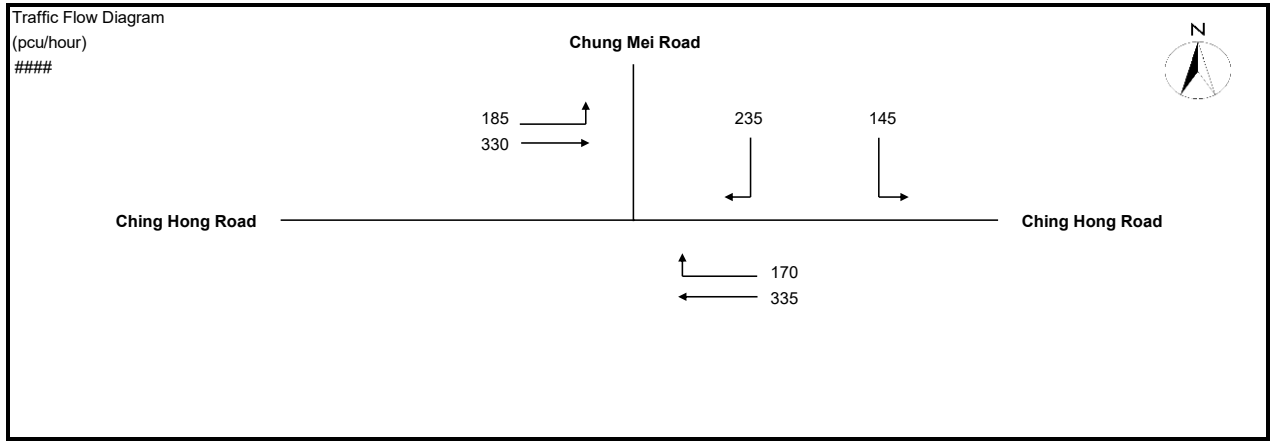
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Scenario A PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

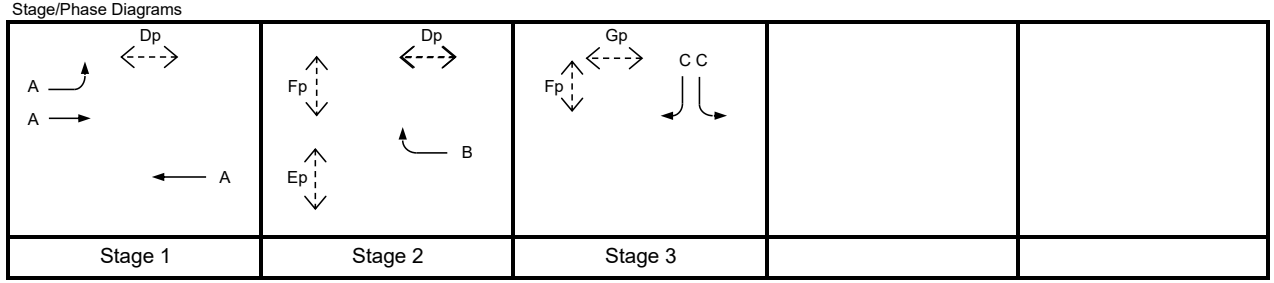
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.342	
Lost time	L =	15	sec
Total Flow	=	1,400	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	23	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	130.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.857	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 126%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	55		240	77%		1828	0.132	0.132
	A	1	3.320	1				0		0		2087		275		275			2087	0.132	
	A	1	3.730	2				1		0		4116		335		335			4116	0.081	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	145			145	100%		1724	0.084	
	C	3	2.960	1		21	0	0		0		2051			235	235		100%	1914	0.123	0.123

Pedestrain Crossing			GM		FGM		Total													
Dp	1,2	min.	5	+	6	=	11	sec												
Ep	2	min.	5	+	8	=	13	sec												
Fp	2,3	min.	5	+	6	=	11	sec												
Gp	3	min.	5	+	8	=	13	sec												

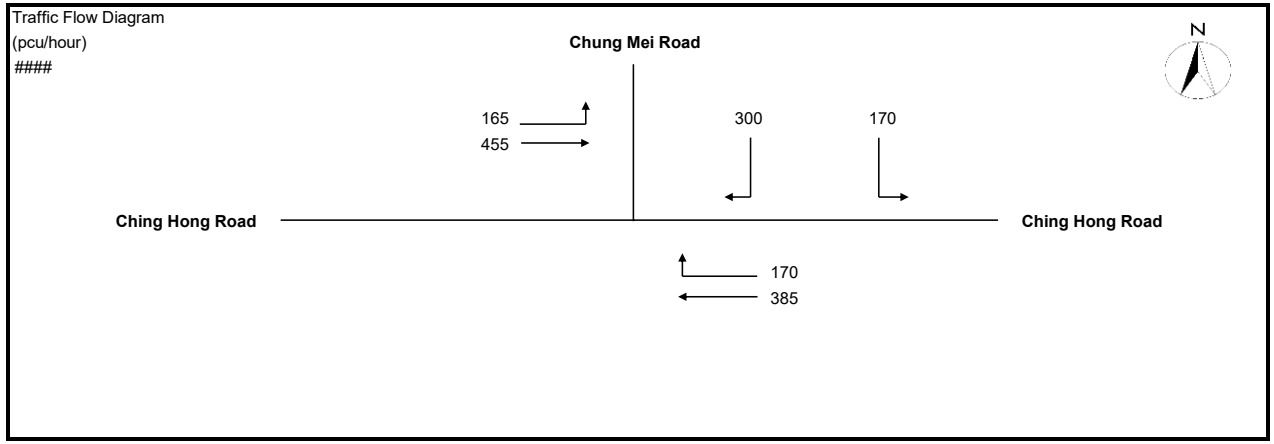
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Scenario B AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

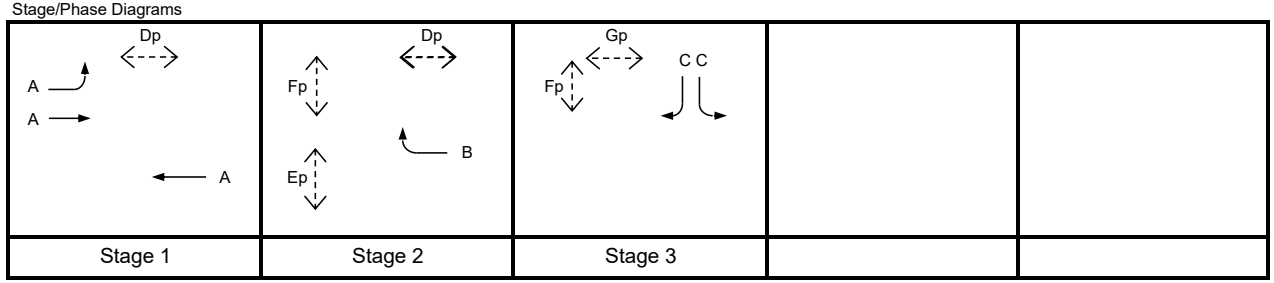
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.401	
Lost time	L =	15	sec
Total Flow	=	1,645	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	46	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	25	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	96.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	27	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 91%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	165	128		293	56%		1866	0.157	0.157
	A	1	3.320	1				0		0		2087		327		327			2087	0.157	
	A	1	3.730	2				1		0		4116		385		385			4116	0.094	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	170			170	100%		1724	0.099	
	C	3	2.960	1		21	0	0		0		2051			300	300		100%	1914	0.157	0.157

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

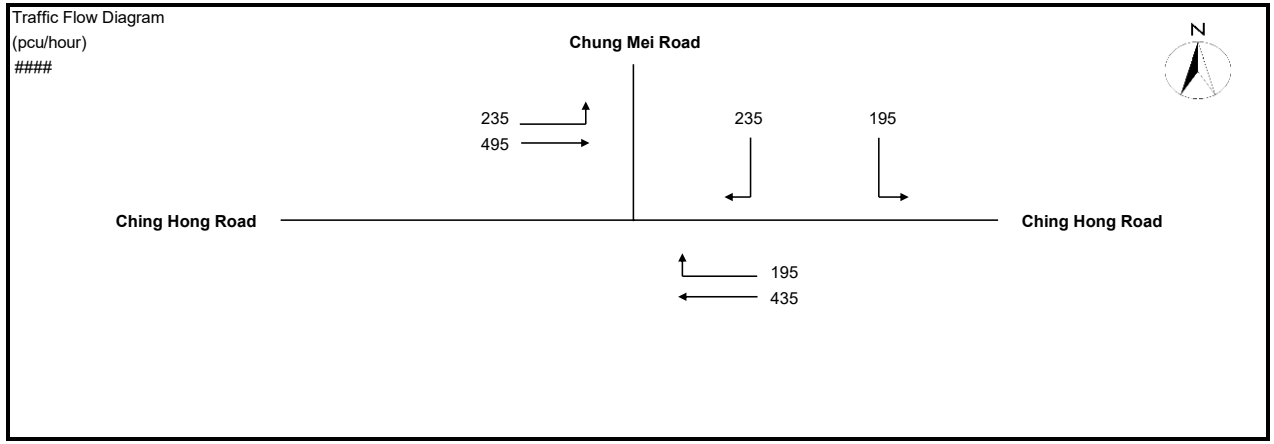
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Scenario B NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

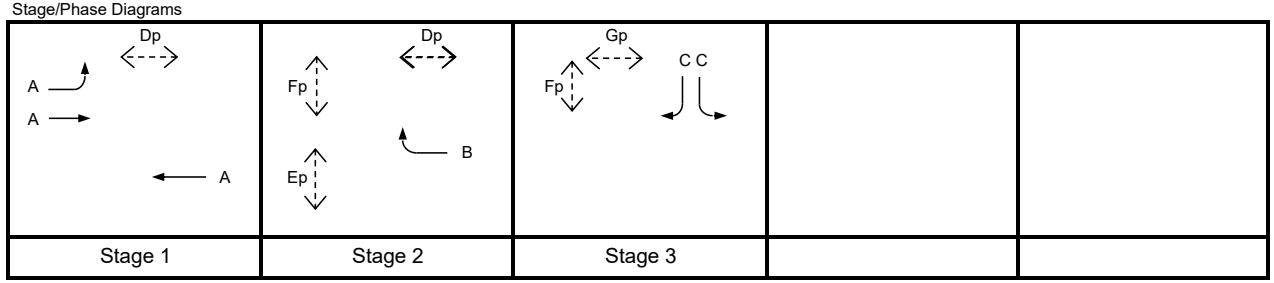
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.409	
Lost time	L =	15	sec
Total Flow	=	1,790	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	47	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	25	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	92.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	27	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 87%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	235	107		342	69%		1843	0.186	
	A	1	3.320	1				0		0		2087		388		388			2087	0.186	0.186
	A	1	3.730	2				1		0		4116		435		435			4116	0.106	
	B	2	3.730	1		16	0	0		0		2128			195	195		100%	1946	0.100	0.100
	C	3	3.250	1	12			1		0		1940	195			195	100%		1724	0.113	
	C	3	2.960	1		21	0	0		0		2051			235	235		100%	1914	0.123	0.123

Pedestrain Crossing			GM		FGM		Total													
Dp	1,2	min.	5	+	6	=	11	sec												
Ep	2	min.	5	+	8	=	13	sec												
Fp	2,3	min.	5	+	6	=	11	sec												
Gp	3	min.	5	+	8	=	13	sec												

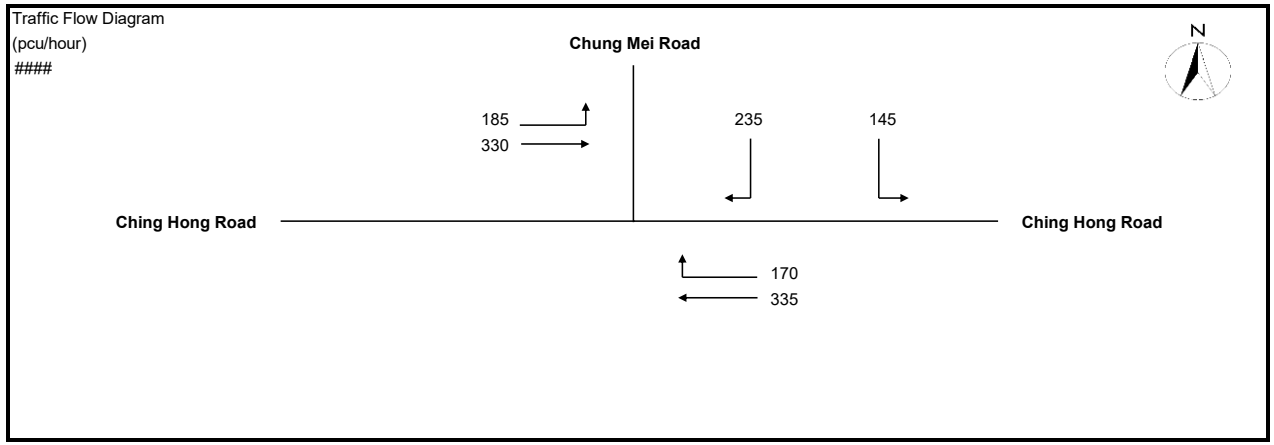
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Scenario B PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

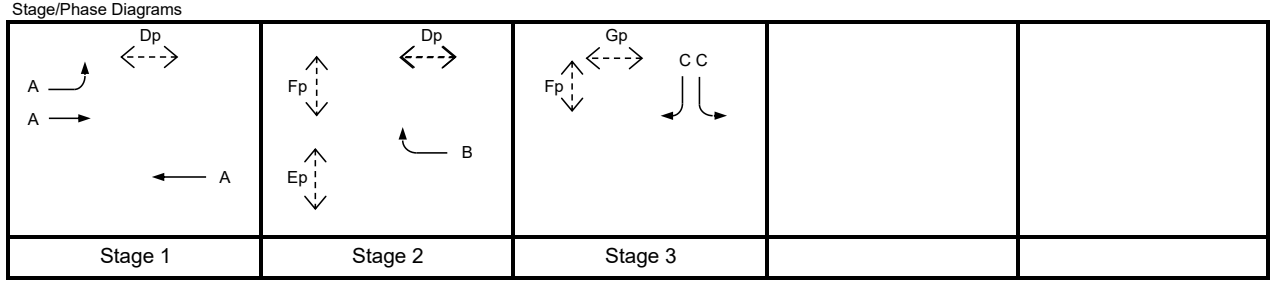
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.342	
Lost time	L =	15	sec
Total Flow	=	1,400	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	23	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	130.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.857	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 126%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	55		240	77%		1828	0.132	0.132
	A	1	3.320	1				0		0		2087		275		275			2087	0.132	
	A	1	3.730	2				1		0		4116		335		335			4116	0.081	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	145			145	100%		1724	0.084	
	C	3	2.960	1		21	0	0		0		2051			235	235		100%	1914	0.123	0.123
Pedestrain Crossing				GM		FGM		Total													
	Dp	1,2	min.	5	+	6	=	11	sec												
	Ep	2	min.	5	+	8	=	13	sec												
	Fp	2,3	min.	5	+	6	=	11	sec												
	Gp	3	min.	5	+	8	=	13	sec												

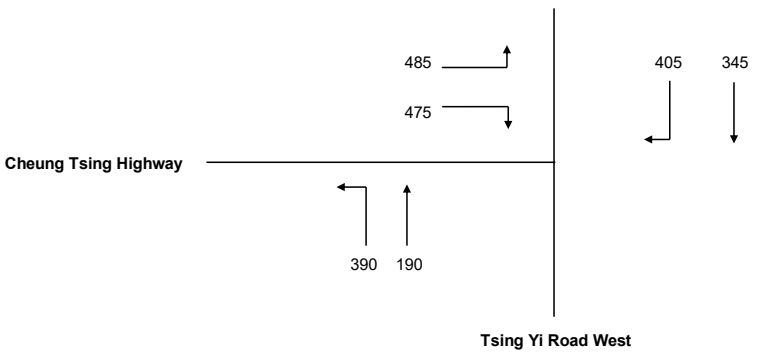
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2025 Survey Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

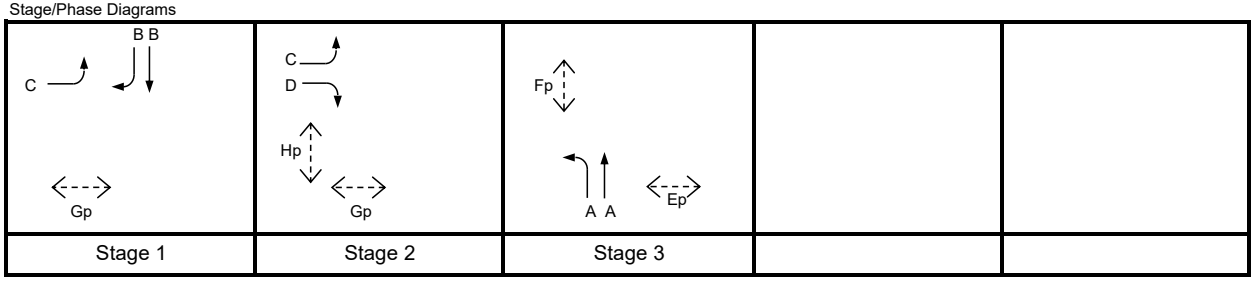
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.488	
Lost time	L =	11	sec
Total Flow	=	2,290	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	21	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	67.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.890	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
C	C	1,2	3.270	1	18			1		0		1942	485			485	100%		1793	0.271	0.271
D	D	2	3.030	2		18	0	0		0		4116			475	475		100%	3799	0.125	
A	A	3	3.710	1	14			1		0		1986	390	0		390	100%		1794	0.217	0.217
A	A	3	3.760	1				0		0		2131		190		190			2131	0.089	
B	B	1	3.480	1				1		0		1963		251		251			1963	0.128	
B	B	1	3.300	1		19	0			0		2085		94	161	254		63%	1986	0.128	
B	B	1	3.300	1		16	0	0		0		2085			244	244		100%	1906	0.128	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

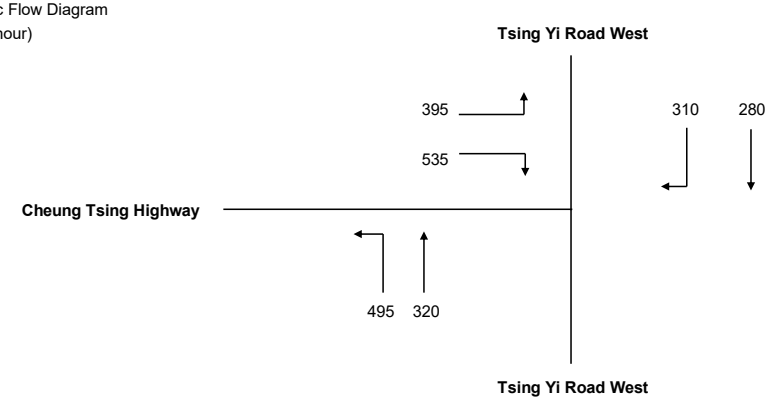
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2025 Survey Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

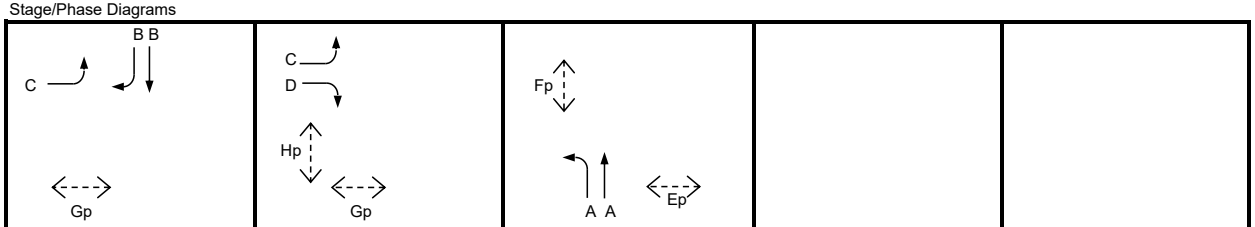
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.517	
Lost time	L =	13	sec
Total Flow	=	2,335	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	51	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.803	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	55.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	31	sec
Y_{max}	$= 1-L/C$ =	0.870	

Stage/Phase Diagrams



Critical Case : B,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 51%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	395			395	100%		1793	0.220	
	D	2	3.030	2		18	0	0		0		4116			535	535		100%	3799	0.141	0.141
	A	3	3.710	1	14			1		0		1986	495	0		495	100%		1794	0.276	0.276
	A	3	3.760	1				0		0		2131		320		320			2131	0.150	
	B	1	3.480	1				1		0		1963		198		198			1963	0.101	
	B	1	3.300	1		19	0			0		2085		82	118	201		59%	1992	0.101	0.101
	B	1	3.300	1		16	0	0		0		2085			192	192		100%	1906	0.101	
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	6	=	11	sec												
	Fp	3	min.	5	+	10	=	15	sec												
	Gp	1,2	min.	5	+	9	=	14	sec												
	Hp	2	min.	5	+	10	=	15	sec												

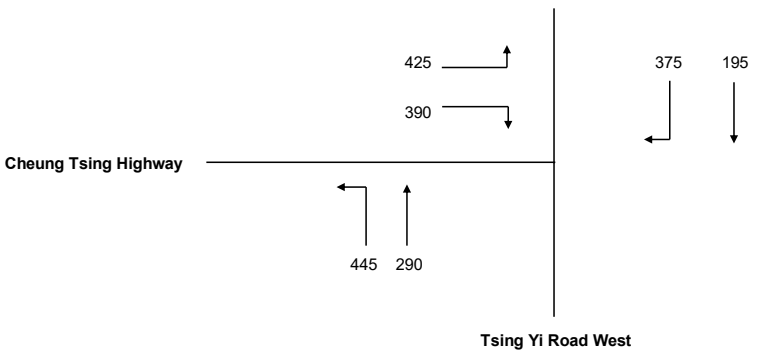
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2025 Survey Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

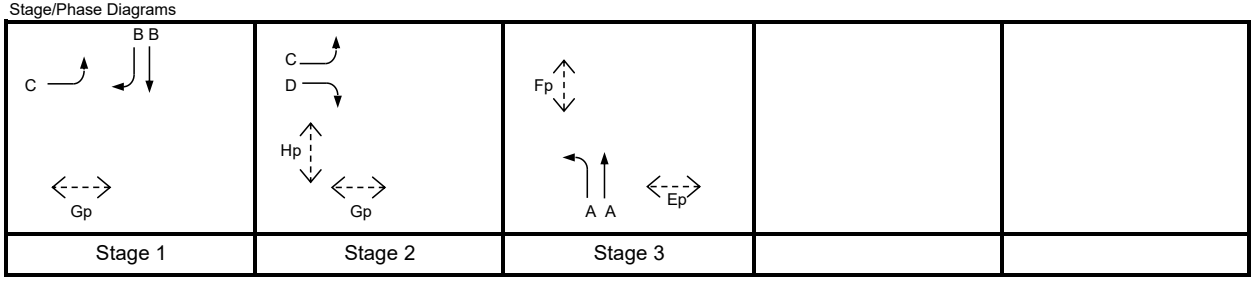
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.485	
Lost time	L =	11	sec
Total Flow	=	2,120	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	21	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	68.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.895	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 66%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	425			425	100%		1793	0.237	0.237
	D	2	3.030	2		18	0	0		0		4116			390	390		100%	3799	0.103	
	A	3	3.710	1	14			1		0		1986	445	0		445	100%		1794	0.248	0.248
	A	3	3.760	1				0		0		2131		290		290			2131	0.136	
	B	1	3.480	1				1		0		1963		193		193			1963	0.098	
	B	1	3.300	1		19	0			0		2085		2	188	190		99%	1934	0.098	
	B	1	3.300	1		16	0	0		0		2085			187	187		100%	1906	0.098	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

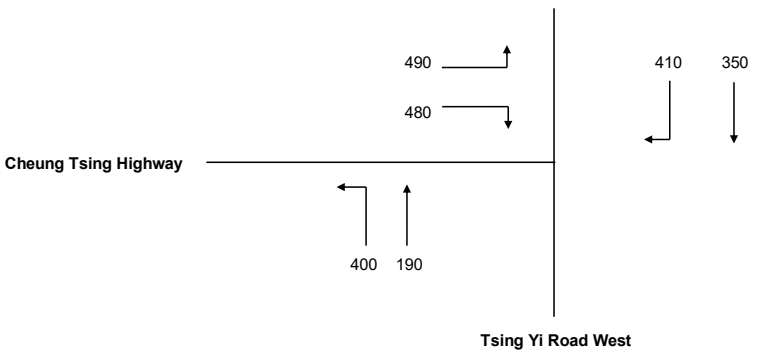
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2028 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

