Appendix 1

Traffic Impact Assessment

Hong Kong Housing Authority

Agreement No. CB20210424

Term Traffic and Environmental Consultancy Services 2021-2024

for New Territories East Region

Instruction No. W07

Proposed Tai Wai Government Complex Co-located with Public Housing Development at Tsuen Nam Road, Tai Wai

Traffic Impact Assessment (TIA) Report (Rev. 6)

June 2024

wsp

REPORT

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LIST OF ABBREVIATIONS

Abbreviation	Full title
ArchSD	Architectural Services Department
AADT	Annual Average Daily Traffic
ATC	Annual Traffic Census
ATT	Attraction
BDTM	Base District Traffic Model
DFC	Design Flow / Capacity
EB	Eastbound
G/IC	Government, Institution or Community
GEN	Generation
GMB	Green minibus
GOPC	General Out-patient Clinic
HAD	Home Affairs Department
HAEC	Home Affairs Enquiry Centre
HCM 2000	Highway Capacity Manual 2000
HGV	Heavy Goods Vehicle
HKHA	Hong Kong Housing Authority
HKPSG	Hong Kong Planning Standards and Guidelines
HZMB	Hong Kong - Zhuhai - Macao Bridge
LGV	Light Goods Vehicle
LOS	Level-of-service
MGV	Medium Goods Vehicle
MTR	Mass Transit Railway
NB	Northbound
NOFA	Net Operating Floor Area
pcu/hr	Passenger Car Unit per hour
PH	Public Housing
PlanD	Planning Department
PTI	Public Transport Interchange
PVP	Public Vehicle Park
RC	Reserve Capacity
SB	Southbound
TD	Transport Department
TIA	Traffic Impact Assessment
TPDM	Transport Planning and Design Manual
TPEDM	Territorial Population and Employment Data Matrix

TTM	Temporary Traffic Management
UOW	Community College of City University of Hong Kong
veh/hr	Vehicle per hour
V/C	Volume to Capacity Ratio
WB	Westbound
WSP	WSP (Asia) Limited

1. INTRODUCTION

1.1 Background

1.1.1 WSP (Asia) Ltd (WSP) had been commissioned by HKHA, under Term Traffic and Environmental Consultancy Services for New Territories East Region (2021-2024), to carry out the civil engineering consultancy services in respect of the TIA for the proposed Tai Wai Government Complex co-located with public housing development at Tsuen Nam Road, Tai Wai (hereafter referred to as "the TIA Study") under instruction no. W07.

1.1.2 The subject site of the TIA study is located in Tai Wai area of the Shatin District. The subject site is bounded by Chik Fuk Street and Chik Luk Lane to the west and Tsuen Nam Road on the south. The location of the subject site is shown in **Appendix A**.

1.1.3 This Report is to present the consolidated results and recommendations of the TIA study of updating the Traffic Review Report (Final) from the project of 'Contract No. CPM303_01/20 - Traffic Review for the Proposed Tai Wai Government Complex, Tai Wai' by the Architectural Services Department (ArchSD) / Atkins (hereafter referred to as "ArchSD/Atkins' study").

1.2 Objective

1.2.1 The objectives of this assessment are to update the previous findings by the ArchSD/Atkins' study:

(a) Conduct surveys to collect latest existing traffic flows in vicinity;

(b) Update traffic forecast of future vehicular traffic demands in the vicinity to account for worst case scenarios during operational stage of the subject development with most updated government data, latest assumptions on planned / committed adjacent developments and revised commissioning year of the subject site;

(c) Review the operational traffic of the subject site in view of updated development parameters in particular the partial provision of the Public Vehicle Park (PVP) deliberated in ArchSD/Atkins' study;

(d) Carry out traffic impact assessments, including junction and road link capacity assessments in future design year(s) during the operational stage of the project adopting the worst-case scenario; and

(e) Verify anticipated traffic issues and review the proposed traffic mitigation measures to ensure adequate alleviations of the traffic impacts in association with the operational traffic generated by the subject site in future design years.