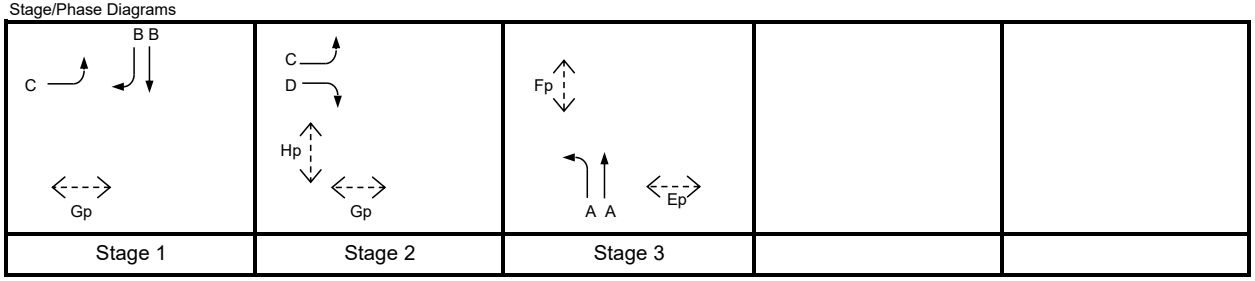
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.496	
Lost time	L =	11	sec
Total Flow	=	2,320	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	43	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	64.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	25	sec
Y_{max}	$= 1-L/C$ =	0.890	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 61%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
C	C	1,2	3.270	1	18			1		0		1942	490			490	100%		1793	0.273	0.273
D	D	2	3.030	2		18	0	0		0		4116			480	480		100%	3799	0.126	
A	A	3	3.710	1	14			1		0		1986	400	0		400	100%		1794	0.223	0.223
A	A	3	3.760	1				0		0		2131		190		190			2131	0.089	
B	B	1	3.480	1				1		0		1963		255		255			1963	0.130	
B	B	1	3.300	1		19	0			0		2085		95	163	258		63%	1986	0.130	
B	B	1	3.300	1		16	0	0		0		2085			247	247		100%	1906	0.130	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

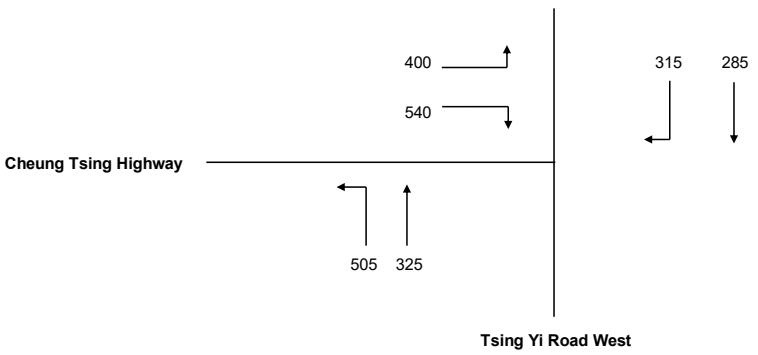
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2028 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

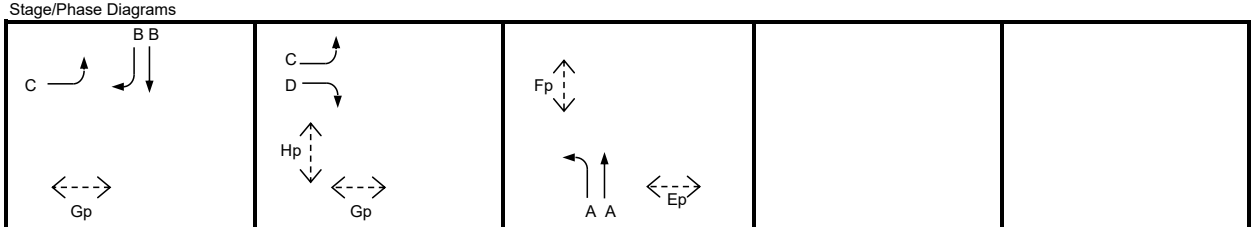
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.526	
Lost time	L =	13	sec
Total Flow	=	2,370	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	52	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.803	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	52.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	31	sec
Y_{max}	$= 1-L/C$ =	0.870	

Stage/Phase Diagrams



I/G = 5 I/G = 6 I/G = 3 2

Critical Case : B,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 49%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
C	C	1,2	3.270	1	18			1		0		1942	400			400	100%		1793	0.223	
D	D	2	3.030	2		18	0	0		0		4116			540	540		100%	3799	0.142	0.142
A	A	3	3.710	1	14			1		0		1986	505	0		505	100%		1794	0.282	0.282
A	A	3	3.760	1				0		0		2131		325		325			2131	0.153	
B	B	1	3.480	1				1		0		1963		201		201			1963	0.102	0.102
B	B	1	3.300	1		19	0			0		2085		84	120	204		59%	1993	0.102	
B	B	1	3.300	1		16	0	0		0		2085			195	195		100%	1906	0.102	
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	6	=	11	sec												
	Fp	3	min.	5	+	10	=	15	sec												
	Gp	1,2	min.	5	+	9	=	14	sec												
	Hp	2	min.	5	+	10	=	15	sec												

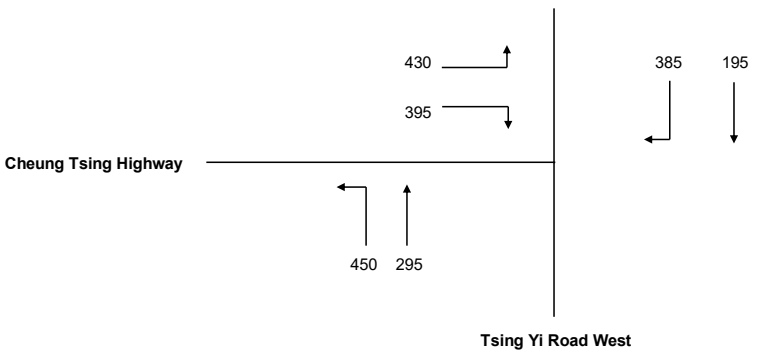
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2028 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

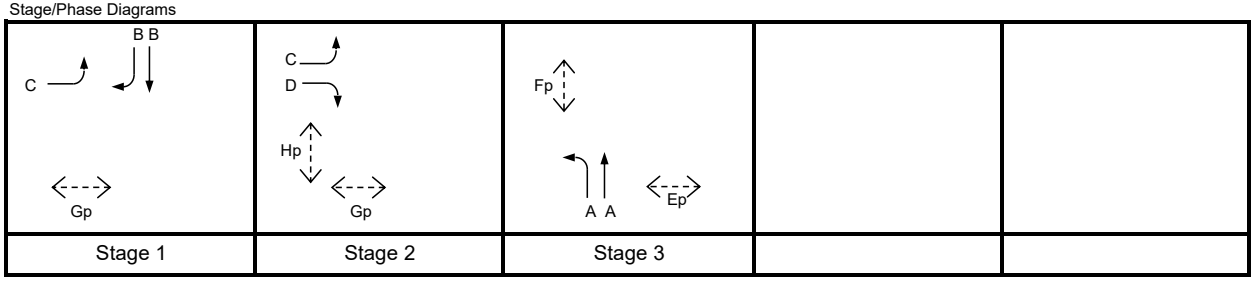
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.491	
Lost time	L =	11	sec
Total Flow	=	2,150	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	66.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.895	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
C	C	1,2	3.270	1	18			1		0		1942	430			430	100%		1793	0.240	0.240
D	D	2	3.030	2		18	0	0		0		4116			395	395		100%	3799	0.104	
A	A	3	3.710	1	14			1		0		1986	450	0		450	100%		1794	0.251	0.251
A	A	3	3.760	1				0		0		2131		295		295			2131	0.138	
B	B	1	3.480	1				1		0		1963		195		195			1963	0.099	
B	B	1	3.300	1		19	0			0		2085		0	194	194		100%	1932	0.100	
B	B	1	3.300	1		16	0	0		0		2085			191	191		100%	1906	0.100	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

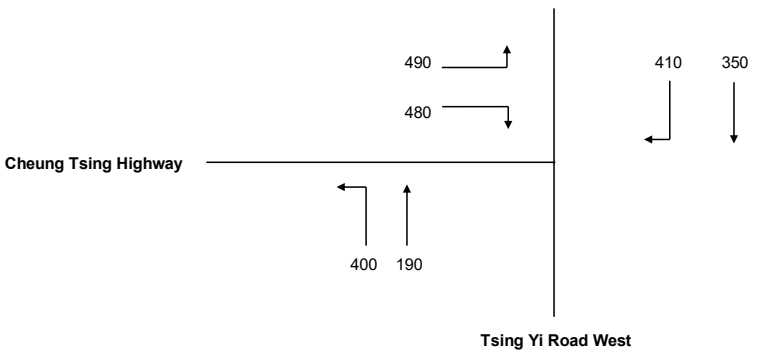
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2028 Design Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

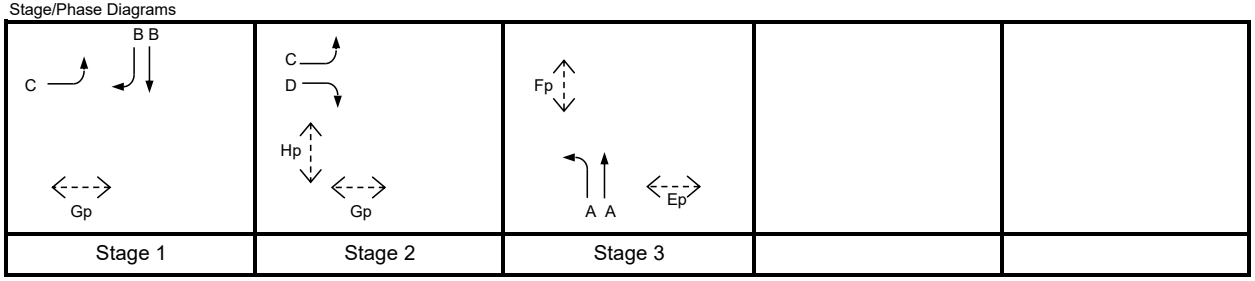
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.496	
Lost time	L =	11	sec
Total Flow	=	2,320	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	43	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	64.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	25	sec
Y_{max}	$= 1-L/C$ =	0.890	

Stage/Phase Diagrams



Stage 1	Stage 2	Stage 3		
I/G = 6	I/G = 3	I/G =		4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 61%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	490			490	100%		1793	0.273	0.273
	D	2	3.030	2		18	0	0		0		4116			480	480		100%	3799	0.126	
	A	3	3.710	1	14			1		0		1986	400	0		400	100%		1794	0.223	0.223
	A	3	3.760	1				0		0		2131		190		190			2131	0.089	
	B	1	3.480	1				1		0		1963		255		255			1963	0.130	
	B	1	3.300	1		19	0			0		2085		95	163	258		63%	1986	0.130	
	B	1	3.300	1		16	0	0		0		2085			247	247		100%	1906	0.130	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

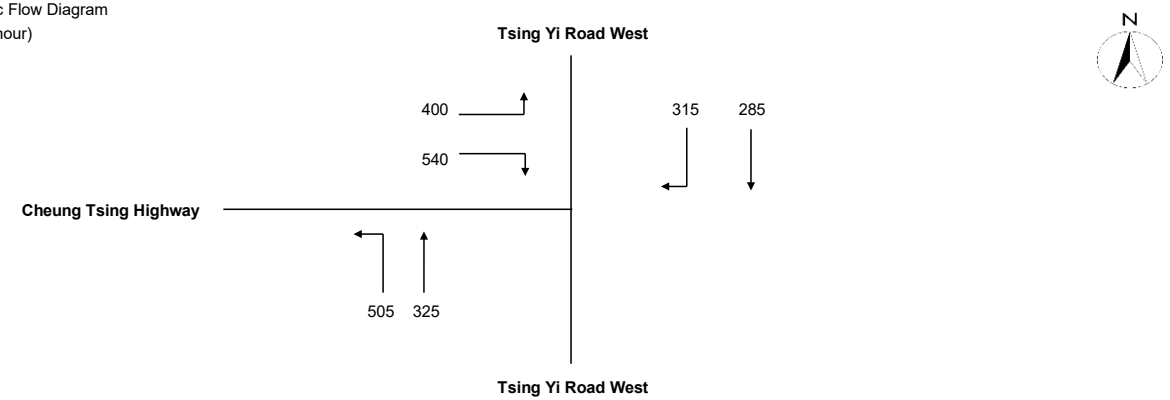
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2028 Design Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

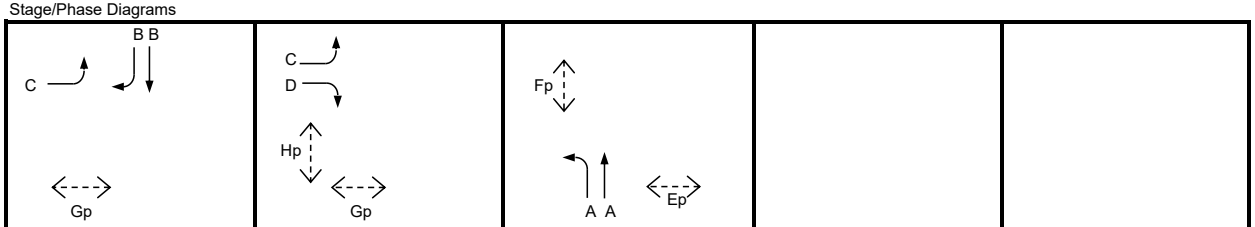
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.526	
Lost time	L =	13	sec
Total Flow	=	2,370	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	52	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.803	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	52.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	31	sec
Y_{max}	$= 1-L/C$ =	0.870	

Stage/Phase Diagrams



I/G = 5 I/G = 6 I/G = 3 2

Critical Case : B,D,A

R.C.(C) = $(0.9xY_{max}-Y)/Yx100\%$ = 49%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
C	C	1,2	3.270	1	18			1		0		1942	400			400	100%		1793	0.223	
D	D	2	3.030	2		18	0	0		0		4116			540	540		100%	3799	0.142	0.142
A	A	3	3.710	1	14			1		0		1986	505	0		505	100%		1794	0.282	0.282
A	A	3	3.760	1				0		0		2131		325		325			2131	0.153	
B	B	1	3.480	1				1		0		1963		201		201			1963	0.102	0.102
B	B	1	3.300	1		19	0			0		2085		84	120	204		59%	1993	0.102	
B	B	1	3.300	1		16	0	0		0		2085			195	195		100%	1906	0.102	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

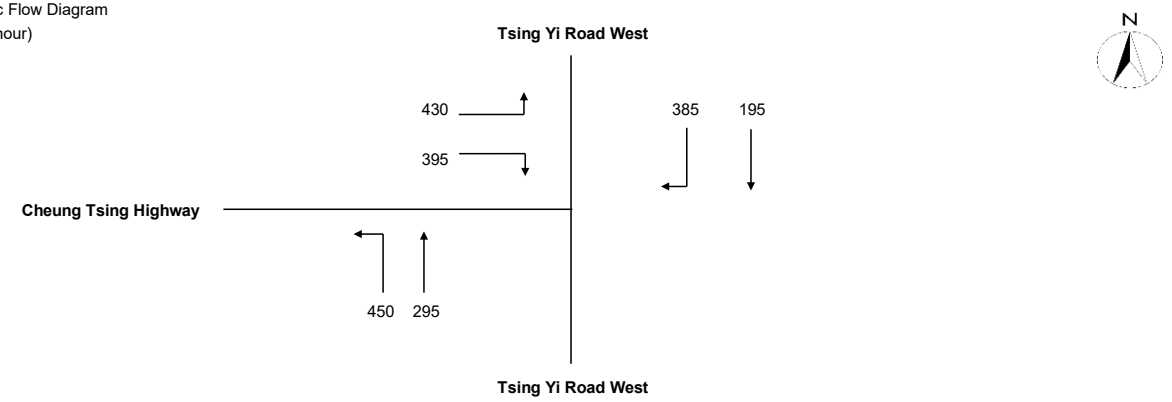
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2028 Design Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

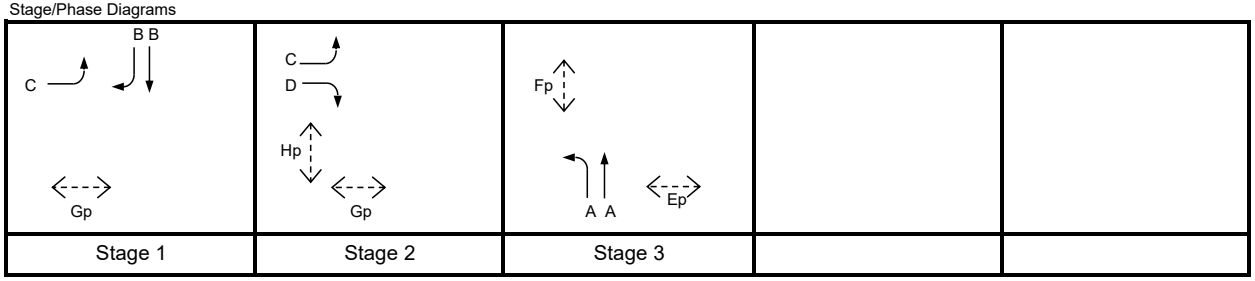
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.491	
Lost time	L =	11	sec
Total Flow	=	2,150	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		42	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	66.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	24	sec
Y_{max}	$= 1-L/C$	=	0.895	

Stage/Phase Diagrams



Stage 1	Stage 2	Stage 3		
I/G = 6	I/G = 3	I/G =		4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	430			430	100%		1793	0.240	0.240
	D	2	3.030	2		18	0	0		0		4116			395	395		100%	3799	0.104	
	A	3	3.710	1	14			1		0		1986	450	0		450	100%		1794	0.251	0.251
	A	3	3.760	1				0		0		2131		295		295			2131	0.138	
	B	1	3.480	1				1		0		1963		195		195			1963	0.099	
	B	1	3.300	1		19	0			0		2085		0	194	194		100%	1932	0.100	
	B	1	3.300	1		16	0	0		0		2085			191	191		100%	1906	0.100	
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	6	=	11	sec												
	Fp	3	min.	5	+	10	=	15	sec												
	Gp	1,2	min.	5	+	9	=	14	sec												
	Hp	2	min.	5	+	10	=	15	sec												

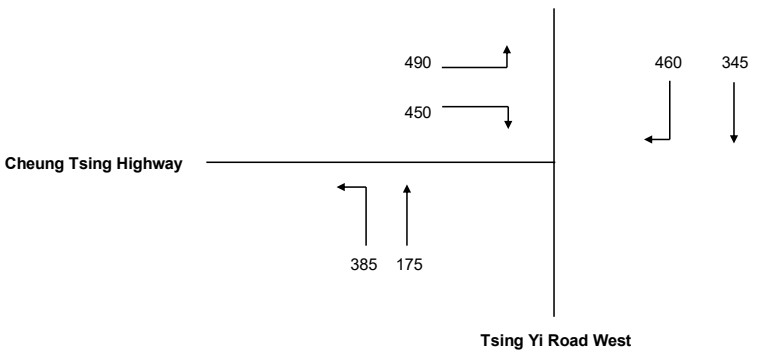
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

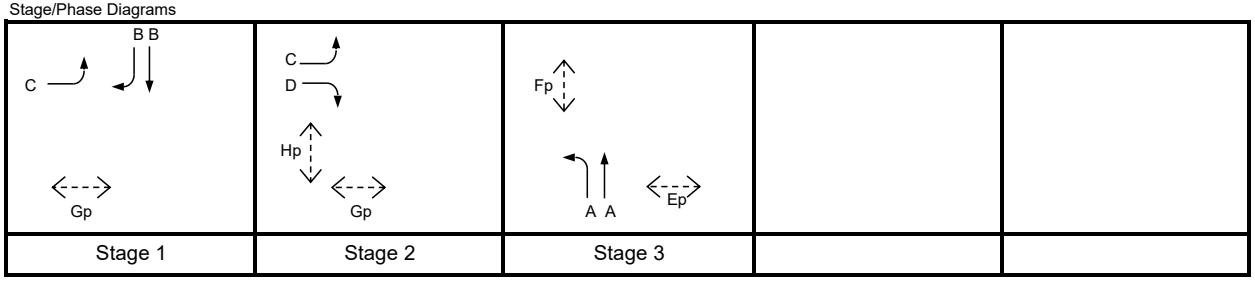
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.488	
Lost time	L =	11	sec
Total Flow	=	2,305	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	21	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	67.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.890	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	490			490	100%		1793	0.273	0.273
	D	2	3.030	2		18	0	0		0		4116			450	450		100%	3799	0.118	
	A	3	3.710	1	14			1		0		1986	385	0		385	100%		1794	0.215	0.215
	A	3	3.760	1				0		0		2131		175		175			2131	0.082	
	B	1	3.480	1				1		0		1963		271		271			1963	0.138	
	B	1	3.300	1		19	0			0		2085		74	197	272		73%	1972	0.138	
	B	1	3.300	1		16	0	0		0		2085			263	263		100%	1906	0.138	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

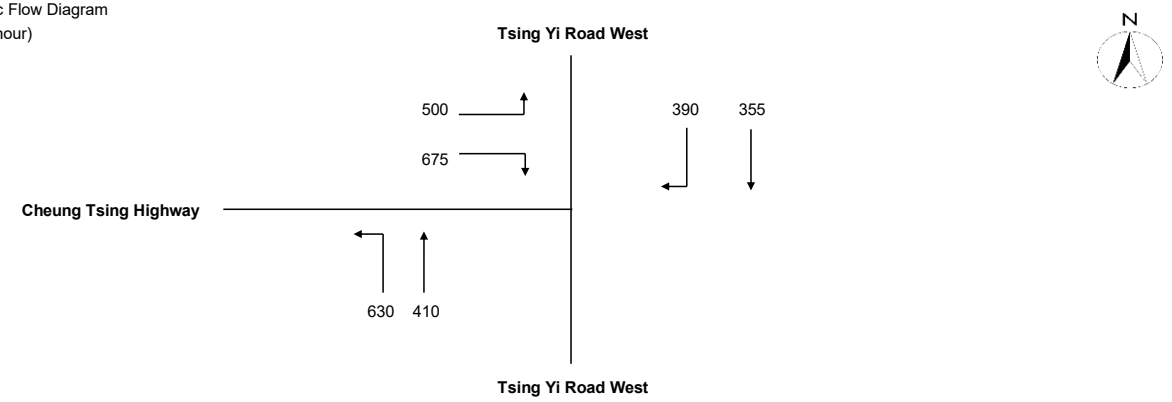
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

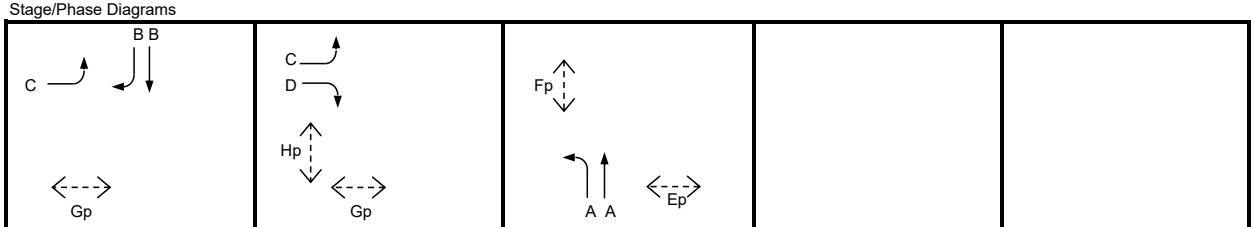
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.656	
Lost time	L =	13	sec
Total Flow	=	2,960	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	71	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	38	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.803	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	22.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	48	sec
Y_{max}	$= 1-L/C$ =	0.870	

Stage/Phase Diagrams



I/G = 5 I/G = 6 I/G = 3 2

Critical Case : B,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 19%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	500			500	100%		1793	0.279	
	D	2	3.030	2		18	0	0		0		4116			675	675		100%	3799	0.178	0.178
	A	3	3.710	1	14			1		0		1986	630	0		630	100%		1794	0.351	0.351
	A	3	3.760	1				0		0		2131		410		410			2131	0.192	
	B	1	3.480	1				1		0		1963		249		249			1963	0.127	
	B	1	3.300	1		19	0			0		2085		106	148	253		58%	1993	0.127	
	B	1	3.300	1		16	0	0		0		2085			242	242		100%	1906	0.127	0.127

Pedestrain Crossing			GM		FGM		Total		
Ep	3	min.	5	+	6	=	11	sec	
Fp	3	min.	5	+	10	=	15	sec	
Gp	1,2	min.	5	+	9	=	14	sec	
Hp	2	min.	5	+	10	=	15	sec	

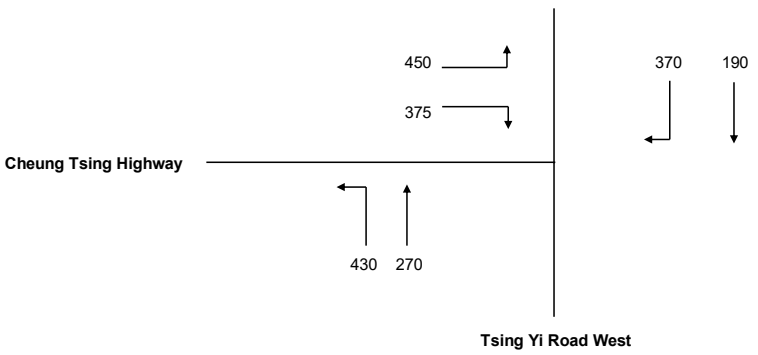
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