1.3 Structure of this Report

1.3.1 This report contains the following sections in further to this introduction:

Section 2 Describes the methodology, assumptions and design parameters for the TIA;

Section 3 Presents the traffic forecasts and assessment results of the adopted design year(s); and

Section 4 Summarizes the results and conclusions of this report.

2. METHODOLOGY AND DESIGN PARAMETERS

2.1 Methodology

2.1.1 As this TIA Study aims at updating the findings from the ArchSD/Atkins' Traffic Review, their approach shall be adopted fully for consistency, i.e. adoption of annual growth rate approach to derive traffic forecast in future design years.

2.1.2 The following approach and methodology had been adopted in this study:

- Update the base set of existing traffic flows with latest traffic survey under post-COVID situation;
- Update traffic forecast in future years in view of revised design years, latest government data including the 2019-based Base District Traffic Model (BDTM) & latest planning data and updated considerations on adjacent planned / committed developments;
- Update the traffic assessments in future design years considering the latest junction improvement schemes by others; and
- Verify the necessity of the traffic improvement schemes proposed by ArchSD/Atkins and formulate updated solutions for way forward.

2.2 Site Location

2.2.1 The subject site is located on the east side of Chik Fuk Street and Chik Luk Lane in Tai Wai, Shatin near MTR Tai Wai Station, where the vehicular ingress and egress for both domestic and non-domestic demands would be via Chik Fuk Street and Chik Luk Lane respectively. Refer to **Appendix A** for location of the subject site.

2.3 Design Parameters and Assumptions

2.3.1 The development complex including the housing units is anticipated to be ready by year 2032, i.e. 2 years later than the findings of ArchSD/Atkins' Traffic Review. The proposed development schedule is summarized in **Table 2.1**.

Table 2.1 – Tentative Development Parameters at the Subject Site

Component	Parameter
Public Housing	500 nos. of flats (1) (2)
Government Complex	Small Library with Students' Study Room (Approx. 1,205m^2 NOFA)
	General Out-patient Clinic (GOPC) (Approx. 2,800m^2 NOFA)
	Integrated Family Service Centre (591m^2 NOFA)
	Neighborhood Elderly Centre (303m^2 NOFA)
	Child Care Centre (530m^2 NOFA)

Component	Parameter
	Social Security Field Unit (509m^2 NOFA)
	HAD's Sub-Office cum Home Affairs Enquiry Centre (HAEC) (about 320m^2 NOFA)
	HAD's Conference Room and Multi-Purpose Room (about 510m^2 NOFA)
Public Vehicle Park (PVP)	105 nos. private car 30 nos. motorcycle
Remarks: *(1) For assessment purpose, 10% variation had been assumed in the proposed flat numbers to allow design flexibility.* *(2) The percentage of one person/two person flats is about 25%.*	

2.3.2 Hence, the design years for this TIA study would be updated as years 2032 and 2035.

2.3.3 The required ancillary parking and loading / unloading facilities provision for the Development as per the requirement of the Hong Kong Planning Standards and Guidelines (HKPSG) and various user departments are summarized in **Table 2.2**.

Table 2.2 – Ancillary Parking and Loading/Unloading Facilities for the Subject Site (1)

Component	Vehicle Type	Dimensions (L x W)	Proposed Provision
Public Housing	Private Car Parking Space	5m x 2.5m	42
	Visitor's Car Parking Space (can be shared by van-type LGVs and taxis)	5m x 2.5m	5
	Motorcycle Parking Space	2.4m x 1m	4
	LGV Parking Space (can be shared by private light bus)	8m x 3.5m	2
	Loading / Unloading Bay (can be shared by coaches/buses and MGV/HGV L//UL bays for overnight parking, subject to due consideration of site constraint and local situation)	12m x 3.5m	2
	Bicycle Parking Space	1.9m x 0.6m	34
	Refuse Collection Vehicle Parking Space	12m x 5m	1 (2)
Welfare Facilities	Ambulance Lay-by	9m x 3m	1 (3)
HAD Facilities	Private Car Parking Space	5m x 2.5m	1
	Private Car Loading / Unloading Space	5m x 2.5m	2
	Coach/MGV/HGV Loading / Unloading Bay	12m x 3.5m	1
	LGV Lay-by	7m x 3.5m	1
	Ambulance Lay-by	9m x 3m	1
Small Library with Students' Study Room	LGV Lay-by	7m x 3.5m	1 (3)
	MGV/HGV/Coach Lay-by	12m x 3.5m	1 (3)
GOPC	Private Car Parking Space	5m x 2.5m	30
	Ambulance Lay-by	9m x 3m	1
	Taxi Lay-by	5m x 2.5m	1
	LGV Lay-by	7m x 3.5m	1
	MGV/HGV Lay-by	11m x 3.5m	1
Remarks: *1) Provisions are basing on the 'Traffic Review Report (Final)' under the ArchSD/Atkins' study with contract no. CPM 303_01/20 dated 3*			