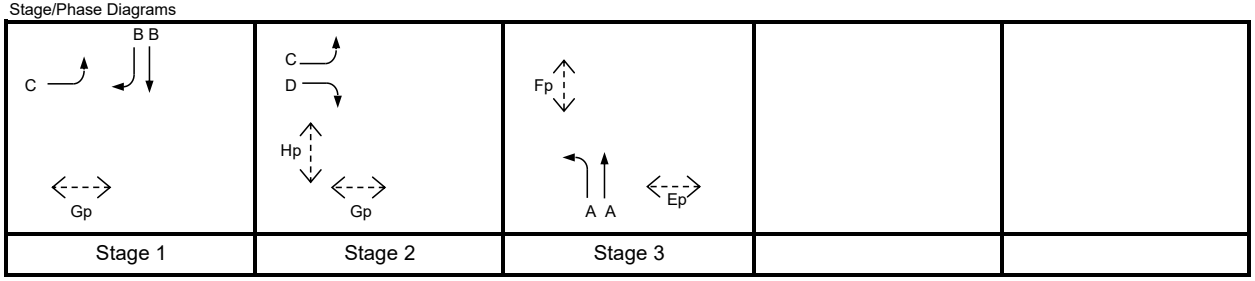
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.491	
Lost time	L =	11	sec
Total Flow	=	2,085	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	66.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.895	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	450			450	100%		1793	0.251	0.251
	D	2	3.030	2		18	0	0		0		4116			375	375		100%	3799	0.099	
	A	3	3.710	1	14			1		0		1986	430	0		430	100%		1794	0.240	0.240
	A	3	3.760	1				0		0		2131		270		270			2131	0.127	
	B	1	3.480	1				1		0		1963		189		189			1963	0.097	
	B	1	3.300	1		19	0			0		2085		1	186	187		100%	1933	0.097	
	B	1	3.300	1		16	0	0		0		2085			184	184		100%	1906	0.097	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

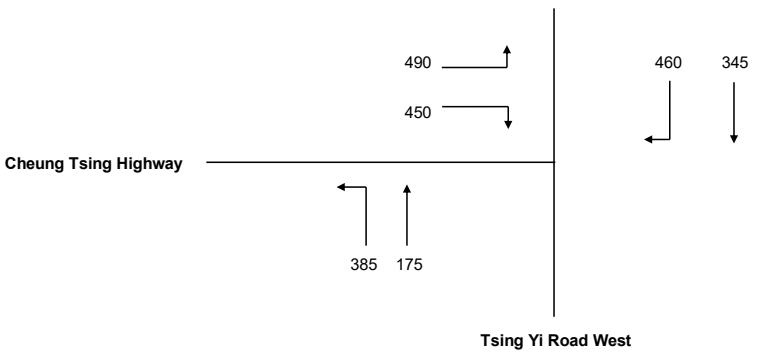
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Scenario A AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

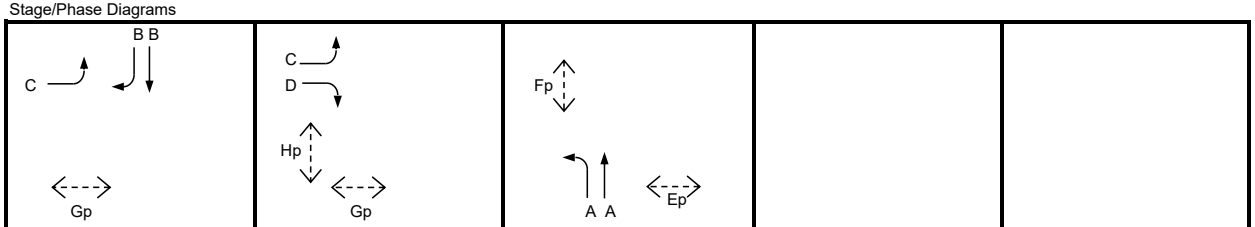
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.488	
Lost time	L =	11	sec
Total Flow	=	2,305	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	21	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	67.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.890	

Stage/Phase Diagrams



Stage 1	Stage 2	Stage 3		
I/G = 6	I/G = 3	I/G =		4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	490			490	100%		1793	0.273	0.273
	D	2	3.030	2		18	0	0		0		4116			450	450		100%	3799	0.118	
	A	3	3.710	1	14			1		0		1986	385	0		385	100%		1794	0.215	0.215
	A	3	3.760	1				0		0		2131		175		175			2131	0.082	
	B	1	3.480	1				1		0		1963		271		271			1963	0.138	
	B	1	3.300	1		19	0			0		2085		74	197	272		73%	1972	0.138	
	B	1	3.300	1		16	0	0		0		2085			263	263		100%	1906	0.138	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

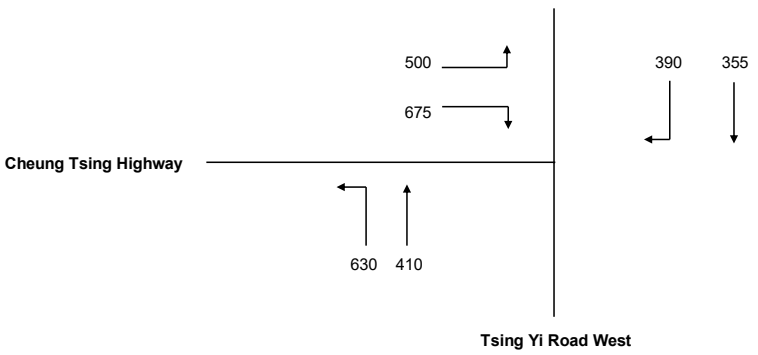
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Scenario A NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

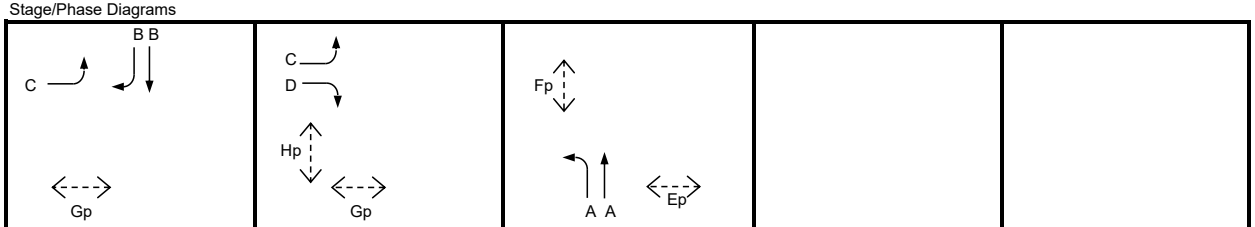
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.656	
Lost time	L =	13	sec
Total Flow	=	2,960	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	71	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	38	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.803	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	22.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	48	sec
Y_{max}	$= 1-L/C$ =	0.870	

Stage/Phase Diagrams



Critical Case : B,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 19%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	500			500	100%		1793	0.279	
	D	2	3.030	2		18	0	0		0		4116			675	675		100%	3799	0.178	0.178
	A	3	3.710	1	14			1		0		1986	630	0		630	100%		1794	0.351	0.351
	A	3	3.760	1				0		0		2131		410		410			2131	0.192	
	B	1	3.480	1				1		0		1963		249		249			1963	0.127	
	B	1	3.300	1		19	0			0		2085		106	148	253		58%	1993	0.127	
	B	1	3.300	1		16	0	0		0		2085			242	242		100%	1906	0.127	0.127

Pedestrain Crossing			GM		FGM		Total		
Ep	3	min.	5	+	6	=	11	sec	
Fp	3	min.	5	+	10	=	15	sec	
Gp	1,2	min.	5	+	9	=	14	sec	
Hp	2	min.	5	+	10	=	15	sec	

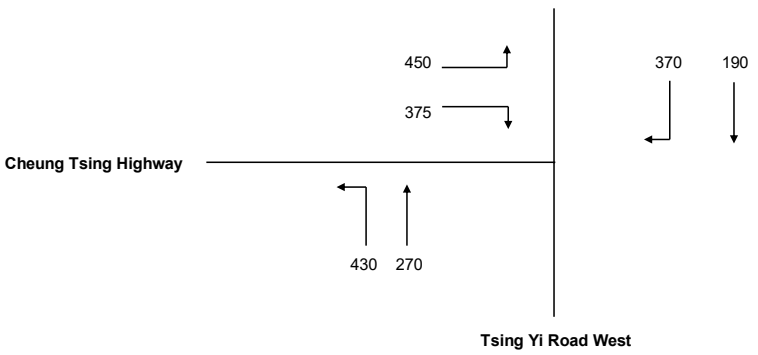
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Scenario A PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

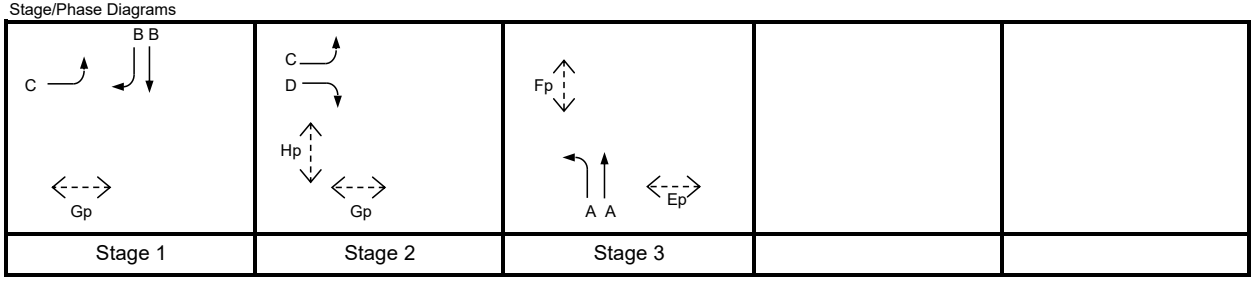
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.491	
Lost time	L =	11	sec
Total Flow	=	2,085	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	66.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	24	sec
Y_{max}	$= 1-L/C$	=	0.895	

Stage/Phase Diagrams



Stage 1	Stage 2	Stage 3		
I/G = 6	I/G = 3	I/G =		4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	450			450	100%		1793	0.251	0.251
	D	2	3.030	2		18	0	0		0		4116			375	375		100%	3799	0.099	
	A	3	3.710	1	14			1		0		1986	430	0		430	100%		1794	0.240	0.240
	A	3	3.760	1				0		0		2131		270		270			2131	0.127	
	B	1	3.480	1				1		0		1963		189		189			1963	0.097	
	B	1	3.300	1		19	0			0		2085		1	186	187		100%	1933	0.097	
	B	1	3.300	1		16	0	0		0		2085			184	184		100%	1906	0.097	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

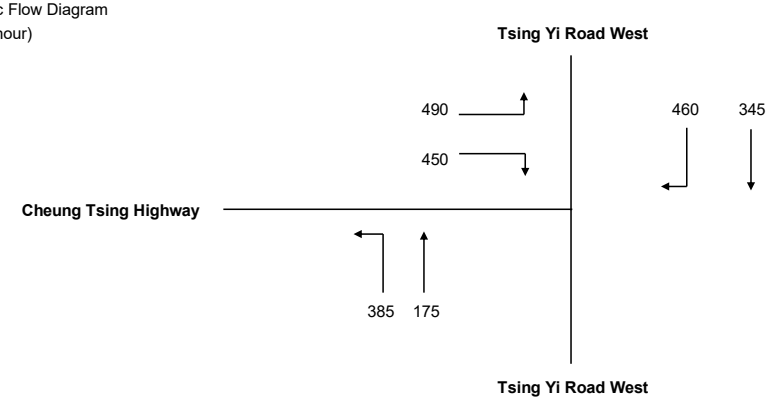
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Scenario B AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

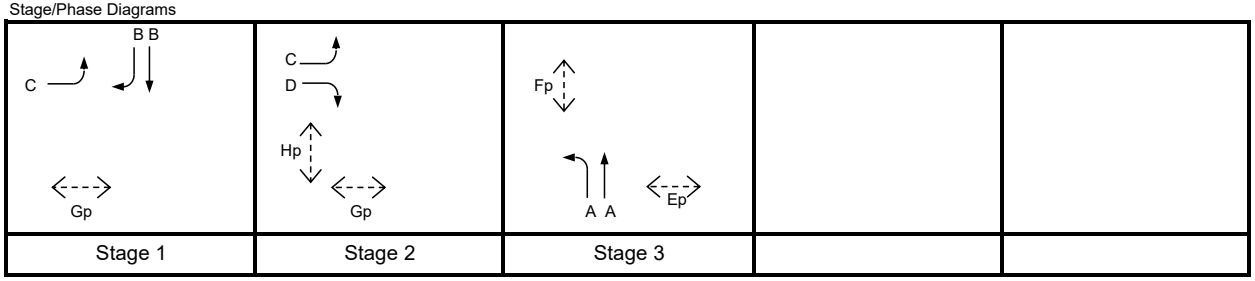
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.488	
Lost time	L =	11	sec
Total Flow	=	2,305	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	21	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	67.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.890	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\% =$ 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	490			490	100%		1793	0.273	0.273
	D	2	3.030	2		18	0	0		0		4116			450	450		100%	3799	0.118	
	A	3	3.710	1	14			1		0		1986	385	0		385	100%		1794	0.215	0.215
	A	3	3.760	1				0		0		2131		175		175			2131	0.082	
	B	1	3.480	1				1		0		1963		271		271			1963	0.138	
	B	1	3.300	1		19	0			0		2085		74	197	272		73%	1972	0.138	
	B	1	3.300	1		16	0	0		0		2085			263	263		100%	1906	0.138	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

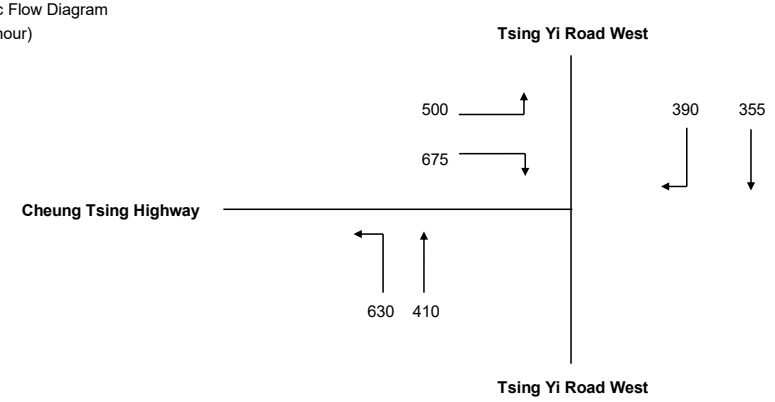
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Scenario B NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

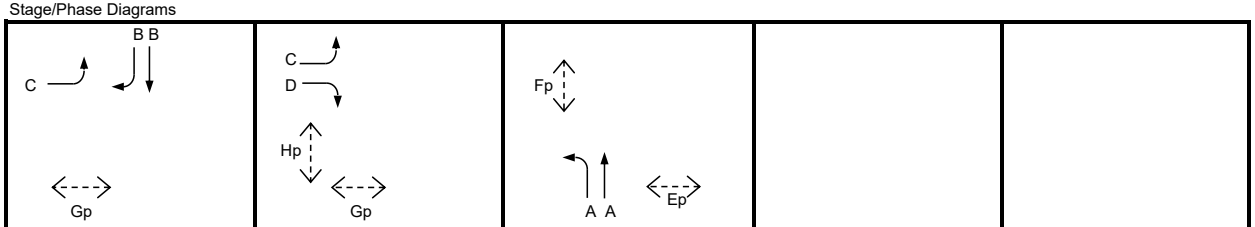
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.656	
Lost time	L =	13	sec
Total Flow	=	2,960	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	71	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	38	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.803	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	22.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	48	sec
Y_{max}	$= 1-L/C$ =	0.870	

Stage/Phase Diagrams



I/G = 5 I/G = 6 I/G = 3 2

Critical Case : B,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 19%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	500			500	100%		1793	0.279	
	D	2	3.030	2		18	0	0		0		4116			675	675		100%	3799	0.178	0.178
	A	3	3.710	1	14			1		0		1986	630	0		630	100%		1794	0.351	0.351
	A	3	3.760	1				0		0		2131		410		410			2131	0.192	
	B	1	3.480	1				1		0		1963		249		249			1963	0.127	
	B	1	3.300	1		19	0			0		2085		106	148	253		58%	1993	0.127	
	B	1	3.300	1		16	0	0		0		2085			242	242		100%	1906	0.127	0.127
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	6	=	11	sec												
	Fp	3	min.	5	+	10	=	15	sec												
	Gp	1,2	min.	5	+	9	=	14	sec												
	Hp	2	min.	5	+	10	=	15	sec												

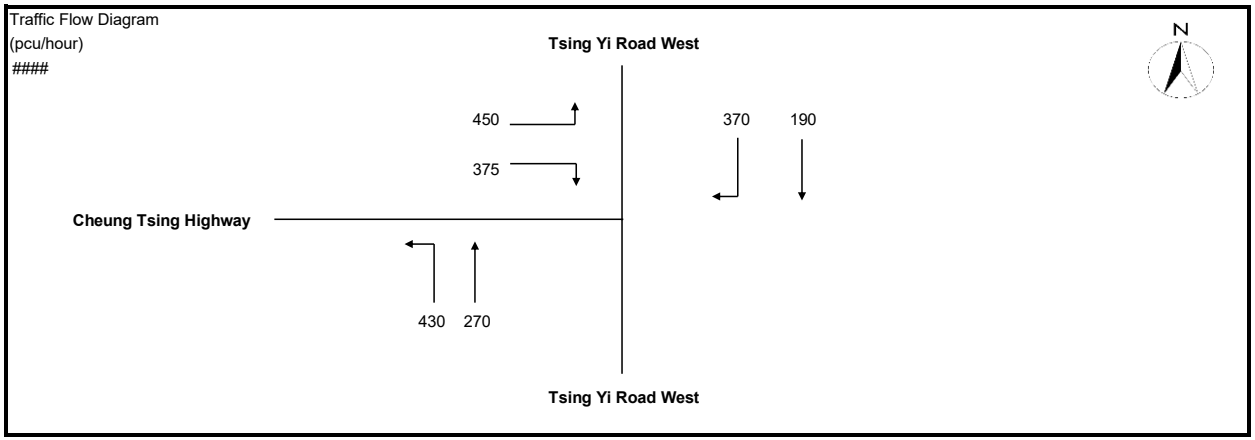
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Scenario B PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

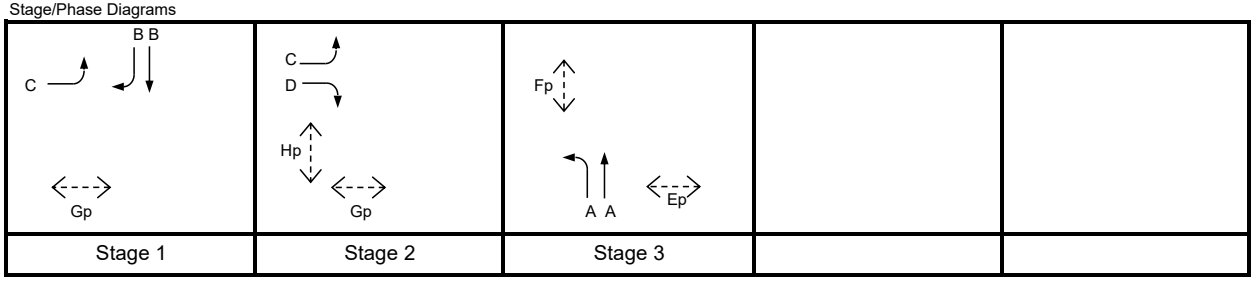
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.491	
Lost time	L =	11	sec
Total Flow	=	2,085	pcu

Optimum Cycle C_o = (1.5×L+5)/(1-Y) =		42	sec
Min. Cycle Time C_m = L/(1-Y) =		22	sec
Y_{ult} = 0.9-0.0075×L =		0.818	
$R.C._{ult}$ = $(Y_{ult}-Y)/Yx100\%$ =		66.6	%
Practical Cycle Time C_p = 0.9×L/(0.9-Y) =		24	sec
Y_{max} = 1-L/C =		0.895	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) = $(0.9xY_{max}-Y)/Yx100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
C	C	1,2	3.270	1	18			1		0		1942	450			450	100%		1793	0.251	0.251
D	D	2	3.030	2		18	0	0		0		4116			375	375		100%	3799	0.099	
A	A	3	3.710	1	14			1		0		1986	430	0		430	100%		1794	0.240	0.240
A	A	3	3.760	1				0		0		2131		270		270			2131	0.127	
B	B	1	3.480	1				1		0		1963		189		189			1963	0.097	
B	B	1	3.300	1		19	0			0		2085		1	186	187		100%	1933	0.097	
B	B	1	3.300	1		16	0	0		0		2085			184	184		100%	1906	0.097	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

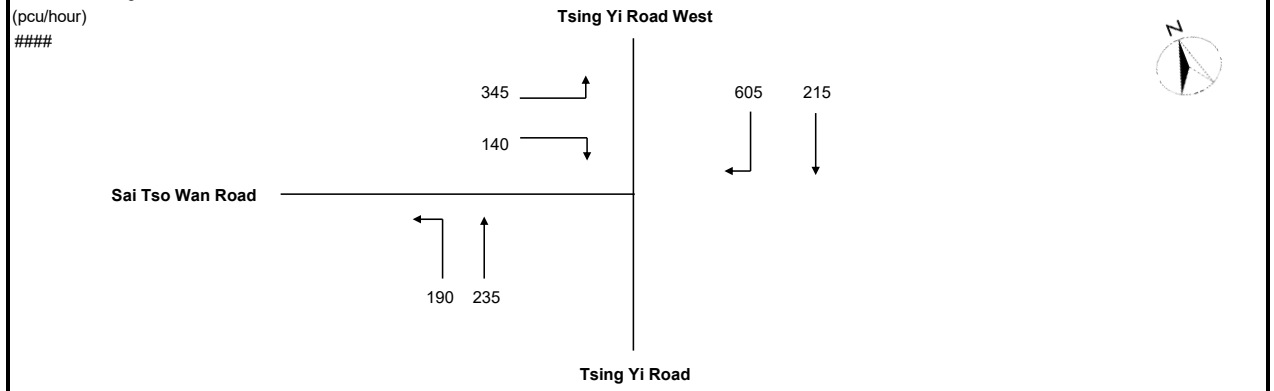
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2025 Survey Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

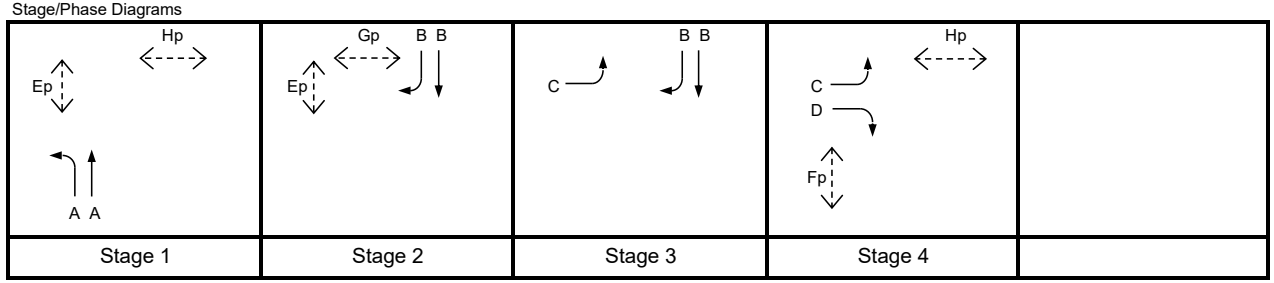
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.423	
Lost time	L =	37	sec
Total Flow	=	1,730	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	105	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	64	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.623	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	47.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	70	sec
Y_{max}	$= 1-L/C$ =	0.692	

Stage/Phase Diagrams



I/G = 10 I/G = 10 I/G = 12 G = 5 I/G = 2

Critical Case : A,B,Fp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 47%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	345			345	100%		1776	0.194	
	D	4	3.890	1		14	0	0		0		2144			140	140		100%	1937	0.072	
	A	1	3.980	1	13			1		0		2013	190			190	100%		1805	0.105	
	A	1	3.750	1				0		0		2130		235		235			2130	0.110	0.110
	B	2,3	3.570	1				1		0		1972		215		215			1972	0.109	
	B	2,3	3.590	1		16	0	0		0		2114			605	605		100%	1933	0.313	0.313
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												*
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

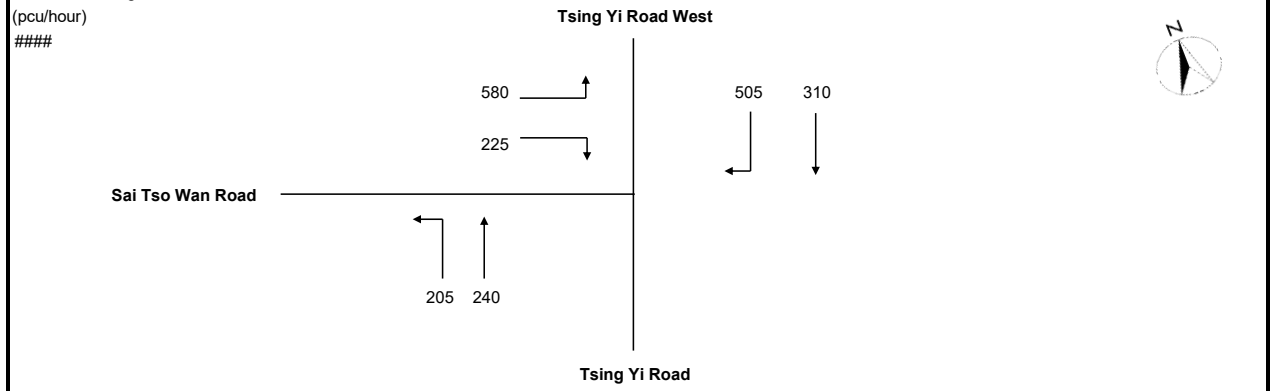
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2025 Survey Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

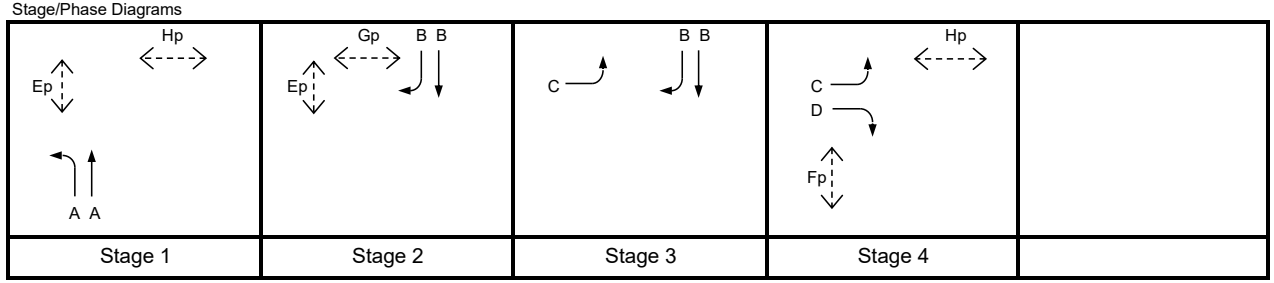
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.440	
Lost time	L =	30	sec
Total Flow	=	2,065	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	89	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	54	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.675	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	53.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	59	sec
Y_{max}	$= 1-L/C$ =	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 49%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	580			580	100%		1776	0.327	0.327
	D	4	3.890	1		14	0	0		0		2144			225	225		100%	1937	0.116	
	A	1	3.980	1	13			1		0		2013	205			205	100%		1805	0.114	0.114
	A	1	3.750	1				0		0		2130		240		240			2130	0.113	
	B	2,3	3.570	1				1		0		1972		310		310			1972	0.157	
	B	2,3	3.590	1		16	0	0		0		2114			505	505		100%	1933	0.261	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

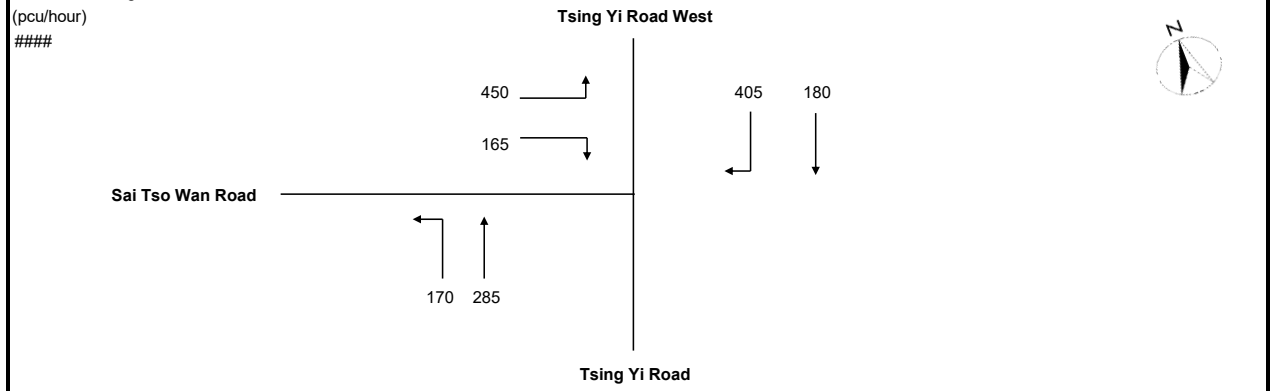
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2025 Survey Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

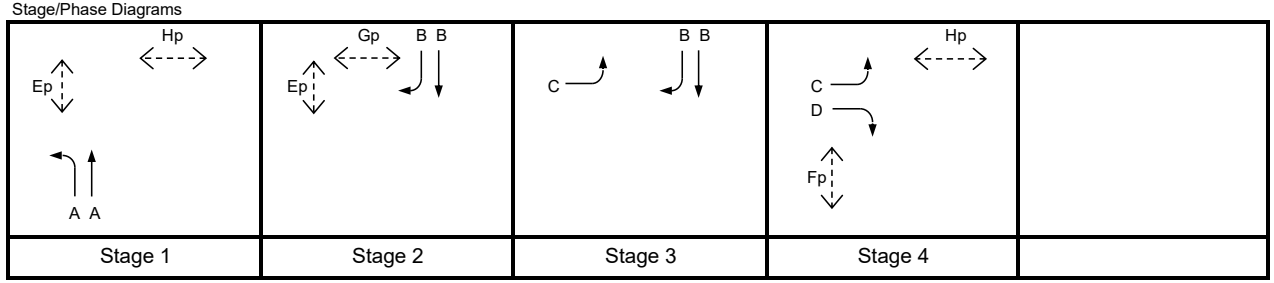
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.387	
Lost time	L =	30	sec
Total Flow	=	1,655	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	82	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	49	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.675	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	74.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	53	sec
Y_{max}	$= 1-L/C$ =	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 69%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	450			450	100%		1776	0.253	0.253
	D	4	3.890	1		14	0	0		0		2144			165	165		100%	1937	0.085	
	A	1	3.980	1	13			1		0		2013	170			170	100%		1805	0.094	
	A	1	3.750	1				0		0		2130		285		285			2130	0.134	0.134
	B	2,3	3.570	1				1		0		1972		180		180			1972	0.091	
	B	2,3	3.590	1		16	0	0		0		2114			405	405		100%	1933	0.210	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

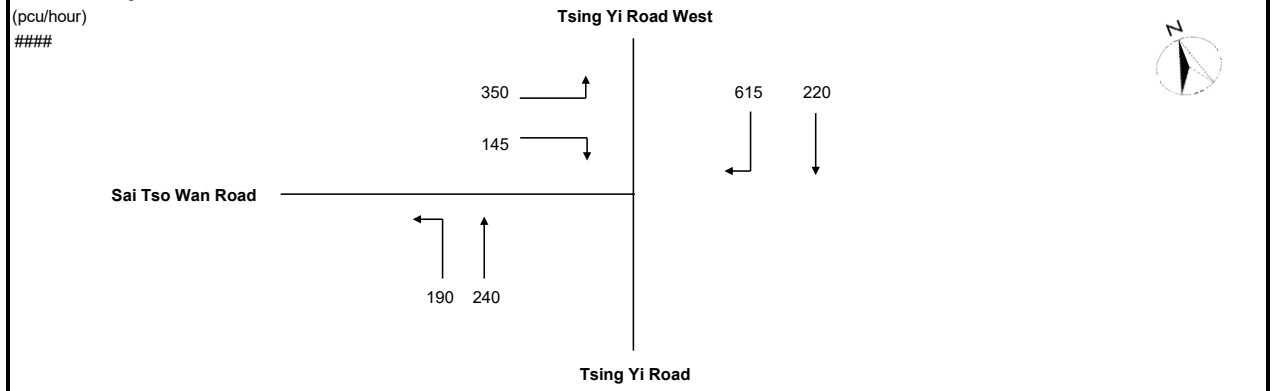
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2028 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

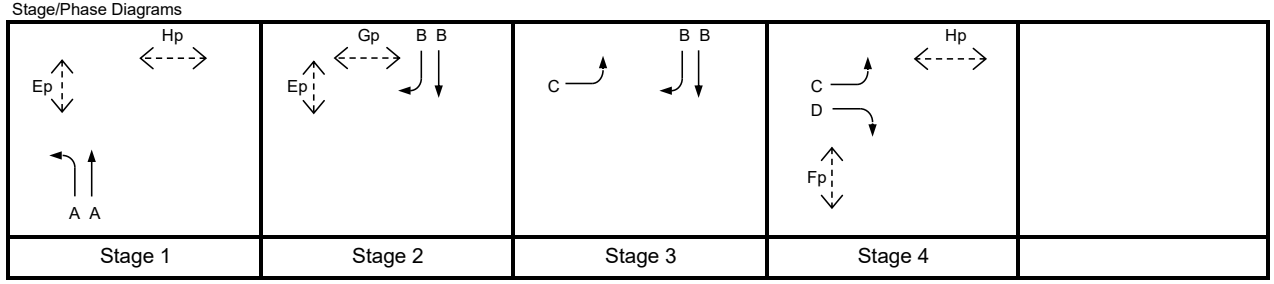
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.431	
Lost time	L =	37	sec
Total Flow	=	1,760	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	106	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	65	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.623	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	44.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	71	sec
Y_{max}	$= 1-L/C$ =	0.692	

Stage/Phase Diagrams



I/G = 10 I/G = 10 I/G = 12 G = 5 I/G = 2

Critical Case : A,B,Fp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 44%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	350			350	100%		1776	0.197	
	D	4	3.890	1		14	0	0		0		2144			145	145		100%	1937	0.075	
	A	1	3.980	1	13			1		0		2013	190			190	100%		1805	0.105	
	A	1	3.750	1				0		0		2130		240		240			2130	0.113	0.113
	B	2,3	3.570	1				1		0		1972		220		220			1972	0.112	
	B	2,3	3.590	1		16	0	0		0		2114			615	615		100%	1933	0.318	0.318
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												*
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

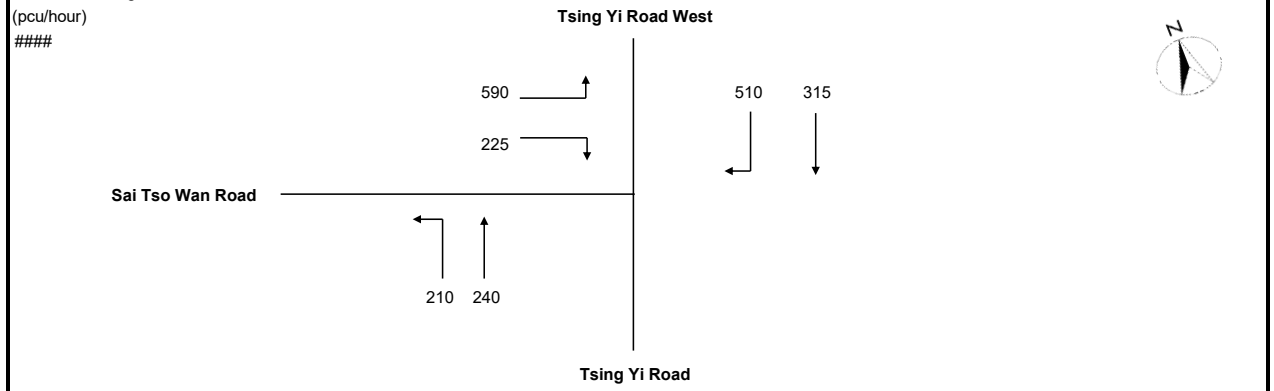
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2028 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

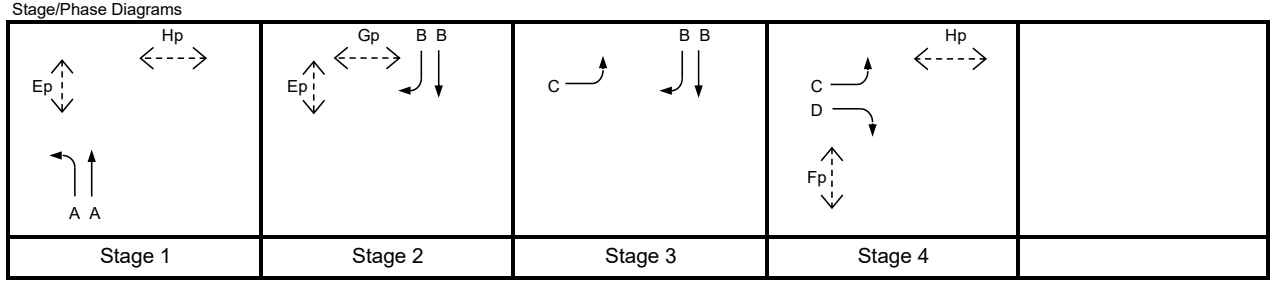
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.448	
Lost time	L =	30	sec
Total Flow	=	2,090	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		91	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	54	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.675	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	50.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	60	sec
Y_{max}	$= 1-L/C$	=	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 46%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	590			590	100%		1776	0.332	0.332
	D	4	3.890	1		14	0	0		0		2144			225	225		100%	1937	0.116	
	A	1	3.980	1	13			1		0		2013	210			210	100%		1805	0.116	0.116
	A	1	3.750	1				0		0		2130		240		240			2130	0.113	
	B	2,3	3.570	1				1		0		1972		315		315			1972	0.160	
	B	2,3	3.590	1		16	0	0		0		2114			510	510		100%	1933	0.264	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

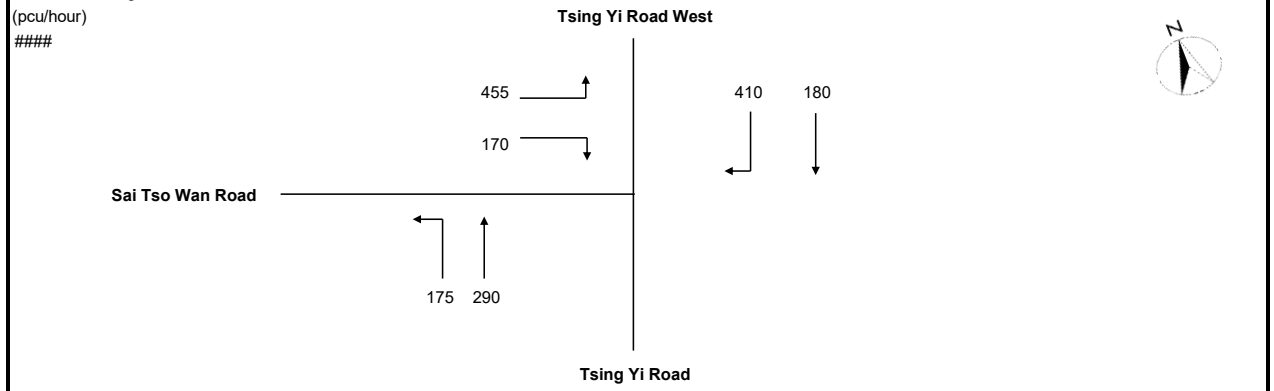
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2028 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

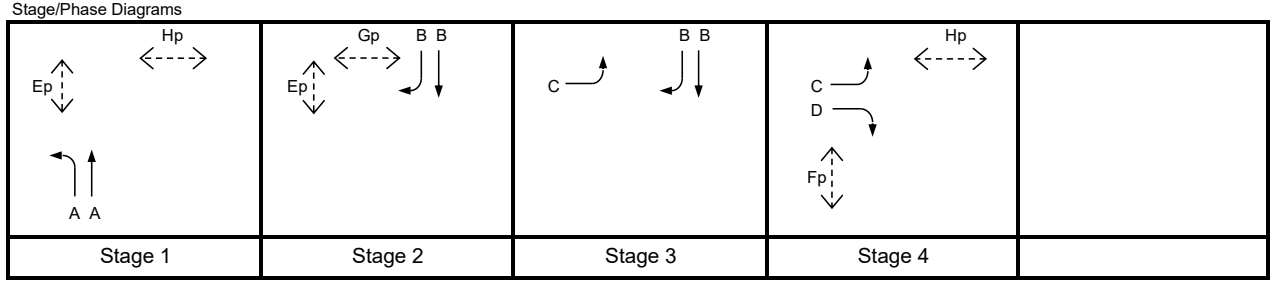
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.392	
Lost time	L =	30	sec
Total Flow	=	1,680	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	82	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	49	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.675	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	72.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	53	sec
Y_{max}	$= 1-L/C$ =	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 67%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	455			455	100%		1776	0.256	0.256
	D	4	3.890	1		14	0	0		0		2144			170	170		100%	1937	0.088	
	A	1	3.980	1	13			1		0		2013	175			175	100%		1805	0.097	
	A	1	3.750	1				0		0		2130		290		290			2130	0.136	0.136
	B	2,3	3.570	1				1		0		1972		180		180			1972	0.091	
	B	2,3	3.590	1		16	0	0		0		2114			410	410		100%	1933	0.212	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

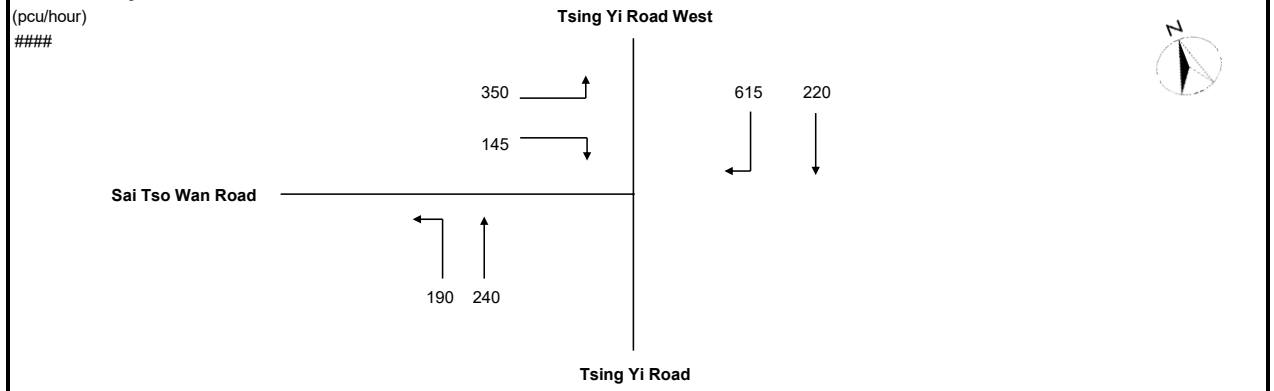
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2028 Design Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

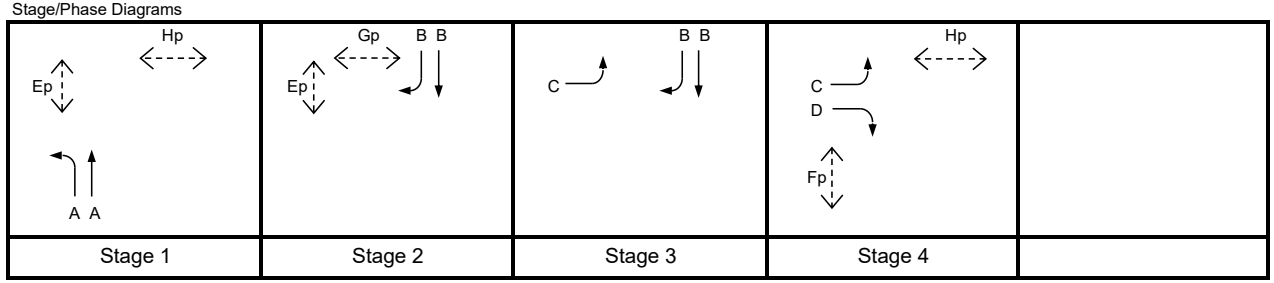
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.431	
Lost time	L =	37	sec
Total Flow	=	1,760	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		106	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	65	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.623	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	44.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	71	sec
Y_{max}	$= 1-L/C$	=	0.692	

Stage/Phase Diagrams



Critical Case : A,B,Fp

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 44%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	350			350	100%		1776	0.197	
	D	4	3.890	1		14	0	0		0		2144			145	145		100%	1937	0.075	
	A	1	3.980	1	13			1		0		2013	190			190	100%		1805	0.105	
	A	1	3.750	1				0		0		2130		240		240			2130	0.113	0.113
	B	2,3	3.570	1				1		0		1972		220		220			1972	0.112	
	B	2,3	3.590	1		16	0	0		0		2114			615	615		100%	1933	0.318	0.318
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												*
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

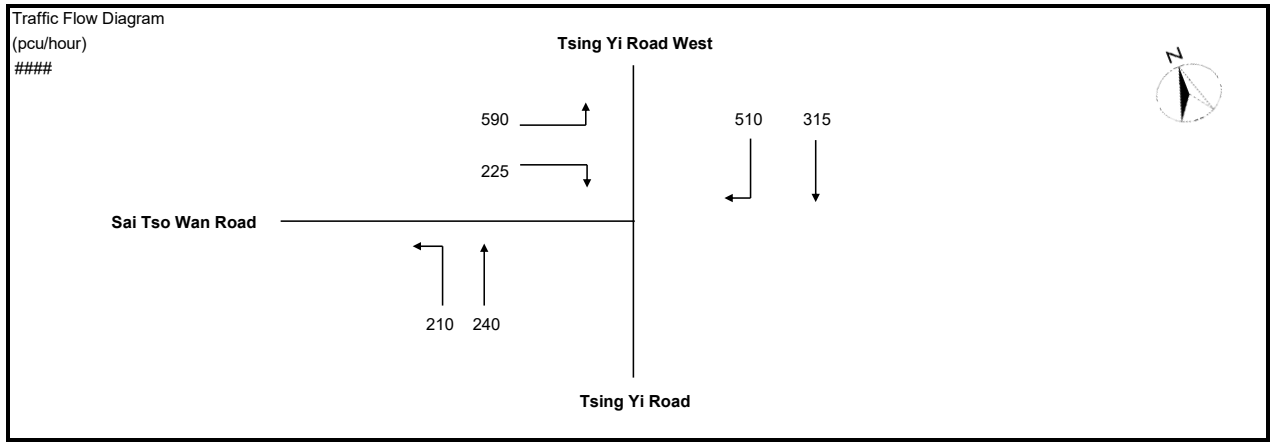
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2028 Design Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

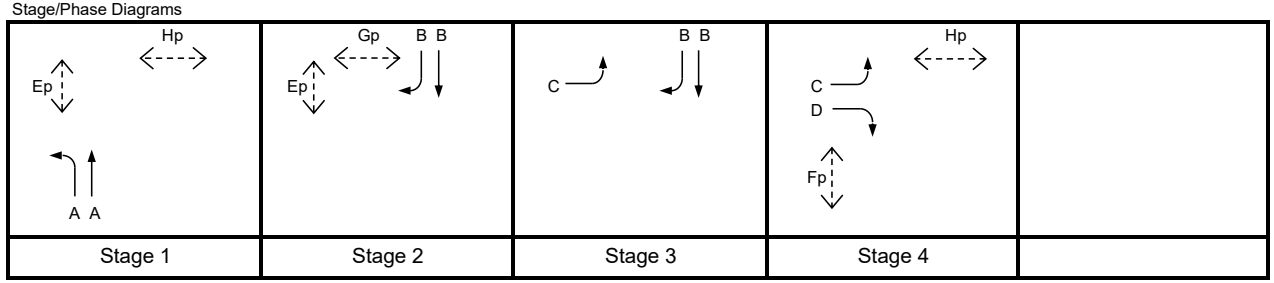
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.448	
Lost time	L =	30	sec
Total Flow	=	2,090	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	91	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	54	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.675	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	50.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	60	sec
Y_{max}	$= 1-L/C$ =	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 46%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	590			590	100%		1776	0.332	0.332
	D	4	3.890	1		14	0	0		0		2144			225	225		100%	1937	0.116	
	A	1	3.980	1	13			1		0		2013	210			210	100%		1805	0.116	0.116
	A	1	3.750	1				0		0		2130		240		240			2130	0.113	
	B	2,3	3.570	1				1		0		1972		315		315			1972	0.160	
	B	2,3	3.590	1		16	0	0		0		2114			510	510		100%	1933	0.264	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

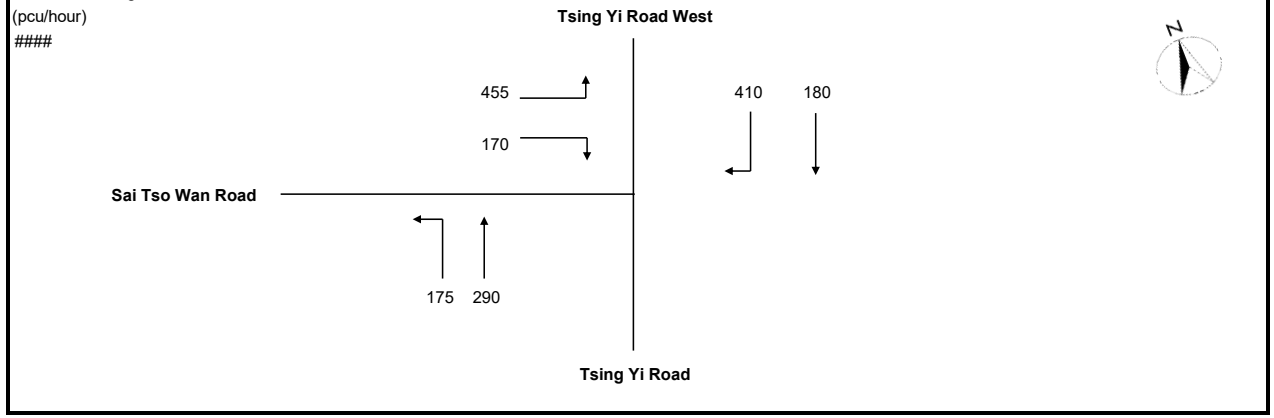
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2028 Design Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