September 2021, the endorsed Planning Brief for the site dated August 2022 and the Addendum to the Approved Planning Brief dated May 2024.

2) To be shared with the requirement under GOPC.

3) To be shared with the provisions under HAD.

2.3.4 The trip generation of the subject site is summarized in **Table 2.3**.

Table 2.3 – Traffic Generation of the Subject Site

Component	Parameter	Trip Generation Rates (pcu/hr/flat or pcu/hr/space) (2)(3)(4)				Traffic Generation (pcu/hr)			
		AM Peak		PM Peak		AM Peak		PM Peak	
		GEN	ATT	GEN	ATT	GEN	ATT	GEN	ATT
Public Housing (PH)	500 flats (1)	0.0242	0.0226	0.0177	0.0201	14	13	10	12
PVP	135 spaces	0.0945	0.0448	0.0572	0.0676	13	7	8	10
GOPC	2,800m^2 NOFA	-	-	-	-	20	20	15	15
Social welfare & community facilities	~2,800m^2 NOFA	-	-	-	-	15	15	15	15
Small Library (with Students' Study Room)	1,205m^2 NOFA	-	-	-	-	10	10	10	10
					Total	72	65	58	62

Remarks:

(1) For assessment purpose, 10% variation had been assumed in the proposed flat numbers to allow design flexibility, which is the same development parameter assumption as with Table 4.6 Remark no. 1 under ArchSD/Atkins' 'Traffic Review Report (Final)' dated 3 September 2021 for the subject site under contract no. CPM 303_01/20.

(2) Traffic generation rates for public housing are referred to 'Traffic Rates for Residential/Non-Residential Developments at 95% Confidence Level' adopted in the Transport Planning and Design Manual (TPDM).

(3) Rates of traffic generations and attractions for the PVP are based on Table 4.5 of the 'Traffic Review Report (Final)' under the ArchSD/Atkins' study with contract no. CPM 303_01/20 dated 3 September 2021; PVP provision of 105 nos. private car parking spaces and 30 nos. motorcycle parking spaces are the updated inventory as per latest design development for the subject site.

(4) Trip nos. adopted for G/IC facilities for items of GOPC, social welfare & community facilities and Small Library with Student's Study Room) are based on Table 4.6 of the 'Traffic Review Report (Final)' under the ArchSD/Atkins' study with contract no. CPM 303_01/20 dated 3 September 2021.

2.3.1 As shown in **Table 2.3**, the subject site will generate in total 137 and 120 pcu/hr (2-way) during the AM and PM peak hours respectively in future design years when in operation.

Adopted Vehicular Access Arrangement

2.3.2 Further to findings from the ArchSD/Atkins study, it was recommended to adopt the vehicular access arrangement of Option 1, i.e. all vehicular traffic of subject site to access via Chik Fuk Street southbound and exit via Chik Luk Lane southbound. Refer to **Figure nos. W07/TIA/203** and **202** for details of the design of the vehicular access and the development traffic routings for the subject site respectively.

2.4 Data Collection

2.4.1 Manual classified traffic count surveys were conducted to identify the existing traffic flows during the peak hour periods from 07:15 to 09:15 and 17:30 to 19:30 with extent similar to the ArchSD/Atkins' Traffic Review study on typical weekdays of 7 and 9 February 2023. The peak hours were found to be 07:30 to 08:30 and 18:00 to 19:00 for the AM and PM peak respectively.