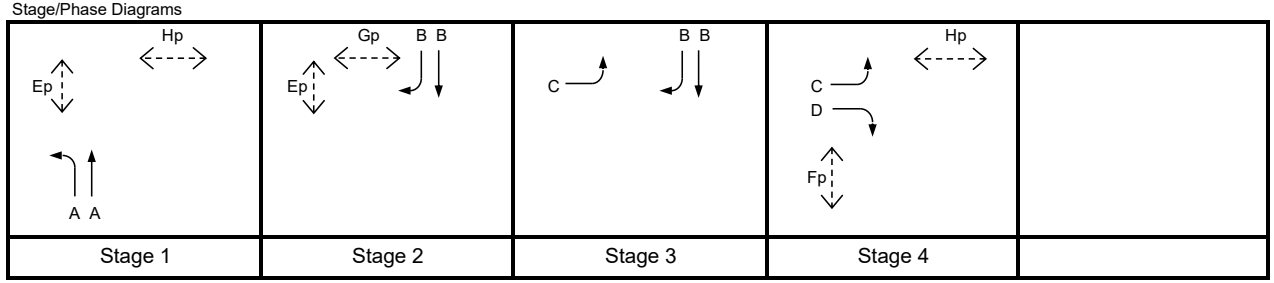
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.392	
Lost time	L =	30	sec
Total Flow	=	1,680	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	82	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	49	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.675	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	72.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	53	sec
Y_{max}	$= 1-L/C$ =	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 67%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	455			455	100%		1776	0.256	0.256
	D	4	3.890	1		14	0	0		0		2144			170	170		100%	1937	0.088	
	A	1	3.980	1	13			1		0		2013	175			175	100%		1805	0.097	
	A	1	3.750	1				0		0		2130		290		290			2130	0.136	0.136
	B	2,3	3.570	1				1		0		1972		180		180			1972	0.091	
	B	2,3	3.590	1		16	0	0		0		2114			410	410		100%	1933	0.212	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

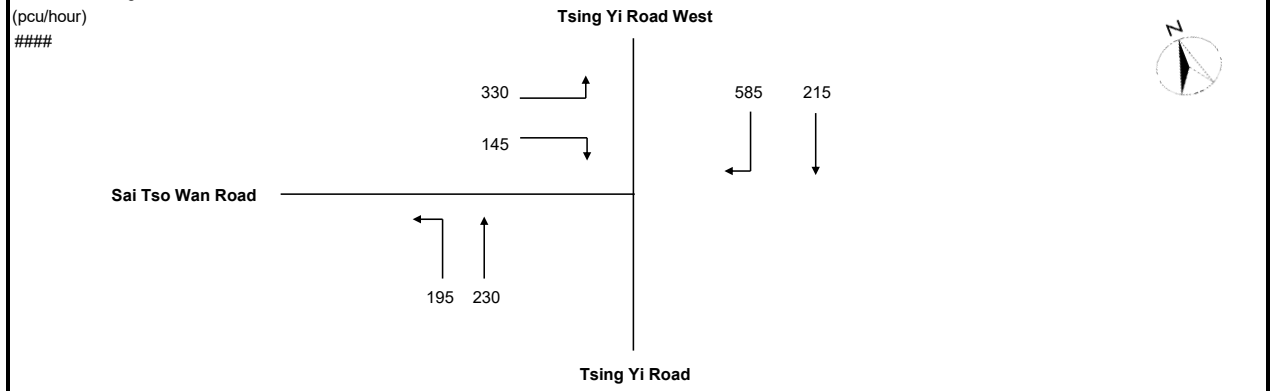
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

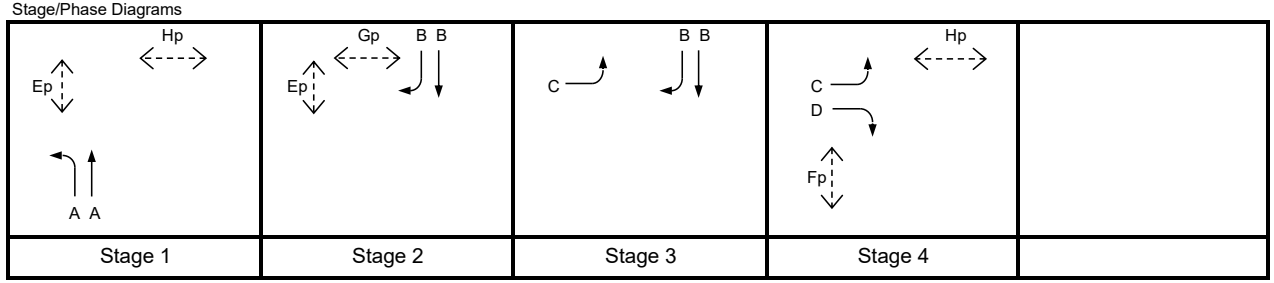
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.411	
Lost time	L =	37	sec
Total Flow	=	1,700	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	103	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	63	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.623	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	51.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	68	sec
Y_{max}	$= 1-L/C$ =	0.692	

Stage/Phase Diagrams



I/G = 10 I/G = 10 I/G = 12 G = 5 I/G = 2

Critical Case : A,B,Fp

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 52%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	330			330	100%		1776	0.186	
	D	4	3.890	1		14	0	0		0		2144			145	145		100%	1937	0.075	
	A	1	3.980	1	13			1		0		2013	195			195	100%		1805	0.108	0.108
	A	1	3.750	1				0		0		2130		230		230			2130	0.108	
	B	2,3	3.570	1				1		0		1972		215		215			1972	0.109	
	B	2,3	3.590	1		16	0	0		0		2114			585	585		100%	1933	0.303	0.303
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												*
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

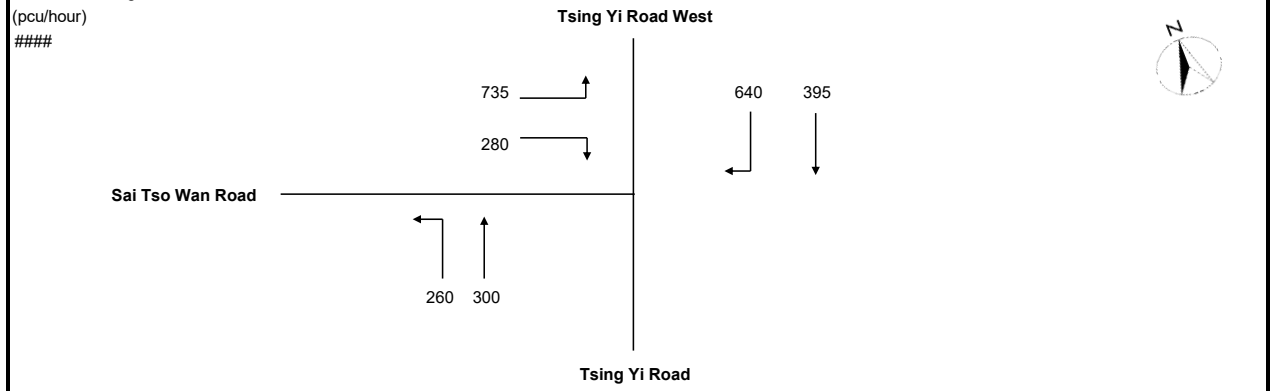
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

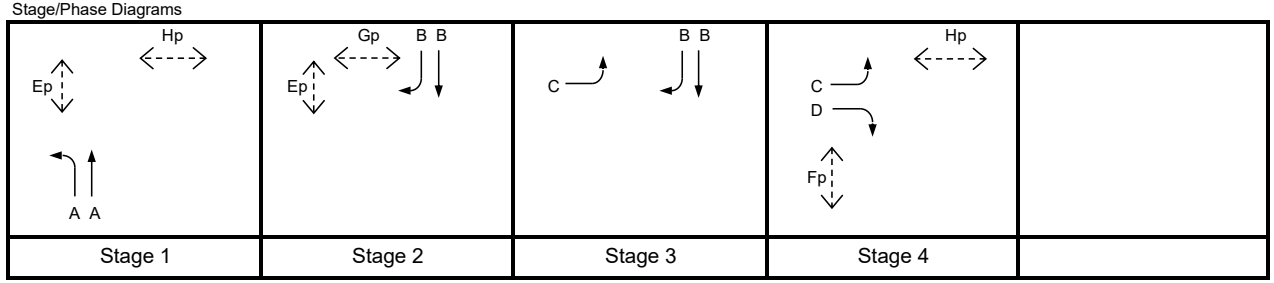
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.558	
Lost time	L =	30	sec
Total Flow	=	2,610	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		113	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.675	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	21.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	79	sec
Y_{max}	$= 1-L/C$	=	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 17%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	735			735	100%		1776	0.414	0.414
	D	4	3.890	1		14	0	0		0		2144			280	280		100%	1937	0.145	
	A	1	3.980	1	13			1		0		2013	260			260	100%		1805	0.144	0.144
	A	1	3.750	1				0		0		2130		300		300			2130	0.141	
	B	2,3	3.570	1				1		0		1972		395		395			1972	0.200	
	B	2,3	3.590	1		16	0	0		0		2114			640	640		100%	1933	0.331	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

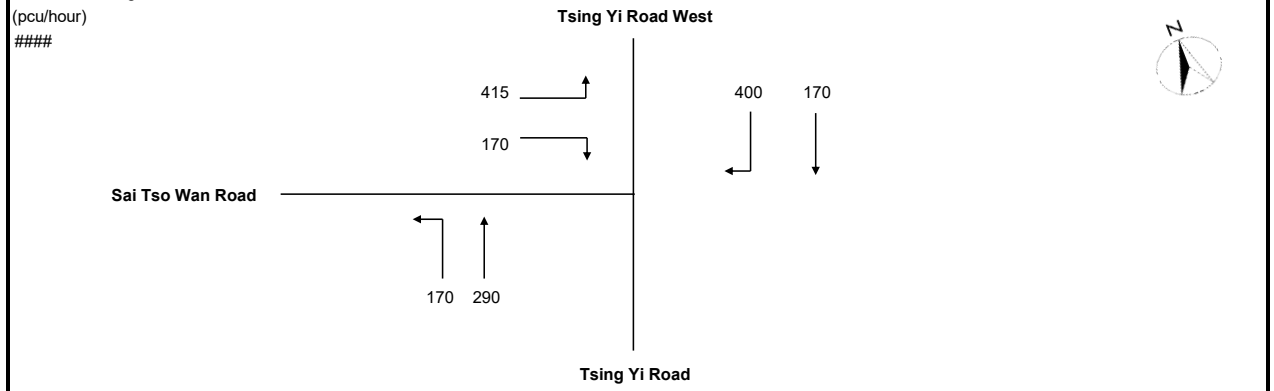
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

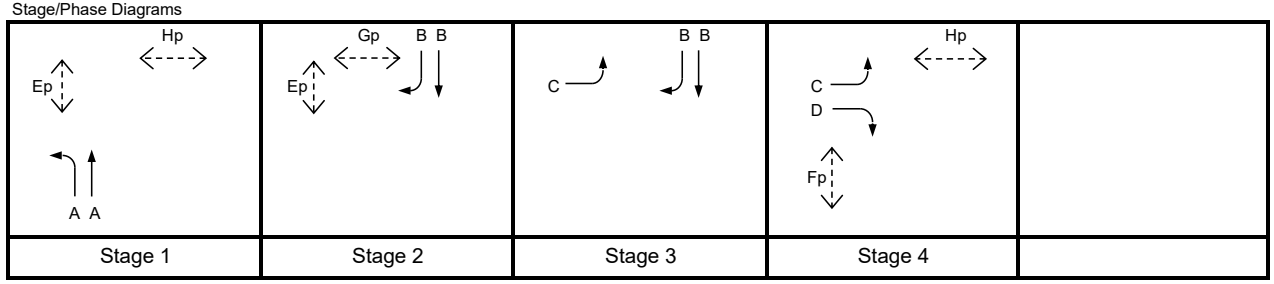
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.431	
Lost time	L =	19	sec
Total Flow	=	1,615	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		59	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	33	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.758	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	75.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	36	sec
Y_{max}	$= 1-L/C$	=	0.827	

Stage/Phase Diagrams



Critical Case : A,B,D

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 73%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	415			415	100%		1776	0.234	
	D	4	3.890	1		14	0	0		0		2144			170	170		100%	1937	0.088	0.088
	A	1	3.980	1	13			1		0		2013	170			170	100%		1805	0.094	
	A	1	3.750	1				0		0		2130		290		290			2130	0.136	0.136
	B	2,3	3.570	1				1		0		1972		170		170			1972	0.086	
	B	2,3	3.590	1		16	0	0		0		2114			400	400		100%	1933	0.207	0.207
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

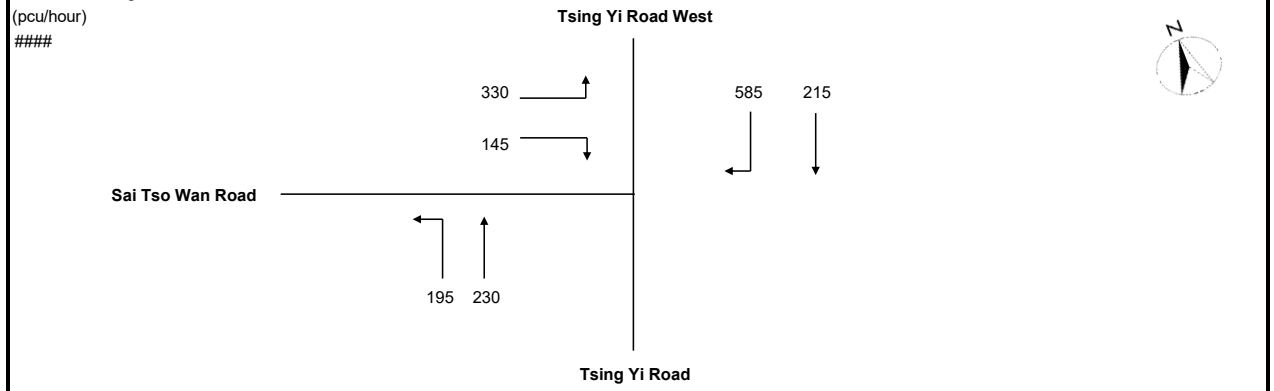
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Scenario A AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

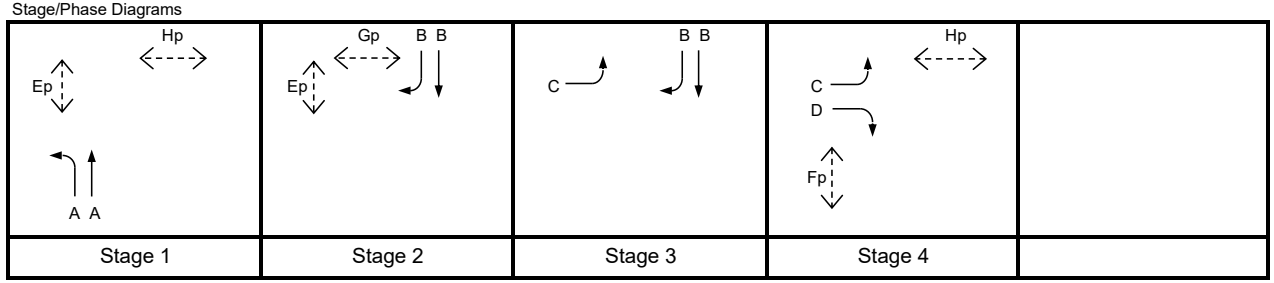
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.411	
Lost time	L =	37	sec
Total Flow	=	1,700	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	103	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	63	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.623	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	51.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	68	sec
Y_{max}	$= 1-L/C$ =	0.692	

Stage/Phase Diagrams



I/G = 10 I/G = 10 I/G = 12 G = 5 I/G = 2

Critical Case : A,B,Fp

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 52%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	330			330	100%		1776	0.186	
	D	4	3.890	1		14	0	0		0		2144			145	145		100%	1937	0.075	
	A	1	3.980	1	13			1		0		2013	195			195	100%		1805	0.108	0.108
	A	1	3.750	1				0		0		2130		230		230			2130	0.108	
	B	2,3	3.570	1				1		0		1972		215		215			1972	0.109	
	B	2,3	3.590	1		16	0	0		0		2114			585	585		100%	1933	0.303	0.303
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												*
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

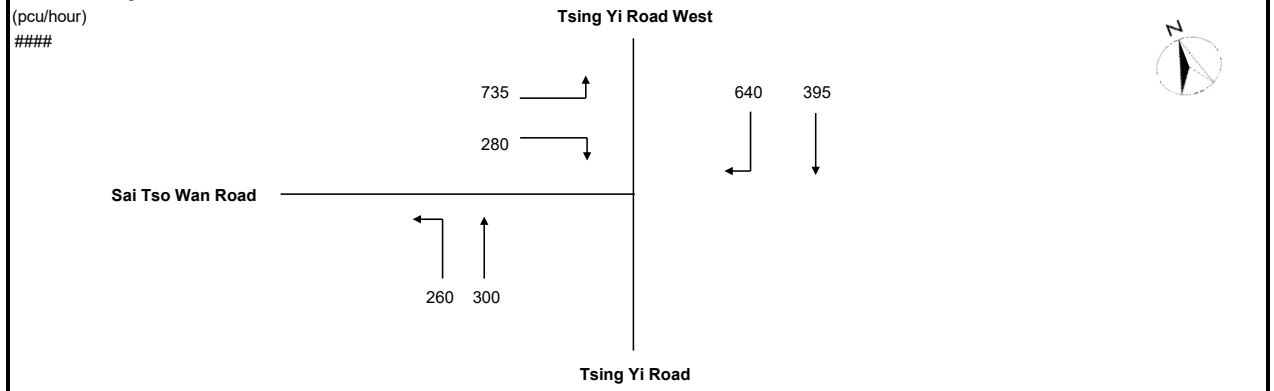
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Scenario A NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

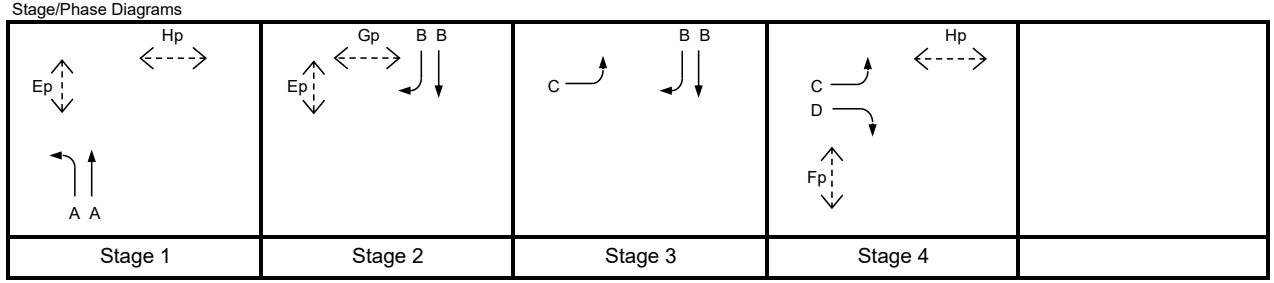
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.558	
Lost time	L =	30	sec
Total Flow	=	2,610	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	113	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.675	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	21.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	79	sec
Y_{max}	$= 1-L/C$ =	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 17%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	735			735	100%		1776	0.414	0.414
	D	4	3.890	1		14	0	0		0		2144			280	280		100%	1937	0.145	
	A	1	3.980	1	13			1		0		2013	260			260	100%		1805	0.144	0.144
	A	1	3.750	1				0		0		2130		300		300			2130	0.141	
	B	2,3	3.570	1				1		0		1972		395		395			1972	0.200	
	B	2,3	3.590	1		16	0	0		0		2114			640	640		100%	1933	0.331	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

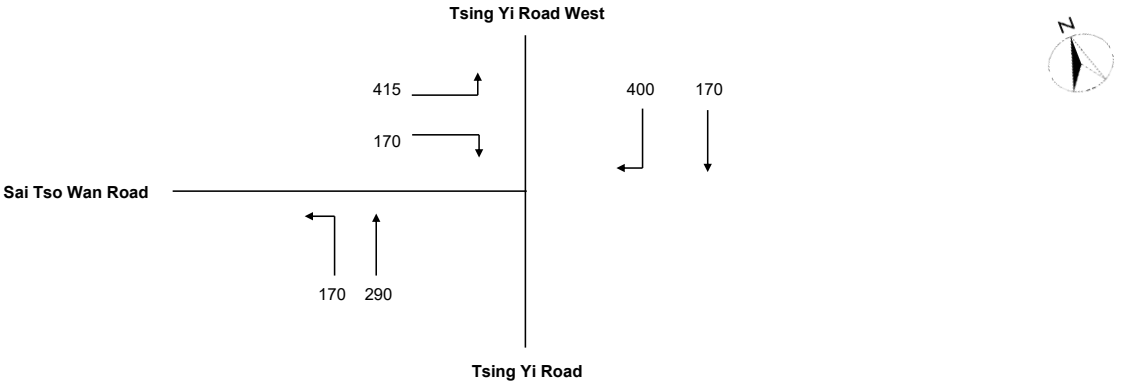
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Scenario A PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

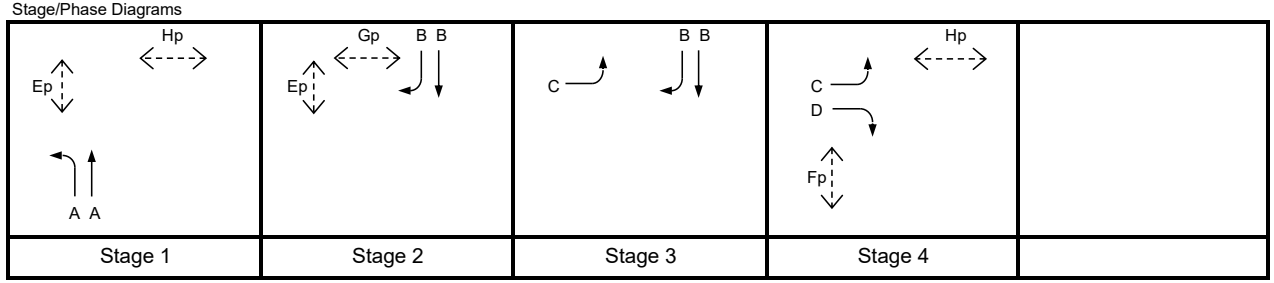
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.431	
Lost time	L =	19	sec
Total Flow	=	1,615	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		59	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	33	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.758	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	75.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	36	sec
Y_{max}	$= 1-L/C$	=	0.827	

Stage/Phase Diagrams



Critical Case : A,B,D

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 73%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	415			415	100%		1776	0.234	
	D	4	3.890	1		14	0	0		0		2144			170	170		100%	1937	0.088	0.088
	A	1	3.980	1	13			1		0		2013	170			170	100%		1805	0.094	
	A	1	3.750	1				0		0		2130		290		290			2130	0.136	0.136
	B	2,3	3.570	1				1		0		1972		170		170			1972	0.086	
	B	2,3	3.590	1		16	0	0		0		2114			400	400		100%	1933	0.207	0.207
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

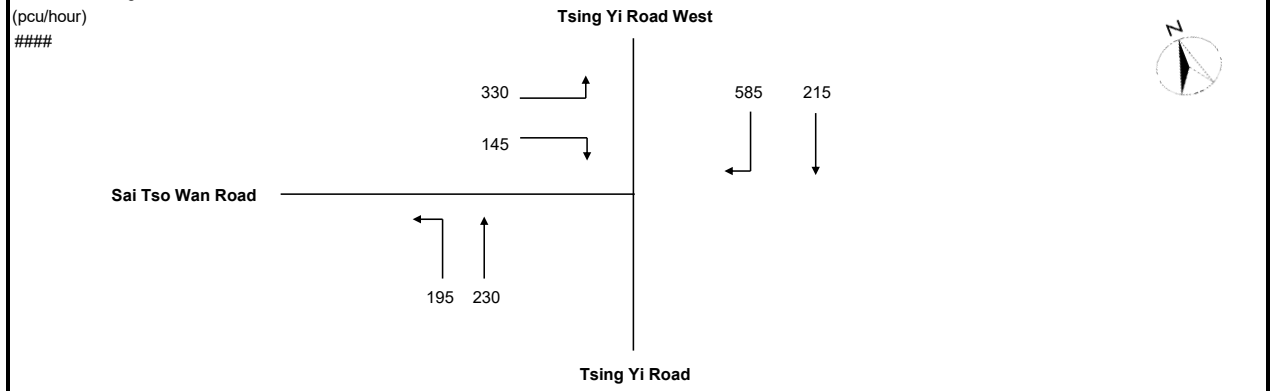
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Scenario B AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

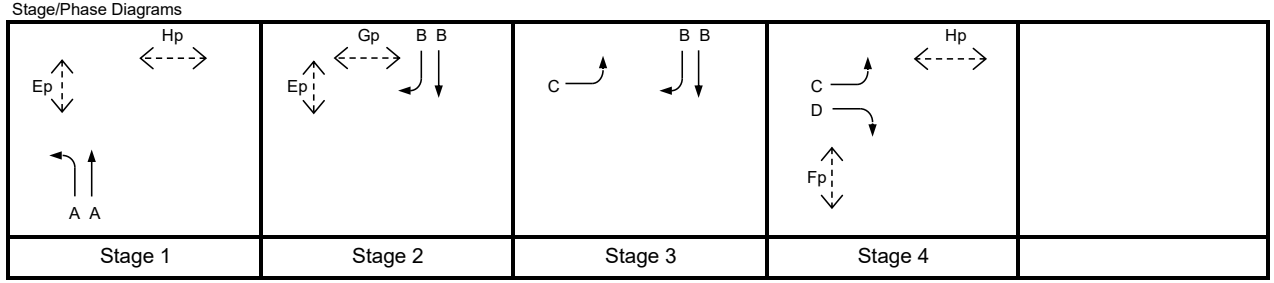
Traffic Flow Diagram
(pcu/hour)
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No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.411	
Lost time	L =	37	sec
Total Flow	=	1,700	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	103	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	63	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.623	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	51.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	68	sec
Y_{max}	$= 1-L/C$ =	0.692	

Stage/Phase Diagrams



I/G = 10 I/G = 10 I/G = 12 G = 5 I/G = 2

Critical Case : A,B,Fp

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 52%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	330			330	100%		1776	0.186	
	D	4	3.890	1		14	0	0		0		2144			145	145		100%	1937	0.075	
	A	1	3.980	1	13			1		0		2013	195			195	100%		1805	0.108	0.108
	A	1	3.750	1				0		0		2130		230		230			2130	0.108	
	B	2,3	3.570	1				1		0		1972		215		215			1972	0.109	
	B	2,3	3.590	1		16	0	0		0		2114			585	585		100%	1933	0.303	0.303
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												*
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

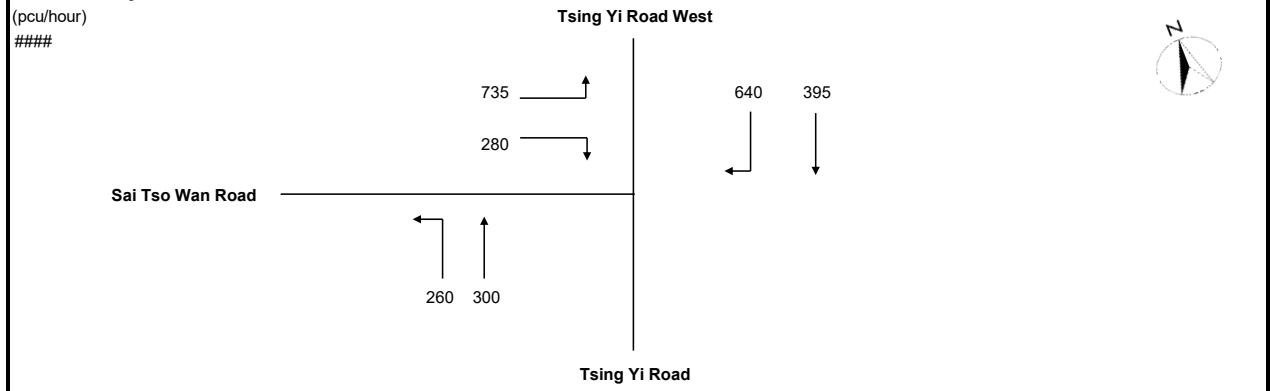
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Scenario B NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

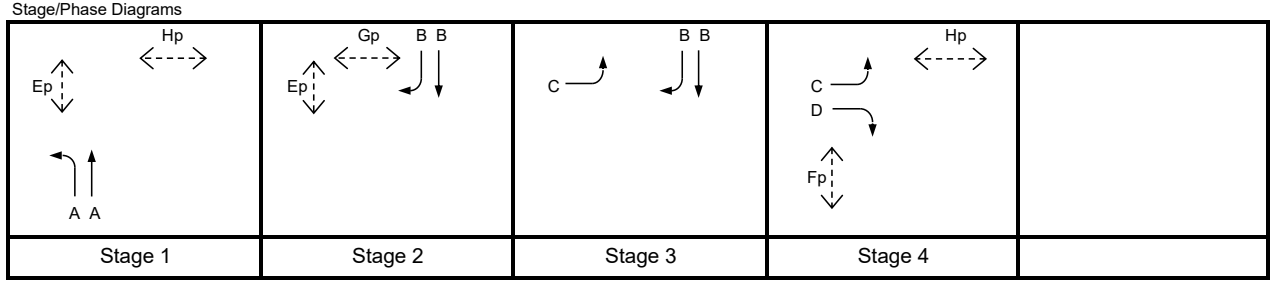
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.558	
Lost time	L =	30	sec
Total Flow	=	2,610	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		113	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.675	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	21.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	79	sec
Y_{max}	$= 1-L/C$	=	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 17%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	735			735	100%		1776	0.414	0.414
	D	4	3.890	1		14	0	0		0		2144			280	280		100%	1937	0.145	
	A	1	3.980	1	13			1		0		2013	260			260	100%		1805	0.144	0.144
	A	1	3.750	1				0		0		2130		300		300			2130	0.141	
	B	2,3	3.570	1				1		0		1972		395		395			1972	0.200	
	B	2,3	3.590	1		16	0	0		0		2114			640	640		100%	1933	0.331	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

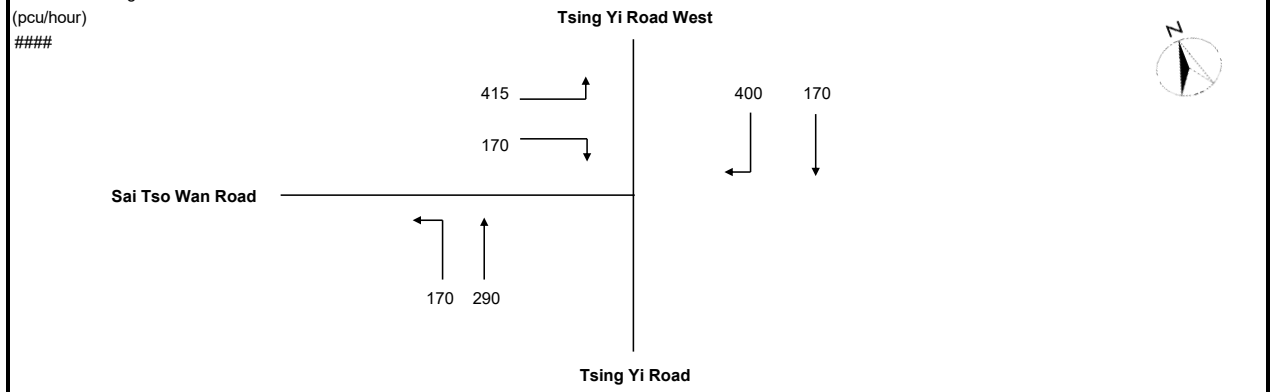
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Scenario B PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

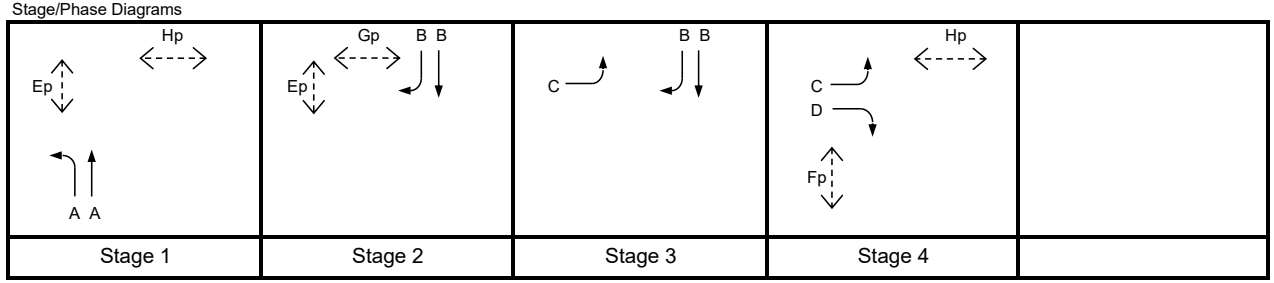
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.431	
Lost time	L =	19	sec
Total Flow	=	1,615	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	59	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	33	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.758	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	75.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	36	sec
Y_{max}	$= 1-L/C$ =	0.827	

Stage/Phase Diagrams



Critical Case : A,B,D

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 73%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	415			415	100%		1776	0.234	
	D	4	3.890	1		14	0	0		0		2144			170	170		100%	1937	0.088	0.088
	A	1	3.980	1	13			1		0		2013	170			170	100%		1805	0.094	
	A	1	3.750	1				0		0		2130		290		290			2130	0.136	0.136
	B	2,3	3.570	1				1		0		1972		170		170			1972	0.086	
	B	2,3	3.590	1		16	0	0		0		2114			400	400		100%	1933	0.207	0.207
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

Appendix C
Traffic Model Validation Results

Validation Result at Screenlines (Daily)

Screenline	Bound	Car			Taxi			SPB + PT			GV			Total		
		Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs
Hong Kong External Cordon	N/B	42,600	42,900	1.01	15,400	14,600	0.95	8,500	8,600	1.01	10,200	9,000	0.89	76,600	75,100	0.98
	S/B	41,500	39,500	0.95	15,600	13,800	0.88	8,700	9,000	1.04	10,500	9,400	0.89	76,400	71,700	0.94
	2-way Total	84,100	82,400	0.98	31,000	28,400	0.92	17,200	17,600	1.03	20,700	18,400	0.89	153,000	146,800	0.96
Hong Kong Internal Cordon	I/B	123,500	118,200	0.96	72,900	74,400	1.02	19,200	17,900	0.93	28,800	30,500	1.06	244,500	241,000	0.99
	O/B	124,600	112,600	0.90	72,000	72,100	1.00	18,200	18,000	0.99	27,000	30,300	1.12	241,900	233,100	0.96
	2-way Total	248,200	230,800	0.93	145,000	146,500	1.01	37,400	35,900	0.96	55,900	60,800	1.09	486,400	474,000	0.97
Kowloon External Cordon	N/B	193,500	191,000	0.99	65,100	61,500	0.95	28,600	32,100	1.12	93,700	97,200	1.04	380,900	381,800	1.00
	S/B	202,000	199,200	0.99	61,400	61,700	1.01	27,200	32,500	1.20	87,600	93,400	1.07	378,100	386,900	1.02
	2-way Total	395,500	390,200	0.99	126,500	123,300	0.97	55,800	64,600	1.16	181,300	190,600	1.05	759,000	768,700	1.01
Tsing Yi External Cordon	I/B	98,900	98,500	1.00	35,200	36,100	1.03	16,300	18,100	1.11	52,800	55,300	1.05	203,300	208,000	1.02
	O/B	100,700	100,400	1.00	36,400	37,000	1.02	16,600	18,300	1.10	53,700	55,300	1.03	207,400	210,900	1.02
	2-way Total	199,600	198,800	1.00	71,600	73,100	1.02	32,900	36,400	1.11	106,600	110,700	1.04	410,700	419,000	1.02
Lantau External Cordon	I/B	26,000	23,800	0.91	12,400	13,000	1.05	3,500	4,100	1.15	13,200	14,000	1.06	55,200	54,900	1.00
	O/B	26,200	24,600	0.94	13,400	12,900	0.96	3,300	4,100	1.22	13,000	14,000	1.08	56,000	55,500	0.99
	2-way Total	52,300	48,300	0.93	25,800	25,900	1.00	6,900	8,200	1.19	26,200	28,000	1.07	111,200	110,500	0.99
Shatin External Cordon	O/B	162,600	162,100	1.00	35,000	34,000	0.97	21,200	23,600	1.11	65,100	69,600	1.07	283,900	289,300	1.02
	I/B	163,000	161,900	0.99	34,700	34,500	0.99	21,400	21,700	1.02	64,300	69,500	1.08	283,500	287,700	1.01
	2-way Total	325,600	324,100	1.00	69,700	68,500	0.98	42,600	45,300	1.06	129,400	139,100	1.08	567,400	577,000	1.02
Ma On Shan External Cordon	O/B	37,200	33,300	0.90	7,800	6,000	0.77	6,400	5,400	0.84	10,000	8,800	0.88	61,400	53,500	0.87
	I/B	33,700	31,800	0.95	8,100	5,600	0.68	7,000	7,000	1.00	11,300	9,800	0.86	60,100	54,200	0.90
	2-way Total	70,800	65,100	0.92	15,900	11,600	0.73	13,500	12,500	0.92	21,300	18,600	0.87	121,500	107,800	0.89
TKO External Cordon	O/B	47,600	44,000	0.92	14,500	12,100	0.83	7,000	6,100	0.87	13,300	13,700	1.03	82,300	75,900	0.92
	I/B	48,200	41,700	0.86	15,600	11,900	0.76	7,900	6,700	0.84	15,800	15,600	0.99	87,500	75,800	0.87
	2-way Total	95,800	85,600	0.89	30,100	24,000	0.80	14,900	12,800	0.86	29,100	29,300	1.01	169,800	151,700	0.89
Screenline A-A	E/B	133,600	127,400	0.95	63,700	53,200	0.84	23,700	22,600	0.95	48,800	51,100	1.05	269,800	254,300	0.94
	W/B	132,700	120,300	0.91	58,700	51,600	0.88	23,500	22,200	0.94	45,800	48,500	1.06	260,800	242,600	0.93
	2-way Total	266,300	247,700	0.93	122,400	104,800	0.86	47,200	44,800	0.95	94,700	99,600	1.05	530,600	496,900	0.94
Screenline C-C	N/B	141,800	134,300	0.95	67,600	61,600	0.91	26,200	24,300	0.93	50,800	59,600	1.17	286,400	279,900	0.98
	S/B	146,900	136,600	0.93	67,600	63,400	0.94	26,700	25,500	0.95	53,700	61,400	1.14	294,900	287,000	0.97
	2-way Total	288,700	271,000	0.94	135,200	125,100	0.92	52,900	49,800	0.94	104,500	121,100	1.16	581,300	566,900	0.98
Screenline F-F	E/B	68,100	63,800	0.94	37,300	36,900	0.99	10,600	9,400	0.89	15,600	15,800	1.01	131,600	126,000	0.96
	W/B	68,300	66,100	0.97	38,700	39,900	1.03	11,400	8,800	0.77	16,900	17,100	1.01	135,300	131,900	0.97
	2-way Total	136,400	129,900	0.95	76,000	76,800	1.01	21,900	18,200	0.83	32,500	32,900	1.01	266,900	257,800	0.97
Screenline G-G	E/B	55,600	59,000	1.06	28,600	29,100	1.02	9,400	10,100	1.08	15,800	15,700	0.99	109,400	113,900	1.04
	W/B	61,300	64,200	1.05	31,500	30,800	0.98	9,900	8,600	0.87	15,700	14,000	0.89	118,400	117,600	0.99
	2-way Total	116,900	123,300	1.05	60,100	59,800	1.00	19,300	18,700	0.97	31,500	29,700	0.94	227,700	231,500	1.02
Screenline H-H	D/B	9,500	8,600	0.90	2,900	2,500	0.88	1,200	900	0.69	1,300	1,200	0.93	14,900	13,200	0.88
	U/B	9,800	7,700	0.79	2,800	2,800	0.99	800	1,000	1.21	1,300	1,200	0.95	14,800	12,800	0.86
	2-way Total	19,300	16,300	0.84	5,700	5,300	0.94	2,100	1,900	0.90	2,600	2,400	0.94	29,700	25,900	0.87
Screenline I-I	N/B	17,300	18,400	1.06	7,900	7,400	0.94	4,000	3,400	0.86	8,200	8,100	0.98	37,400	37,300	1.00
	S/B	16,800	16,200	0.97	8,400	6,900	0.82	4,400	3,700	0.84	9,200	8,600	0.93	38,800	35,300	0.91
	2-way Total	34,100	34,600	1.02	16,300	14,300	0.88	8,400	7,100	0.85	17,400	16,600	0.96	76,100	72,600	0.95
Screenline K-K	E/B	95,400	97,300	1.02	37,200	33,900	0.91	19,800	19,400	0.98	41,200	42,500	1.03	193,600	193,100	1.00
	W/B	92,900	94,600	1.02	38,500	32,600	0.85	19,300	18,900	0.98	39,300	41,400	1.05	190,000	187,500	0.99
	2-way Total	188,200	191,900	1.02	75,700	66,500	0.88	39,100	38,300	0.98	80,500	83,900	1.04	383,600	380,600	0.99
Screenline R-R	N/B	104,400	102,200	0.98	17,300	17,500	1.01	14,300	15,200	1.07	58,400	58,300	1.00	194,400	193,200	0.99
	S/B	110,300	104,000	0.94	17,100	18,400	1.08	13,900	14,800	1.06	54,000	55,800	1.03	195,200	193,000	0.99
	2-way Total	214,700	206,200	0.96	34,400	35,900	1.04	28,200	30,000	1.06	112,300	114,100	1.02	389,600	386,200	0.99
Screenline S-S	E/B	90,400	88,200	0.98	14,900	15,800	1.06	13,100	15,100	1.15	51,200	59,400	1.16	169,600	178,600	1.05
	W/B	88,000	84,900	0.97	15,000	15,000	1.00	13,700	15,500	1.14	53,500	58,700	1.10	170,100	174,200	1.02
	2-way Total	178,400	173,200	0.97	29,900	30,800	1.03	26,800	30,700	1.14	104,700	118,100	1.13	339,700	352,700	1.04
Screenline T-T	N/B	72,500	70,500	0.97	11,400	10,800	0.95	8,300	8,300	1.00	45,000	45,900	1.02	137,300	135,500	0.99
	S/B	74,400	71,100	0.96	11,000	11,200	1.02	8,200	8,700	1.06	43,300	44,100	1.02	136,800	135,100	0.99
	2-way Total	146,900	141,600	0.96	22,400	22,000	0.98	16,500	17,000	1.03	88,300	90,000	1.02	274,100	270,600	0.99
Screenline Y-Y	E/B	37,300	36,000	0.97	8,700	8,100	0.94	4,000	3,800	0.95	28,500	28,000	0.98	78,500	76,000	0.97
	W/B	38,100	36,900	0.97	9,000	8,000	0.88	4,200	3,700	0.88	26,700	26,500	0.99	78,000	75,100	0.96
	2-way Total	75,400	72,900	0.97	17,700	16,100	0.91	8,200	7,500	0.92	55,200	54,500	0.99	156,500	151,100	0.97
Cross Harbour Screenline	N/B	75,300	71,500	0.95	23,000	27,200	1.18	8,900	10,100	1.14	23,600	25,000	1.06	130,900	133,900	1.02
	S/B	75,000	73,500	0.98	22,400	25,300	1.13	8,700	10,100	1.15	24,700	26,000	1.05	130,900	134,800	1.03
	2-way Total	150,300	145,000	0.97	45,400	52,400	1.15	17,700	20,200	1.14	48,400	51,000	1.05	261,700	268,600	1.03
Total	NB/EB/IB/DB	1,630,600	1,587,100	0.97	580,000	555,600	0.96	255,900	259,000	1.01	678,600	711,700	1.05	3,145,200	3,113,400	0.99
	SB/WB/OB/UB	1,656,700	1,591,800	0.96	576,800	555,400	0.96	253,400	258,400	1.02	664,500	697,900	1.05	3,151,400	3,103,500	0.98
	2-way Total	3,287,300	3,178,900	0.97	1,156,800	1,111,000	0.96	509,300	517,400	1.02	1,343,000	1,409,600	1.05	6,296,500	6,216,900	0.99

Validation Result at Screenlines (AM Peak)

Screenline	Bound	Car			Taxi			SPB + PT			GV			Total		
		Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs
Hong Kong External Cordon	N/B	3,500	3,500	0.99	1,100	900	0.81	800	800	1.00	600	500	0.95	6,000	5,700	0.96
	S/B	3,000	3,100	1.03	1,000	1,000	0.98	800	700	0.97	700	600	0.86	5,400	5,400	0.99
	2-way Total	6,500	6,500	1.01	2,100	1,900	0.89	1,600	1,600	0.98	1,200	1,100	0.90	11,400	11,100	0.97
Hong Kong Internal Cordon	I/B	8,300	8,500	1.02	5,300	5,400	1.01	2,000	1,700	0.85	2,200	1,900	0.88	17,900	17,600	0.98
	O/B	7,600	6,300	0.83	5,200	4,500	0.86	1,900	1,600	0.86	1,900	1,700	0.89	16,600	14,100	0.85
	2-way Total	15,900	14,800	0.93	10,600	9,900	0.94	3,900	3,300	0.85	4,100	3,600	0.88	34,500	31,700	0.92
Kowloon External Cordon	N/B	10,700	10,600	0.99	4,400	4,100	0.93	2,100	2,200	1.03	5,500	5,900	1.08	22,800	22,800	1.00
	S/B	19,800	19,600	0.99	4,700	4,800	1.02	2,700	3,000	1.13	7,200	7,900	1.09	34,400	35,400	1.03
	2-way Total	30,500	30,200	0.99	9,100	8,900	0.98	4,800	5,200	1.09	12,700	13,900	1.09	57,200	58,200	1.02
Tsing Yi External Cordon	I/B	7,300	7,000	0.97	2,400	2,300	0.97	1,300	1,400	1.10	3,400	3,600	1.06	14,300	14,300	1.00
	O/B	7,700	7,600	1.00	2,700	2,600	0.96	1,300	1,500	1.13	3,600	3,600	0.99	15,200	15,300	1.00
	2-way Total	14,900	14,700	0.98	5,100	4,900	0.96	2,600	2,900	1.12	7,000	7,200	1.03	29,500	29,600	1.00
Lantau External Cordon	I/B	2,500	2,000	0.83	800	900	1.11	300	300	1.21	900	1,100	1.17	4,500	4,300	0.97
	O/B	1,400	1,400	0.98	900	1,000	1.04	200	200	1.02	600	600	1.08	3,200	3,200	1.02
	2-way Total	3,900	3,400	0.89	1,800	1,900	1.07	500	500	1.13	1,500	1,700	1.14	7,600	7,600	0.99
Shatin External Cordon	O/B	13,800	13,800	1.00	2,500	2,500	1.01	1,900	1,900	1.00	4,700	5,100	1.09	22,900	23,400	1.02
	I/B	13,200	13,900	1.05	2,500	2,300	0.90	1,900	1,700	0.94	4,200	4,600	1.10	21,800	22,500	1.03
	2-way Total	27,100	27,700	1.02	5,000	4,800	0.96	3,700	3,600	0.97	8,900	9,700	1.10	44,700	45,900	1.03
Ma On Shan External Cordon	O/B	4,000	4,000	1.00	500	400	0.77	600	500	0.90	700	600	0.90	5,800	5,500	0.96
	I/B	2,300	2,000	0.88	600	400	0.66	500	500	0.90	600	500	0.76	4,100	3,400	0.83
	2-way Total	6,300	6,000	0.96	1,100	800	0.71	1,100	1,000	0.90	1,300	1,100	0.83	9,800	8,900	0.91
TKO External Cordon	O/B	4,200	3,600	0.85	900	800	0.94	700	600	0.92	800	800	0.99	6,500	5,800	0.89
	I/B	3,000	2,600	0.85	1,000	700	0.66	600	600	1.01	900	700	0.83	5,400	4,500	0.83
	2-way Total	7,200	6,100	0.85	1,900	1,500	0.79	1,200	1,200	0.96	1,700	1,500	0.91	12,000	10,300	0.86
Screenline A-A	E/B	8,200	8,400	1.02	3,800	2,900	0.77	1,900	1,700	0.87	3,000	3,100	1.04	16,900	16,100	0.95
	W/B	9,100	8,600	0.95	3,200	2,600	0.80	1,900	1,700	0.88	2,900	2,800	0.96	17,100	15,700	0.92
	2-way Total	17,200	17,000	0.99	6,900	5,500	0.79	3,900	3,400	0.87	5,900	5,900	1.00	33,900	31,800	0.94
Screenline C-C	N/B	7,800	7,300	0.94	3,700	3,000	0.81	2,000	1,600	0.79	2,700	2,700	0.97	16,200	14,500	0.90
	S/B	9,500	10,300	1.09	3,600	3,600	0.99	2,300	2,100	0.92	3,900	3,800	0.99	19,200	19,800	1.03
	2-way Total	17,200	17,600	1.02	7,300	6,600	0.90	4,300	3,700	0.86	6,600	6,500	0.98	35,400	34,300	0.97
Screenline F-F	E/B	4,600	4,000	0.86	2,700	2,400	0.88	1,200	900	0.79	1,100	700	0.67	9,700	8,100	0.84
	W/B	4,400	4,000	0.91	2,900	2,600	0.91	1,100	700	0.68	1,100	1,200	1.01	9,600	8,600	0.89
	2-way Total	9,100	8,000	0.88	5,600	5,000	0.90	2,300	1,700	0.74	2,200	1,900	0.84	19,200	16,600	0.86
Screenline G-G	E/B	3,600	3,600	1.01	1,900	1,700	0.88	900	800	0.84	900	800	0.83	7,400	6,800	0.93
	W/B	4,500	4,400	0.97	2,100	1,800	0.87	900	800	0.86	1,000	1,100	1.12	8,500	8,100	0.95
	2-way Total	8,000	8,000	0.99	4,000	3,500	0.87	1,800	1,600	0.85	1,900	1,900	0.98	15,800	14,900	0.94
Screenline H-H	D/B	700	800	1.20	300	200	0.87	100	100	1.08	100	100	0.84	1,200	1,300	1.09
	U/B	700	500	0.69	300	200	0.81	100	100	1.84	100	100	1.15	1,200	900	0.82
	2-way Total	1,400	1,300	0.94	500	500	0.84	200	300	1.40	200	200	0.99	2,300	2,200	0.96
Screenline I-I	N/B	1,400	1,400	1.01	500	500	1.00	400	300	0.84	600	500	0.98	2,900	2,800	0.98
	S/B	1,200	1,100	0.90	500	400	0.78	400	300	0.84	600	600	0.97	2,700	2,400	0.89
	2-way Total	2,600	2,500	0.96	1,100	1,000	0.89	700	600	0.84	1,200	1,100	0.97	5,500	5,200	0.94
Screenline K-K	E/B	7,000	6,900	0.98	2,400	2,300	0.94	1,600	1,600	0.95	2,500	2,500	1.00	13,600	13,200	0.97
	W/B	6,900	6,300	0.92	2,500	2,300	0.93	1,600	1,500	0.95	2,400	2,700	1.14	13,400	12,900	0.96
	2-way Total	13,900	13,200	0.95	4,900	4,600	0.93	3,300	3,100	0.95	4,900	5,200	1.07	27,000	26,100	0.97
Screenline R-R	N/B	5,800	5,400	0.95	1,100	1,100	1.02	1,000	900	0.88	3,400	3,200	0.95	11,200	10,600	0.95
	S/B	11,500	10,800	0.94	1,300	1,200	0.92	1,300	1,400	1.07	4,300	4,400	1.02	18,400	17,800	0.97
	2-way Total	17,200	16,200	0.94	2,400	2,300	0.96	2,300	2,300	0.99	7,600	7,600	0.99	29,600	28,400	0.96
Screenline S-S	E/B	8,300	8,200	0.98	1,200	1,300	1.12	1,200	1,400	1.15	4,000	4,600	1.13	14,800	15,500	1.05
	W/B	5,000	5,100	1.03	1,000	1,100	1.13	1,000	900	0.89	3,100	3,600	1.15	10,000	10,700	1.06
	2-way Total	13,300	13,300	1.00	2,100	2,400	1.12	2,200	2,300	1.03	7,200	8,200	1.14	24,800	26,100	1.05
Screenline T-T	N/B	5,300	4,900	0.92	900	900	1.05	700	600	0.93	3,100	3,100	1.00	10,000	9,500	0.95
	S/B	5,700	5,900	1.03	800	800	1.04	700	700	1.02	3,000	3,100	1.06	10,100	10,500	1.04
	2-way Total	11,000	10,700	0.98	1,600	1,700	1.04	1,400	1,300	0.97	6,000	6,200	1.03	20,100	20,000	1.00
Screenline Y-Y	E/B	2,400	2,200	0.89	600	500	0.90	400	300	0.90	1,800	1,800	0.99	5,200	4,800	0.92
	W/B	2,900	3,300	1.12	500	500	1.04	300	300	0.91	1,900	2,000	1.02	5,600	6,000	1.07
	2-way Total	5,300	5,400	1.01	1,000	1,000	0.97	700	600	0.91	3,700	3,800	1.00	10,800	10,800	1.00
Cross Harbour Screenline	N/B	4,400	4,300	0.98	1,100	1,400	1.27	800	700	0.88	1,100	1,200	1.11	7,400	7,600	1.03
	S/B	6,600	6,200	0.94	1,500	1,400	0.91	1,000	1,000	0.94	2,200	2,300	1.04	11,300	10,900	0.96
	2-way Total	11,000	10,600	0.96	2,600	2,800	1.06	1,800	1,600	0.92	3,300	3,500	1.06	18,700	18,500	0.99
Total	NB/EB/IB/DB	110,400	107,600	0.97	38,300	35,300	0.92	21,600	20,100	0.93	42,600	43,100	1.01	212,900	206,100	0.97
	SB/WB/OB/UB	129,300	125,800	0.97	38,600	36,100	0.94	22,500	21,600	0.96	46,600	48,600	1.04	237,000	232,100	0.98
	2-way Total	239,600	233,500	0.97	77,000	71,400	0.93	44,100	41,700	0.94	89,200	91,700	1.03	449,900	438,200	0.97