2.4.2 Key junctions / corresponding survey dates are shown in **Table 2.4** below and their locations illustrated in **Figure no. W07/TIA/201**:

Table 2.4 – Identified Key Junctions Summary

Index (1)	Junction	Junction Type	Survey Date
J1	Mei Tin Road / Tai Wai Road	Signalized	9 February 2023
J2	Tai Po Road - Tai Wai / Tai Wai Road	Signalized	9 February 2023
J3	Tai Po Road - Tai Wai / Shing Ho Road	Priority	7 February 2023
J4	Tai Po Road - Tai Wai / Shing Chuen Road	Signalized	7 February 2023
J5	Tsuen Nam Road / Chik Luk Lane	Priority	7 February 2023
J6	Tai Wai Road / Tsuen Nam Road	Signalized	7 February 2023
J7	Tai Wai Road / Chik Fai Street	Signalized	9 February 2023
J8	Mei Tin Road / Chik Fai Street	Signalized	9 February 2023
J9	Mei Tin Road / Chik Wan Street	Signalized	9 February 2023
J10	Che Kung Miu Road / Hung Mui Kuk Road / Mei Tin Road	Roundabout	9 February 2023
J11	Tsuen Nam Road / Shing Wan Road / Shing Chuen Road	Priority	7 February 2023
J12	Shing Chuen Road / Shing Hing Street	Priority	7 February 2023
J13	Chik Luk Lane / Chik Fuk Street	Freeflow	7 February 2023
J14	Mei Tin Road / Tsing Sha Highway	Signalized	9 February 2023
J15	Mei Tin Road / Heung Fan Liu Street	Signalized	9 February 2023
J16	Tai Wai Road / Chik Chuen Street	Priority	9 February 2023
J17	Shing Ho Road / Chik Chuen Street	Priority	7 February 2023

Remarks:
*(1) Location of key junctions are shown in Figure no. **W07/TIA/201**.*

2.4.3 The surveyed traffic flows of Year 2023 are presented in **Figure no. W07/TIA/302**. **Table 2.5** tabulates the results for junction performance of existing case in year 2023. Corresponding calculation sheets are under **Appendix B**.

Table 2.5 – Existing Junction Performance (Year 2023)

Index (1)	Junction	Junction Type	Year 2023 RC (2) / DFC (3)	
			AM Peak	PM Peak
J1	Mei Tin Road / Tai Wai Road	Signalized	94%	>100%
J2	Tai Po Road - Tai Wai / Tai Wai Road	Signalized	>100%	>100%
J3	Tai Po Road - Tai Wai / Shing Ho Road	Priority	0.08	0.08
J4	Tai Po Road - Tai Wai / Shing Chuen Road	Signalized	33%	>100%
J5	Tsuen Nam Road / Chik Luk Lane	Priority	0.66	0.75
J6	Tai Wai Road / Tsuen Nam Road	Signalized	>100%	99%
J7	Tai Wai Road / Chik Fai Street	Signalized	>100%	>100%
J8	Mei Tin Road / Chik Fai Street	Signalized	82%	63%

Index (1)	Junction	Junction Type	Year 2023 RC (2) / DFC (3)	
			AM Peak	PM Peak
J9	Mei Tin Road / Chik Wan Street	Signalized	100%	>100%
J10	Che Kung Miu Road / Hung Mui Kuk Road / Mei Tin Road	Roundabout	0.56	0.54
J11	Tsuen Nam Road / Shing Wan Road / Shing Chuen Road	Priority	0.10	0.08
J12	Shing Chuen Road / Shing Hing Street	Priority	0.04	0.06
J14	Mei Tin Road / Tsing Sha Highway	Signalized	>100%	>100%
J15	Mei Tin Road / Heung Fan Liu Street	Signalized	73%	>100%
J16	Tai Wai Road / Chik Chuen Street	Priority	0.25	0.30
J17	Shing Ho Road / Chik Chuen Street	Priority	0.62	0.82

Remarks:

*(1) Location of key junctions are shown in Figure no. **W07/TIA/201**.*

(2) Figures shown represent Reserve Capacity (RC) for the signal-controlled junctions. Negative RC indicates overload conditions; RC of <15% indicates marginal performance; and RC of =/>15% indicates satisfactory performance.