Validation Result at Screenlines (PM Peak)

Screenline	Bound	Car			Taxi			SPB + PT			GV			Total		
		Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs
Hong Kong External Cordon	N/B	3,300	3,100	0.95	1,000	800	0.88	500	500	1.02	400	300	0.71	5,100	4,800	0.93
	S/B	3,000	3,000	1.00	1,000	900	0.90	400	500	1.16	300	200	0.86	4,700	4,600	0.99
	2-way Total	6,300	6,100	0.97	2,000	1,700	0.89	900	1,000	1.09	600	500	0.77	9,800	9,400	0.96
Hong Kong Internal Cordon	I/B	9,300	8,700	0.94	4,600	4,400	0.95	1,200	1,100	0.90	800	800	1.03	15,900	15,000	0.94
	O/B	10,400	10,000	0.96	4,800	4,600	0.97	1,200	1,100	0.92	700	800	1.09	17,100	16,500	0.97
	2-way Total	19,700	18,700	0.95	9,400	9,000	0.96	2,400	2,200	0.91	1,500	1,600	1.06	33,000	31,500	0.95
Kowloon External Cordon	N/B	18,700	17,500	0.93	3,600	3,400	0.95	2,000	2,200	1.08	4,900	4,700	0.97	29,200	27,800	0.95
	S/B	15,400	15,200	0.99	3,600	3,500	0.96	1,800	1,800	0.98	3,200	3,500	1.09	24,000	24,100	1.00
	2-way Total	34,100	32,700	0.96	7,200	6,800	0.95	3,900	4,000	1.03	8,100	8,300	1.02	53,200	51,800	0.97
Tsing Yi External Cordon	I/B	8,300	8,300	1.00	2,000	2,200	1.10	1,200	1,300	1.09	2,400	2,300	0.94	13,900	14,100	1.01
	O/B	8,200	8,300	1.01	2,200	2,300	1.06	1,200	1,300	1.14	2,300	2,000	0.88	13,900	13,900	1.01
	2-way Total	16,500	16,600	1.01	4,200	4,500	1.08	2,400	2,700	1.11	4,700	4,300	0.91	27,700	28,000	1.01
Lantau External Cordon	I/B	1,500	1,300	0.84	700	700	1.00	200	200	1.27	500	500	1.03	2,900	2,700	0.94
	O/B	2,700	2,500	0.93	800	700	0.91	300	400	1.07	700	600	0.90	4,500	4,100	0.93
	2-way Total	4,200	3,800	0.89	1,500	1,400	0.95	500	600	1.14	1,200	1,100	0.95	7,400	6,900	0.93
Shatin External Cordon	O/B	13,700	14,200	1.04	2,100	2,100	1.01	1,400	1,400	1.01	2,800	3,000	1.08	19,900	20,800	1.04
	I/B	15,300	14,500	0.95	2,000	2,000	1.01	1,500	1,300	0.86	3,100	3,200	1.05	21,800	21,000	0.96
	2-way Total	28,900	28,700	0.99	4,100	4,100	1.01	2,900	2,700	0.94	5,900	6,300	1.07	41,700	41,800	1.00
Ma On Shan External Cordon	O/B	2,600	2,200	0.84	500	400	0.84	400	300	0.73	400	400	0.88	4,000	3,300	0.83
	I/B	3,200	3,300	1.04	500	500	1.05	400	400	0.99	600	600	0.93	4,700	4,800	1.02
	2-way Total	5,800	5,500	0.95	1,000	900	0.94	900	700	0.86	1,000	900	0.91	8,700	8,100	0.93
TKO External Cordon	O/B	3,600	3,300	0.91	800	700	0.91	500	400	0.85	600	600	0.95	5,500	5,000	0.91
	I/B	4,000	3,400	0.86	1,000	800	0.86	500	500	0.89	800	700	0.89	6,300	5,400	0.86
	2-way Total	7,600	6,700	0.88	1,800	1,600	0.88	1,000	900	0.87	1,400	1,300	0.92	11,800	10,400	0.88
Screenline A-A	E/B	10,700	10,500	0.98	3,400	3,100	0.92	1,300	1,200	0.91	2,100	2,000	0.95	17,500	16,900	0.96
	W/B	10,800	10,000	0.93	3,400	2,900	0.85	1,300	1,200	0.95	1,700	1,800	1.05	17,200	16,000	0.93
	2-way Total	21,500	20,500	0.95	6,800	6,000	0.89	2,600	2,400	0.93	3,800	3,800	1.00	34,700	32,800	0.94
Screenline C-C	N/B	11,600	11,300	0.97	3,500	3,100	0.87	1,500	1,500	1.03	1,900	2,500	1.34	18,500	18,400	0.99
	S/B	11,600	11,400	0.99	4,100	3,900	0.95	1,300	1,200	0.93	1,700	2,000	1.15	18,700	18,500	0.99
	2-way Total	23,200	22,700	0.98	7,600	6,900	0.91	2,800	2,800	0.98	3,600	4,500	1.25	37,200	36,900	0.99
Screenline F-F	E/B	5,700	4,900	0.85	2,500	2,200	0.89	600	500	0.81	400	500	1.10	9,300	8,000	0.87
	W/B	5,300	5,100	0.97	2,500	2,400	0.93	800	500	0.70	500	400	0.84	9,100	8,500	0.93
	2-way Total	11,000	10,000	0.91	5,000	4,600	0.91	1,400	1,000	0.75	900	900	0.96	18,400	16,500	0.90
Screenline G-G	E/B	4,300	4,700	1.09	1,600	1,600	1.04	500	500	1.03	500	500	0.98	6,900	7,400	1.06
	W/B	4,600	4,300	0.92	1,900	1,800	0.96	600	400	0.75	600	500	0.92	7,700	7,100	0.92
	2-way Total	9,000	9,000	1.00	3,500	3,500	0.99	1,100	900	0.88	1,100	1,000	0.95	14,600	14,400	0.99
Screenline H-H	D/B	900	600	0.72	200	200	0.90	100	100	1.22	50	50	1.23	1,200	900	0.79
	U/B	900	900	1.03	200	200	1.27	50	100	1.22	50	50	0.72	1,100	1,200	1.07
	2-way Total	1,700	1,500	0.87	400	400	1.07	100	100	1.22	100	100	1.00	2,300	2,100	0.93
Screenline I-I	N/B	1,500	1,400	0.93	500	400	0.81	200	200	0.76	300	300	1.11	2,500	2,300	0.91
	S/B	1,200	1,300	1.04	500	300	0.71	200	200	0.76	400	300	0.83	2,300	2,100	0.91
	2-way Total	2,800	2,700	0.98	900	700	0.76	500	300	0.76	600	600	0.94	4,800	4,300	0.91
Screenline K-K	E/B	7,500	7,300	0.97	2,100	1,600	0.76	1,200	1,100	0.88	1,700	1,700	1.04	12,500	11,700	0.94
	W/B	8,100	8,200	1.01	2,200	1,600	0.74	1,300	1,200	0.88	1,700	1,700	0.99	13,300	12,700	0.95
	2-way Total	15,600	15,500	0.99	4,300	3,300	0.75	2,600	2,200	0.88	3,400	3,400	1.01	25,800	24,400	0.94
Screenline R-R	N/B	10,500	9,900	0.95	1,000	1,100	1.10	1,200	1,300	1.05	3,000	3,300	1.09	15,800	15,600	0.99
	S/B	8,400	7,700	0.91	1,100	1,100	1.05	1,000	800	0.77	2,000	2,000	1.00	12,400	11,500	0.93
	2-way Total	18,900	17,600	0.93	2,100	2,200	1.08	2,200	2,000	0.93	5,100	5,300	1.05	28,200	27,200	0.96
Screenline S-S	E/B	6,900	6,600	0.95	1,000	1,300	1.24	900	800	0.90	1,900	2,100	1.10	10,800	10,800	1.00
	W/B	8,700	8,100	0.93	900	900	0.98	1,200	1,300	1.15	2,600	3,300	1.23	13,400	13,600	1.01
	2-way Total	15,600	14,600	0.94	2,000	2,200	1.11	2,100	2,200	1.04	4,600	5,400	1.18	24,200	24,400	1.01
Screenline T-T	N/B	6,600	6,300	0.95	800	900	1.05	500	600	1.04	2,200	2,200	0.96	10,200	9,800	0.96
	S/B	6,500	6,000	0.92	700	700	1.00	500	600	1.13	1,900	2,000	1.07	9,600	9,300	0.97
	2-way Total	13,100	12,200	0.93	1,500	1,600	1.03	1,000	1,100	1.08	4,100	4,200	1.01	19,800	19,100	0.97
Screenline Y-Y	E/B	3,600	3,400	0.96	500	500	0.90	300	300	0.93	1,500	1,500	1.04	5,900	5,700	0.97
	W/B	3,200	3,000	0.95	600	500	0.86	300	200	0.88	1,100	1,200	1.09	5,100	4,900	0.97
	2-way Total	6,800	6,500	0.96	1,100	1,000	0.88	600	500	0.91	2,500	2,700	1.06	11,000	10,600	0.97
Cross Harbour Screenline	N/B	7,100	6,900	0.97	1,200	1,200	1.04	800	800	1.04	1,100	1,300	1.14	10,100	10,100	1.00
	S/B	5,700	5,500	0.98	1,400	1,300	0.98	600	500	0.81	700	800	1.19	8,300	8,100	0.98
	2-way Total	12,800	12,400	0.97	2,500	2,600	1.01	1,300	1,200	0.94	1,800	2,100	1.16	18,400	18,300	0.99
Total	NB/EB/IB/DB	140,600	133,900	0.95	33,500	32,000	0.95	16,700	16,300	0.98	30,000	30,900	1.03	220,900	213,200	0.97
	SB/WB/OB/UB	134,300	130,100	0.97	35,200	33,100	0.94	16,400	15,500	0.94	25,900	27,200	1.05	211,800	205,800	0.97
	2-way Total	274,900	264,000	0.96	68,700	65,000	0.95	33,100	31,800	0.96	55,900	58,100	1.04	432,700	418,900	0.97

Passengers Screenline Validation Summary

Screenline	Bound	Daily Total Rail Passenger			Daily Total Bus Passenger			Daily Total PLB Passenger			Daily Total PT Passenger		
		Obs	Mod	Mod/Obs	Obs	Mod	Mod/Obs	Obs	Mod	Mod/Obs	Obs	Mod	Mod/Obs
Hong Kong External Cordon	N/B	74,400	82,400	1.11	89,600	88,300	0.99	29,400	33,000	1.12	193,400	203,600	1.05
	S/B	70,800	79,400	1.12	75,300	79,600	1.06	35,200	29,900	0.85	181,400	188,900	1.04
	2-way Total	**145,200**	**161,800**	**1.11**	**164,900**	**167,800**	**1.02**	**64,600**	**62,900**	**0.97**	**374,700**	**392,600**	**1.05**
Hong Kong Internal Cordon	I/B	1,069,000	1,086,500	1.02	249,300	237,900	0.95	23,000	16,400	0.71	1,341,300	1,340,800	1.00
	O/B	1,080,100	1,065,400	0.99	250,400	237,300	0.95	19,200	16,100	0.84	1,349,700	1,318,900	0.98
	2-way Total	**2,149,100**	**2,151,900**	**1.00**	**499,700**	**475,200**	**0.95**	**42,200**	**32,500**	**0.77**	**2,691,000**	**2,659,700**	**0.99**
Kowloon External Cordon	N/B	1,025,100	955,100	0.93	492,200	381,200	0.77	55,100	49,600	0.90	1,572,400	1,386,000	0.88
	S/B	1,053,700	1,002,000	0.95	446,100	416,800	0.93	50,400	55,200	1.10	1,550,200	1,474,000	0.95
	2-way Total	**2,078,900**	**1,957,100**	**0.94**	**938,300**	**798,000**	**0.85**	**105,500**	**104,900**	**0.99**	**3,122,700**	**2,859,900**	**0.92**
Tsing Yi External Cordon	I/B	214,200	219,200	1.02	348,300	337,100	0.97	20,800	23,900	1.15	583,200	580,100	0.99
	O/B	214,000	223,900	1.05	336,700	345,900	1.03	31,200	23,500	0.75	581,900	593,300	1.02
	2-way Total	**428,100**	**443,100**	**1.03**	**685,000**	**683,000**	**1.00**	**52,000**	**47,300**	**0.91**	**1,165,100**	**1,173,500**	**1.01**
Lantau External Cordon	I/B	89,100	93,600	1.05	81,300	80,600	0.99	0	0	1.00	170,400	174,200	1.02
	O/B	90,700	97,700	1.08	72,300	80,700	1.12	0	0	1.00	163,100	178,400	1.09
	2-way Total	**179,800**	**191,300**	**1.06**	**153,600**	**161,300**	**1.05**	**0**	**0**	**1.00**	**333,400**	**352,600**	**1.06**
Shatin External Cordon	O/B	644,300	640,000	0.99	356,400	319,200	0.90	44,000	36,200	0.82	1,044,700	995,400	0.95
	I/B	641,300	626,200	0.98	371,400	296,400	0.80	37,600	28,600	0.76	1,050,200	951,200	0.91
	2-way Total	**1,285,500**	**1,266,200**	**0.98**	**727,800**	**615,600**	**0.85**	**81,500**	**64,800**	**0.79**	**2,094,900**	**1,946,600**	**0.93**
Ma On Shan External Cordon	O/B	67,700	64,900	0.96	66,800	75,700	1.13	20,800	21,200	1.02	155,300	161,900	1.04
	I/B	64,700	66,600	1.03	70,500	90,900	1.29	27,000	29,600	1.10	162,300	187,100	1.15
	2-way Total	**132,400**	**131,500**	**0.99**	**137,400**	**166,600**	**1.21**	**47,800**	**50,900**	**1.06**	**317,600**	**349,000**	**1.10**
TKO External Cordon	O/B	217,400	203,400	0.94	50,700	58,200	1.15	29,800	26,000	0.87	298,000	287,600	0.97
	I/B	210,000	189,900	0.90	61,200	54,600	0.89	30,400	27,400	0.90	301,600	271,900	0.90
	2-way Total	**427,400**	**393,300**	**0.92**	**111,900**	**112,800**	**1.01**	**60,200**	**53,400**	**0.89**	**599,500**	**559,400**	**0.93**
Screenline A-A	E/B	711,800	732,600	1.03	309,800	305,700	0.99	67,600	66,800	0.99	1,089,100	1,105,100	1.01
	W/B	740,200	755,700	1.02	274,700	286,200	1.04	59,500	61,100	1.03	1,074,400	1,103,000	1.03
	2-way Total	**1,452,000**	**1,488,300**	**1.03**	**584,500**	**591,900**	**1.01**	**127,000**	**127,900**	**1.01**	**2,163,500**	**2,208,100**	**1.02**
Screenline C-C	N/B	912,600	963,000	1.06	348,200	335,200	0.96	44,000	46,200	1.05	1,304,800	1,344,400	1.03
	S/B	933,800	1,003,900	1.08	317,000	347,700	1.10	45,500	47,300	1.04	1,296,300	1,398,900	1.08
	2-way Total	**1,846,500**	**1,966,900**	**1.07**	**665,100**	**682,900**	**1.03**	**89,500**	**93,500**	**1.04**	**2,601,100**	**2,743,300**	**1.05**
Screenline F-F	E/B	497,800	494,000	0.99	122,800	153,300	1.25	5,500	7,100	1.29	626,100	654,400	1.05
	W/B	486,500	535,900	1.10	175,300	165,000	0.94	10,800	8,400	0.77	672,500	709,300	1.05
	2-way Total	**984,300**	**1,029,900**	**1.05**	**298,100**	**318,300**	**1.07**	**16,300**	**15,500**	**0.95**	**1,298,600**	**1,363,700**	**1.05**
Screenline G-G	E/B	278,600	262,900	0.94	157,900	139,300	0.88	4,200	4,200	1.02	440,600	406,400	0.92
	W/B	284,700	277,700	0.98	173,700	147,200	0.85	5,700	4,200	0.74	464,100	429,100	0.92
	2-way Total	**563,300**	**540,600**	**0.96**	**331,600**	**286,500**	**0.86**	**9,800**	**8,500**	**0.86**	**904,700**	**835,500**	**0.92**
Screenline H-H	D/B	0	0	1.00	2,600	2,700	1.01	1,700	1,100	0.66	4,300	3,800	0.88
	U/B	0	0	1.00	3,200	3,400	1.06	1,600	1,500	0.94	4,800	4,900	1.02
	2-way Total	**0**	**0**	**1.00**	**5,800**	**6,000**	**1.04**	**3,200**	**2,600**	**0.80**	**9,100**	**8,600**	**0.95**
Screenline I-I	N/B	65,200	65,700	1.01	57,500	69,900	1.22	7,400	7,300	0.98	130,100	143,000	1.10
	S/B	61,700	66,400	1.08	69,500	61,900	0.89	7,200	6,700	0.93	138,500	135,000	0.97
	2-way Total	**126,900**	**132,100**	**1.04**	**127,000**	**131,800**	**1.04**	**14,700**	**14,000**	**0.96**	**268,600**	**277,900**	**1.03**
Screenline K-K	E/B	243,700	257,600	1.06	293,100	268,900	0.92	78,900	73,400	0.93	615,700	599,800	0.97
	W/B	243,300	252,200	1.04	276,100	271,800	0.98	63,900	69,500	1.09	583,300	593,500	1.02
	2-way Total	**487,000**	**509,800**	**1.05**	**569,200**	**540,600**	**0.95**	**142,800**	**142,900**	**1.00**	**1,199,000**	**1,193,300**	**1.00**
Screenline R-R	N/B	370,100	377,800	1.02	326,600	329,000	1.01	20,600	18,200	0.88	717,300	725,000	1.01
	S/B	385,500	416,300	1.08	333,700	335,300	1.01	21,300	22,100	1.04	740,400	773,800	1.05
	2-way Total	**755,600**	**794,100**	**1.05**	**660,300**	**664,300**	**1.01**	**41,900**	**40,300**	**0.96**	**1,457,800**	**1,498,800**	**1.03**
Screenline S-S	E/B	165,400	193,100	1.17	297,600	293,300	0.99	37,700	30,700	0.81	500,700	517,100	1.03
	W/B	156,700	155,100	0.99	300,800	289,200	0.96	33,100	31,000	0.94	490,700	475,300	0.97
	2-way Total	**322,100**	**348,200**	**1.08**	**598,400**	**582,500**	**0.97**	**70,800**	**61,700**	**0.87**	**991,400**	**992,400**	**1.00**
Screenline T-T	N/B	183,900	181,800	0.99	77,900	74,400	0.96	32,800	30,100	0.92	294,600	286,400	0.97
	S/B	185,500	178,000	0.96	76,000	94,600	1.25	28,000	34,000	1.21	289,400	306,600	1.06
	2-way Total	**369,300**	**359,800**	**0.97**	**153,800**	**169,000**	**1.10**	**60,800**	**64,100**	**1.05**	**584,000**	**593,000**	**1.02**
Screenline Y-Y	E/B	94,300	90,900	0.96	24,600	24,300	0.99	12,900	9,600	0.74	131,800	124,800	0.95
	W/B	89,500	75,500	0.84	26,800	25,500	0.95	12,100	8,900	0.74	128,500	109,900	0.86
	2-way Total	**183,800**	**166,400**	**0.91**	**51,500**	**49,800**	**0.97**	**25,000**	**18,500**	**0.74**	**260,300**	**234,700**	**0.90**
Cross Harbour Screenline	N/B	722,800	708,400	0.98	224,500	183,900	0.82	6,000	3,800	0.63	953,300	896,100	0.94
	S/B	725,100	752,200	1.04	231,700	189,200	0.82	4,200	3,500	0.84	960,900	945,000	0.98
	2-way Total	**1,447,800**	**1,460,600**	**1.01**	**456,100**	**373,200**	**0.82**	**10,200**	**7,300**	**0.72**	**1,914,200**	**1,841,100**	**0.96**
Total	NB/EB/IB/DB	7,633,900	7,647,200	1.00	4,006,800	3,747,000	0.94	542,600	507,000	0.93	12,183,200	11,901,100	0.98
	SB/WB/OB/UB	7,731,300	7,845,800	1.01	3,913,200	3,830,300	0.98	523,500	506,400	0.97	12,168,000	12,182,500	1.00
	2-way Total	**15,365,200**	**15,493,000**	**1.01**	**7,920,000**	**7,577,300**	**0.96**	**1,066,100**	**1,013,400**	**0.95**	**24,351,200**	**24,083,700**	**0.99**

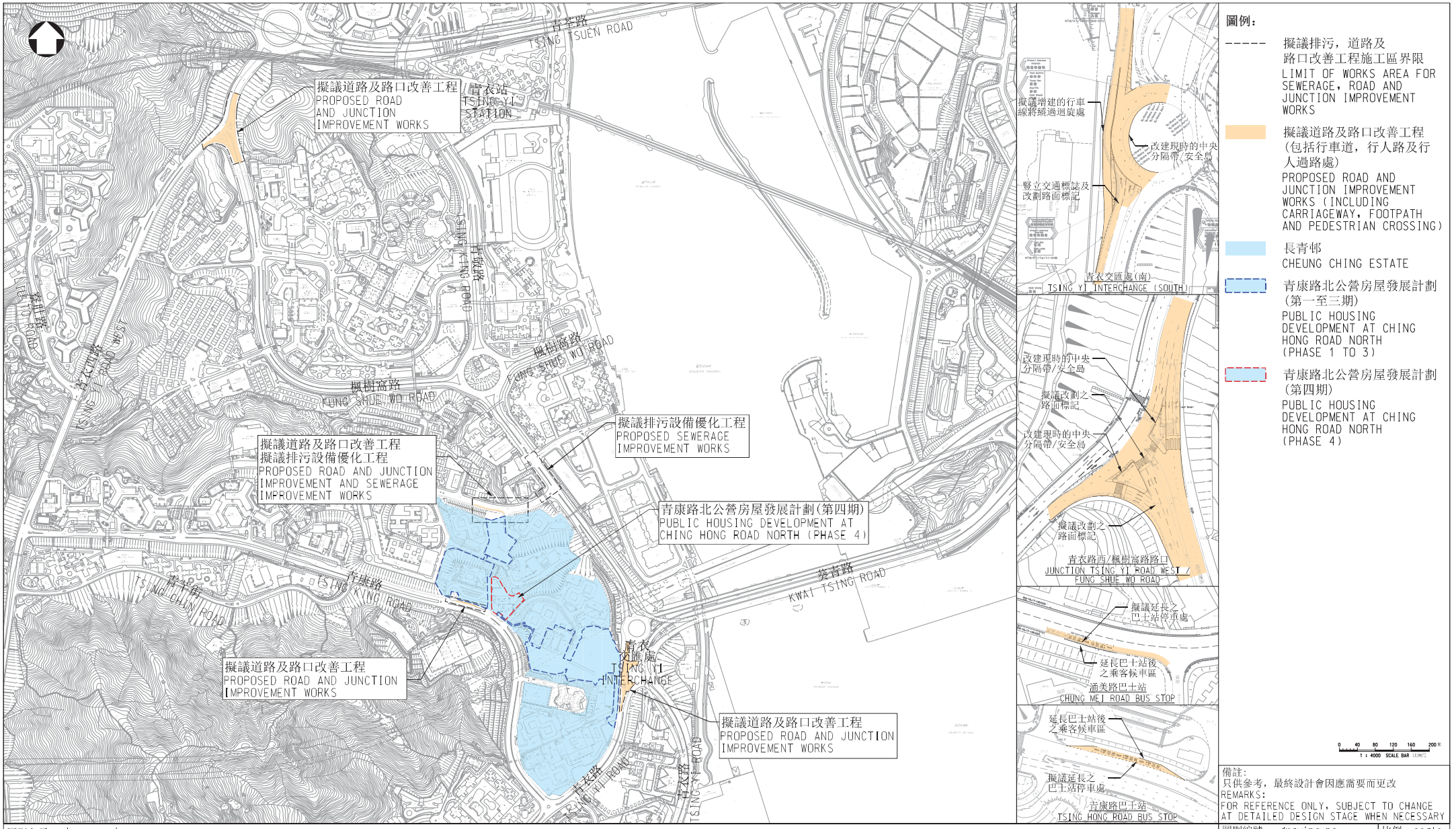
Appendix C - Local Area Traffic Model Validation Result

		AM				PM			
		OBS	**MOD**	**MOD/OBS**	**GEH**	**OBS**	**MOD**	**MOD/OBS**	**GEH**
***J1 - North West Tsing Yi Interchange (NWTYI) Roundabout**									
* Adminstraion Building	SB	5	5	1.00	0	5	5	1.00	0
* Cheung Tsing Highway	NB	570	570	1.00	0	505	490	0.97	1
ENTRY ARM - TOTAL		**575**	**575**	**1.00**	**0**	**510**	**495**	**0.97**	**1**
* Adminstraion Building	NB	370	365	0.99	0	330	315	0.95	1
* Adminstraion Building	EB	205	210	1.02	0	180	180	1.00	0
EXIT ARM - TOTAL		**575**	**575**	**1.00**	**0**	**510**	**495**	**0.97**	**1**
*** J2 - NWTYI / unnamed access road near Lantau Link Visitors Centre**									
* North West Tsing Yi Interchange	NB	1105	1120	1.01	0	1195	1200	1.00	0
* Unnamed access road near Lantau Link Visitors Centre	EB	125	125	1.00	0	140	140	1.00	0
ENTRY ARM - TOTAL		**1230**	**1245**	**1.01**	**0**	**1335**	**1340**	**1.00**	**0**
* North West Tsing Yi Interchange	NB	1035	1055	1.02	1	1150	1160	1.01	0
* Unnamed access road near Lantau Link Visitors Centre	WB	195	190	0.97	0	190	180	0.95	1
EXIT ARM - TOTAL		**1230**	**1245**	**1.01**	**0**	**1340**	**1340**	**1.00**	**0**
*** J3 - Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road**									
* Tsing Yi North Coastal Road	NB	220	220	1.00	0	195	190	0.97	0
* Tam Kon Shan Road	EB	155	155	1.00	0	170	165	0.97	0
* Shipyard	SB	5	5	1.00	0	15	15	1.00	0
* Tam Kon Shan Road	WB	105	105	1.00	0	105	105	1.00	0
ENTRY ARM - TOTAL		**485**	**485**	**1.00**	**0**	**485**	**475**	**0.98**	**0**
* Tam Kon Shan Road	WB	155	155	1.00	0	150	150	1.00	0
* Shipyard	NB	10	10	1.00	0	5	5	1.00	0
* Tam Kon Shan Road	EB	325	320	0.98	0	335	325	0.97	1
EXIT ARM - TOTAL		**490**	**485**	**0.99**	**0**	**490**	**480**	**0.98**	**0**
*** J4 - Tam Kon Shan Road/Slip Road to Tsing Yi North Coastal Road**									
* Tam Kon Shan Road	EB	155	155	1.00	0	170	165	0.97	0
* Tam Kon Shan Road	WB	50	50	1.00	0	45	45	1.00	0
ENTRY ARM - TOTAL		**205**	**205**	**1.00**	**0**	**215**	**210**	**0.98**	**0**
* Slip Road to Tsing Yi North Coastal Road	SB	155	155	1.00	0	170	165	0.97	0
* Tam Kon Shan Road	WB	50	50	1.00	0	45	45	1.00	0
* Tam Kon Shan Road	EB	5	5	1.00	0	5	5	1.00	0
EXIT ARM - TOTAL		**210**	**210**	**1.00**	**0**	**220**	**215**	**0.98**	**0**
*** J5 - Tam Kon Shan Interchange**									
* Fung Shue Wo Road	NB	1390	1385	1.00	0	1395	1400	1.00	0
* Tsing Yi North Coastal Road	EB	480	490	1.02	0	360	355	0.99	0
* Tam Kon Shan Road	SEB	990	970	0.98	1	750	755	1.01	0
* Tsing King Road	SB	1020	1045	1.02	1	915	910	0.99	0
* Tsing Yi North Coastal Road	WB	1220	1235	1.01	0	1180	1190	1.01	0
ENTRY ARM - TOTAL		**5100**	**5125**	**1.00**	**0**	**4600**	**4610**	**1.00**	**0**
* Fung Shue Wo Road	SB	1260	1275	1.01	0	1040	1045	1.00	0
* Tsing Yi North Coastal Road	WB	400	400	1.00	0	315	320	1.02	0
* Tam Kon Shan Road	NWB	545	550	1.01	0	495	495	1.00	0
* Tsing King Road	NB	1015	1025	1.01	0	1200	1195	1.00	0
* Tsing Yi North Coastal Road	EB	1880	1875	1.00	0	1545	1555	1.01	0
EXIT ARM - TOTAL		**5100**	**5125**	**1.00**	**0**	**4595**	**4610**	**1.00**	**0**
*** J6 - Fung Shue Wo Road/Tsing Yi Road West**									
* Tsing Yi Road West	NB	1000	990	0.99	0	945	960	1.02	0
* Fung Shue Wo Road	WB	705	705	1.00	0	765	770	1.01	0
* Fung Shue Wo Road	SB	1230	1245	1.01	0	1010	1015	1.00	0
ENTRY ARM - TOTAL		**2935**	**2940**	**1.00**	**0**	**2720**	**2745**	**1.01**	**0**
* Tsing Yi Road West	SB	805	820	1.02	1	710	730	1.03	1
* Fung Shue Wo Road	EB	765	765	1.00	0	645	640	0.99	0
* Fung Shue Wo Road	NB	1360	1355	1.00	0	1365	1370	1.00	0
EXIT ARM - TOTAL		**2930**	**2940**	**1.00**	**0**	**2720**	**2740**	**1.01**	**0**

		AM				PM			
		OBS	MOD	MOD/OBS	GEH	OBS	MOD	MOD/OBS	GEH
*** J7 - Liu To Road / Tsing Yi Road West**									
* Tsing Yi Road West	SB	805	820	1.02	1	710	730	1.03	1
* Liu To Road	EB	865	855	0.99	0	660	660	1.00	0
* Tsing Yi Road West	NB	635	650	1.02	1	695	715	1.03	1
ENTRY ARM - TOTAL		**2305**	**2325**	**1.01**	**0**	**2065**	**2105**	**1.02**	**1**
* Tsing Yi Road West	NB	1000	990	0.99	0	945	960	1.02	0
* Liu To Road	WB	620	630	1.02	0	595	615	1.03	1
* Tsing Yi Road West	SB	690	705	1.02	1	520	530	1.02	0
EXIT ARM - TOTAL		**2310**	**2325**	**1.01**	**0**	**2060**	**2105**	**1.02**	**1**
*** J8 - Tsing Yi Road West/Ching Hong Road**									
* Tsing Yi Road West	NB	675	680	1.01	0	715	730	1.02	1
* Tsing Yi Road West	SB	690	705	1.02	1	520	530	1.02	0
* Ching Hong Road	WB	610	630	1.03	1	525	535	1.02	0
ENTRY ARM - TOTAL		**1975**	**2015**	**1.02**	**1**	**1760**	**1795**	**1.02**	**1**
* Tsing Yi Road West	SB	750	770	1.03	1	570	585	1.03	1
* Tsing Yi Road West	NB	635	650	1.02	1	695	715	1.03	1
* Ching Hong Road	EB	585	595	1.02	0	495	500	1.01	0
EXIT ARM - TOTAL		**1970**	**2015**	**1.02**	**1**	**1760**	**1800**	**1.02**	**1**
*** J9 - Ching Hong Road / Chung Mei Road**									
* Ching Hong Road	EB	615	625	1.02	0	510	515	1.01	0
* Ching Hong Road	WB	550	560	1.02	0	515	515	1.00	0
* Chung Mei Road	SB	415	425	1.02	0	380	385	1.01	0
ENTRY ARM - TOTAL		**1580**	**1610**	**1.02**	**1**	**1405**	**1415**	**1.01**	**0**
* Ching Hong Road	EB	610	615	1.01	0	490	495	1.01	0
* Ching Hong Road	WB	625	645	1.03	1	550	560	1.02	0
* Chung Mei Road	NB	350	350	1.00	0	365	365	1.00	0
EXIT ARM - TOTAL		**1585**	**1610**	**1.02**	**1**	**1405**	**1420**	**1.01**	**0**
*** J10 - Tsing Yi Road West/Cheung Tsing Highway**									
* Tsing Yi Road West	NB	580	595	1.03	1	735	740	1.01	0
* Cheung Tsing Highway	EB	960	950	0.99	0	815	840	1.03	1
* Tsing Yi Road West	SB	750	770	1.03	1	570	585	1.03	1
ENTRY ARM - TOTAL		**2290**	**2315**	**1.01**	**1**	**2120**	**2165**	**1.02**	**1**
* Tsing Yi Road West	SB	820	820	1.00	0	585	605	1.03	1
* Cheung Tsing Highway	WB	800	810	1.01	0	825	830	1.01	0
* Tsing Yi Road West	NB	675	680	1.01	0	715	730	1.02	1
EXIT ARM - TOTAL		**2295**	**2310**	**1.01**	**0**	**2125**	**2165**	**1.02**	**1**
*** J11 - Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road**									
* Tsing Yi Road West	SB	820	820	1.00	0	585	605	1.03	1
* Sai Tso Wan Road	EB	490	500	1.02	0	615	610	0.99	0
* Tsing Yi Road	NB	420	425	1.01	0	455	475	1.04	1
ENTRY ARM - TOTAL		**1730**	**1745**	**1.01**	**0**	**1655**	**1690**	**1.02**	**1**
* Tsing Yi Road West	NB	580	595	1.03	1	735	740	1.01	0
* Sai Tso Wan Road	WB	790	780	0.99	0	575	595	1.03	1
* Tsing Yi Road	SB	355	370	1.04	1	345	355	1.03	1
EXIT ARM - TOTAL		**1725**	**1745**	**1.01**	**0**	**1655**	**1690**	**1.02**	**1**

		AM				PM			
		OBS	MOD	MOD/OBS	GEH	OBS	MOD	MOD/OBS	GEH
*** L1 - Lantau Link**									
* Lantau Link	EB	3370	3345	0.99	0	4460	4430	0.99	0
* Lantau Link	WB	4445	4380	0.99	1	3175	3185	1.00	0
*** L2 - Ting Kau Bridge**									
* Ting Kau Bridge	NB	3160	3060	0.97	2	4690	4645	0.99	1
* Ting Kau Bridge	SB	6840	6635	0.97	2	3650	3650	1.00	0
*** L3 - Unnamed access road near Lantau Link Visitors Centre**									
* Unnamed access road near Lantau Link Visitors Centre	NB	195	190	0.97	0	190	180	0.95	1
* Unnamed access road near Lantau Link Visitors Centre	SB	125	125	1.00	0	140	140	1.00	0
*** L4 - Tam Kon Shan Road**									
* Tam Kon Shan Road	EB	325	320	0.98	0	335	325	0.97	1
* Tam Kon Shan Road	WB	105	105	1.00	0	105	105	1.00	0
*** L5 - Slip Road from Tsing Yi North Coastal Road**									
* Slip Road from Tsing Yi North Coastal Road	WB	220	220	1.00	0	195	190	0.97	0
*** L6 - Slip Road to Tsing Yi North Coastal Road**									
* Slip Road to Tsing Yi North Coastal Road	EB	155	155	1.00	0	170	165	0.97	0
*** L7 - Tsing Yi North Coastal Road**									
* Tsing Yi North Coastal Road	EB	1200	1180	0.98	1	1115	1135	1.02	1
* Tsing Yi North Coastal Road	WB	1600	1630	1.02	1	1045	1010	0.97	1
*** L8 - Cheung Tsing Tunnel**									
* Cheung Tsing Tunnel	EB	4360	4340	1.00	0	3540	3615	1.02	1
* Cheung Tsing Tunnel	WB	2930	2970	1.01	1	2930	2980	1.02	1
*** L9 - Nam Wan Tunnel**									
* Nam Wan Tunnel	EB	2910	2805	0.96	2	1755	1550	0.88	5
* Nam Wan Tunnel	WB	1795	1630	0.91	4	2345	2225	0.95	3
*** L10 - Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West**									
* Fung Shue Wo Road	NB	1360	1355	1.00	0	1365	1370	1.00	0
* Fung Shue Wo Road	SB	1230	1245	1.01	0	1010	1015	1.00	0
*** L11 - Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road**									
* Tsing Yi Road West	NB	1000	990	0.99	0	945	960	1.02	0
* Tsing Yi Road West	SB	805	820	1.02	1	710	730	1.03	1
*** L12 - Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road**									
* Tsing Yi Road West	NB	675	680	1.01	0	715	730	1.02	1
* Tsing Yi Road West	SB	750	770	1.03	1	570	585	1.03	1
*** L13 – Ching Hong Road**									
* Ching Hong Road	EB	585	595	1.02	0	495	500	1.01	0
* Ching Hong Road	WB	610	630	1.03	1	525	535	1.02	0
*** L14 - Sai Tso Wan Road**									
* Sai Tso Wan Road	EB	490	500	1.02	0	616	612	0.99	0
* Sai Tso Wan Road	WB	790	780	0.99	0	577	597	1.04	1

Appendix D
Planned or Committed Junction Improvement Scheme



備註:
只供參考，最終設計會因應需要而更改
REMARKS:
FOR REFERENCE ONLY, SUBJECT TO CHANGE AT DETAILED DESIGN STAGE WHEN NECESSARY

圖則名稱 drawing title

工務計劃項目第B839號 PWP ITEM NO. B839

附件四 - 青康路北公營房屋發展計劃的基礎設施工程概念平面圖

ANNEX 4 - INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENTS AT CHING HONG ROAD NORTH, TSING YI - LAYOUT PLAN

圖則編號 drawing no.
圖則一

比例 scale
1:4000

辦事處 OFFICE
南拓展處
SOUTH DEVELOPMENT OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Date : 18/03/2024
Filename : F:\422555-Hong Kong\6.0-BIM\02_WIP\02_Tsing Yi\01_CV\REPORT\TTIA (CHRN)\20230102\Figure 2.1-1.dgn

6. **Ma Wan Public Pier** – a pier formerly maintained by the Civil Engineering and Development Department (CEDD), the former Katio ferry service linking Ma Wan Public Pier to Sham Tseng Public Pier/Angler's Beach Pier has been suspended; currently, no franchised, licensed or Kaito ferry services are berthing at Ma Wan Public Pier.

7. **Tai Pai Tsui Pier** – a pier maintained by the CEDD Pier/Landing Structure with No. IP075.

8. **Hong Kong Cement** – Hong Kong Cement Company Limited owns a private terminal for cement delivery.

9. **Hong Kong Shipyards** – is mainly engaged in ship repairing and maintenance services.

10. **Hong Kong United Dockyard** - is mainly engaged in tugboat, salvage services, ship repair, mechanical and electrical engineering and automobile services.

11. **Shell Oil Terminal** - a storage and distribution depot of Shell's, the facility is to providing a safe and efficient supply of oil products to Hong Kong and Macau.

12. **Chevron Oil Terminal** – Chevron's Tsing Yi fuel terminal, the facility is responsible for receiving, delivering and housing Chevron Hong Kong's fuel supply.

13. **Rambler Channel Typhoon Shelter** – used for sheltered berthing and mooring of ~13ha for vessels with a length overall not exceeding 50m.

14. **Rambler Channel Public Cargo Working Area** – inside the Rambler Channel Typhoon Shelter for ships to perform loading and unloading cargo operation.

15. **Kwai Tsing Container Terminal** – Kwai Tsing Port possess 9 container terminals that are financed and owned by 5 private operators. It generates frequent trips of container vessels arriving and departing the basin daily.

16. **Tsing Yi Public Pier** – a pier maintained by the CEDD Pier/Landing Structure with No. NP123, currently no franchised, licensed or kaito ferry services berthing at Tsing Yi Public Pier.

17. **Tsuen Wan Ferry Pier (West Rail)** – a pier maintained by the CEDD Pier/Landing Structure with No. KP092, used by "Tsuen Wan – Park Island", is a licensed ferry service operated by Park Island Transport Company Limited.

18. **Tsuen Wan Public Landing Steps (West Rail)** – a landing step maintained by the CEDD Pier/Landing Structure with No. KP093.

19. **Tsuen Wan Area 2 Landing No. 1** – a landing step maintained by CEDD Pier/Landing Structure with No. NP040.

20. **Tsuen Wan Area 2 Landing No. 2** – a landing step maintained by the CEDD Pier/Landing Structure with No. NP041.

21. **Yau Kom Tau Pier** – a pier maintained by the CEDD Pier/Landing Structure with No. NP125.

22. **Small Craft Mooring Area** – a designated zone where small vessels can moor.

23. **Yiu Lian Dockyard** – mainly engaged in tugboat, salvage services, and ship repair.

24. **Hoi Mei Wan Signal Mast** – signal masts erected at the end of the Ma Wan Fairway to give warnings of restricted movement through the area; the signal mast at Hoi Mei Wan provides a warning to vessels approaching from the east and the south.

25. **Northwest Ma Wan Signal Mast** – signal masts erected at the end of the Ma Wan Fairway to give warnings of restricted movement through the area; signal mast at the northwest of Ma Wan Island provides a warning to vessels approaching from the west.

- Loss of existing trees and other vegetation due to construction works.

1.6.3 The sources of landscape impact in the operation phase for Ngau Kok Wan Portal, Tam Kon Shan Portal and Wok Tai Wan Works Area would include:

- Operation of the quarry and the ancillary activities; and
- Decommissioning of ancillary activities and conveyor belt system.

Existing Trees

1.6.4 Among the approx. 765 trees to be removed, including approx. 40 undesirable species, tree felling within the Ngau Kok Wan Portals and Tam Kon Shan Portal, accounting for 310 nos. of trees, is unavoidable as they are located at the portal locations. Subject to the detailed design by the Contractor, the rest of the trees within the Ngau Kok Wan Surface Land and Wok Tai Wan Works Area could be omitted if the Contractor eventually considers that expansions are not required to facilitate its ancillary operation. A detailed breakdown of the total number of trees is presented in **Table 5**.

Table 5 – Summary of Trees proposed to be removed by the proposed works area

Works Area	Approx. No. of trees to be removed	Remarks
Ngau Kok Wan Surface Land	399	It is optional for the Contractor. It may be omitted if the Contractor decides not to expand the surface land at Ngau Kok Wan
Ngau Kok Wan Portals	165	-
Tam Kon Shan Portal	145	-
Wok Tai Wan Works Area	56	It is optional for the Contractor. It may be omitted if the Contractor decides not to construct the Conveyor Belt System
Total	**765**	

Landscape Resources (LRs)

1.6.5 The magnitude of unmitigated impacts on LRs associated with the construction phase and operation phase of the Project was assessed and described in **Table 6**:

Table 9 – Schematic Compensatory Planting Schedule at Ma Wan within TMCA

Code	Species Name	Chinese Name	DBH (mm)	Height (m)	Crown Spread (m)	Approx. Spacing (m)	Approx. Quantity
GAR.SUB.	*Garcinia subelliptica*	菲島福木	45	3	1.5	4-5	37
POL.AXL.	*Polyspora axillaris*	大頭茶	45	3	1.5	4-5	38

1.7.10 Based on the schematic landscape design, Ngau Kok Wan Portals include approximately 45-degree cut slopes where grass hydroseeding with pit planting of shrubs in woodland mix planting will be applied. At the Tam Kon Shan Portal, with cut slopes of approximately 65 degrees, woodland mix planting will be implemented in toewall and berm planters beneath the shotcreted slopes. In such conditions, shrub and climber mixes offer better adaptability, contribute to slope greening, and enhance biodiversity. All planting will be selected to minimize maintenance requirements. Watering will be required during establishment and regular horticultural operations such as weeding, fertilizing and pruning.

1.7.11 Planting will be of several different types but generally native species will be selected in order to blend with the surrounding existing vegetation and enhance the surrounding landscape and ecological value in the long term. Exotic species will be selected for specific tasks where native species are unsuitable. The selection of plant species shall be in accordance with the Greening Master Plan (GMP) promulgated by CEDD, the Street Tree Selection Guide (STSG) and the Guiding Principles on Use of Native Plant Species in Public Works Projects issued by DEVB.

1.7.12 The off-site compensatory planting at Ma Wan shall be completed within one year of the commencement of the operation phase (excluding the establishment period). The proposed on-site compensatory planting at Ngau Kok Wan Portals and Tam Kon Shan Portal will be dependent on the programme of the site formation works. The proposed on-site compensatory planting shall be carried out after the completion of the portal construction works.

Hard Landscape Design

1.7.13 The hard landscape design process shall adopt a balanced approach considering the factors, including sustainability, aesthetic effect, compatibility with the environment, cost-effectiveness, maintenance consideration, etc.

1.7.14 Proposed Hard Landscape Works shall be selected using the following guidelines:

- Durable – utilizing long-lasting or permanent materials and finishes;
- Low maintenance – easy to clean and repair;
- Reasonable cost – reasonable cost range providing the greatest value for expense;
- Visual compatibility with existing developments and blend with existing development; and
- Recyclable and environmentally friendly materials – utilizing recyclable and environmentally friendly materials where possible.

1.7.15 A clean and contemporary hard landscape strategy shall apply to make sure the design matches the landscape theme and, at the same time, blends in with the architecture. Solid materials such as recycled aggregate pavers will be the main paving materials. Materiality is based on stone and rockworks such as stone cladding and landscape features made of stone.

1.7.16 The following hard landscape materials are proposed:

- Sensitive and aesthetically pleasing design of aboveground structures with regard to the form, material and finishes shall be incorporated to the proposed portals and entrance area in order to blend the structures with the adjacent landscape context. The

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826800 E

827200 E

824400 N

824000 N

REMARKS:

TREE GROUP SURVEY WAS CARRIED OUT FOR INACCESSIBLE AREAS IN WOK TAI WAN WORKS AREA AND TAM KON SHAN PORTAL WHICH ARE EITHER WITHOUT SAFE AND WALKABLE ACCESS OR WITHIN FENCED-OFF AREAS.

N

+5mPD

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTAL

TSING YI NORTH COASTAL ROAD

+6mPD

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

YAU KOM TAU

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

WOK TAI WAN WORKS AREA

TSING LONG HIGHWAY

TING KAU BRIDGE

Seawall

HWM

Pier

Jetty

Cement Works

Tank

Shipyard

Viewing Platform

TUNG CHUNG LINK

LEGEND:

- MAIN ACCESS TUNNEL (UNDERGROUND)
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN (UNDERGROUND)
- PROJECT BOUNDARY
- TREE SURVEY EXTENT - INDIVIDUAL
- TREE SURVEY EXTENT - GROUP
- +5mPD — PROPOSED FORMATION LEVEL
- TREE GROUP TO BE REMOVED
- TREE GROUP TO BE RETAINED
- TREE TO BE REMOVED
- TREE TO BE RETAINED

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10/22/2026
Plot File by: WANG2P
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\PAIPA_314.dgn

AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容/摘要	CHK. 核核

STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 4000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

TREE TREATMENT PLAN

SHEET NUMBER
圖紙編號

60733229/LIA/FIGURE 3