(3) Figures shown represent Design Flow / Capacity (DFC) for the priority junctions and roundabouts. DFC of >1.00 indicates overload conditions; and DFC of </=0.85 indicates satisfactory performance.

2.4.4 From **Table 2.5**, it was found that all the concerned key junctions would operate satisfactorily during AM and PM peak hours in existing case.

2.5 Existing Public Transport Services

2.5.1 The subject site is served by a good mix of public transports including railway, franchised buses, green mini-buses (GMB) and taxi stands. There is a Public Transport Interchange (PTI) at MTR Tai Wai Station, which is less than 200m away from the subject site, with several franchised bus and GMB service points. The service details are tabulated in **Table 2.6** and indicated in **Figure no. W07/TIA/301**:

Table 2.6 - Existing Public Transport Services

Route No.	Origin & Destination	Remarks
MTR Tai Wai Station - East Rail Line; and - Tuen Ma Line.		
Bus		
46P	Mei Tin ↔ MTR Kwai Fong Station	AM and PM peak, Mon-Sat except PH, Circular
46R	MTR Tai Wai Station ↔ Ngong Shuen Chau Barracks	Specific Day only
46S	Hin Keng → Tsuen Wan (Nina Tower)	AM peak, Mon-Fri, except PH
	Tsuen Wan (Nina Tower) → Hin Keng	PM peak, Mon-Fri, except PH
46X	Hin Keng ↔ Mei Foo	Daily
72	Tai Po (Tai Wo) ↔ Cheung Sha Wan	Daily
72A	MTR Tai Wai Station ↔ Tai Po Industrial Estate	Daily
80	Mei Lam ↔ Kwun Tong Ferry	Daily
80A	Mei Lam → Kwun Tong Ferry	AM peak, Mon-Fri, except PH
80K	Sun Chui ↔ Yu Chui Court	Daily
81	Wo Che ↔ Jordan (West Kowloon Station)	Daily

Route No.	Origin & Destination	Remarks
81C	Yiu On ↔ Tsim Sha Tsui East (Mody Road)	Daily
81S	Mei Tin → Nathan Road (Public Square Street)	AM peak, Mon-Fri, except PH
82B	MTR Tai Wai Station → Mei Chung Court	AM peak, Mon-Fri, except PH
82D	Pak Shek Kok ↔ MTR Tai Wai Station	AM & PM peak, Daily
82K	Mei Lam ↔ Wong Nai Tau	Daily
85	Fo Tan (Chun Yeung Estate) ↔ Kowloon City Ferry	Daily
85B	Chun Shek → Kowloon City Ferry	AM peak, Mon-Fri, except PH
	Kowloon City Ferry → Chun Shek	PM peak, Mon-Fri, except PH
86A	Shatin Wai ↔ Cheung Sha Wan (Kom Tsun Street)	Daily from late morning onward
87B	Sun Tin Wai ↔ Island Harbourview	Daily
88	MTR Tai Wai Station ↔ Sau Mau Ping (Central)	Daily
88K	Hin Keng ↔ Royal Ascot	Daily
89B	Shatin Wai ↔ Ngau Tau Kok	Daily
170	MTR Shatin Station ↔ Wah Fu (Central)	Daily
182	Yu Chui Court ↔ Central (Macau Ferry)	Daily
182X	Central (Macau Ferry) → Yu Chui Court	PM peak, Mon-Fri, except PH
249X	Pok Hong ↔ MTR Tsing Yi Station	Daily
281	Sun Tin Wai ↔ MTR Tai Wai Station	Daily, Circular
281B	Shek Mun Estate → Tsim Sha Tsui East	AM Peak, Mon-Sat, except PH
281M	Sun Tin Wai → MTR Kowloon Tong Station	AM peak, Mon-Fri, except PH
	MTR Kowloon Tong Station → Sun Tin Wai	PM peak, Mon-Fri, except PH
283	Shatin Central ↔ Mei Chung Court	Daily, Circular
286A	Shatin Wai ↔ Cheung Sha Wan (Circular)	Daily, early mornings only
286P	Mei Chung Court → Cheung Sha Wan	AM peak, Mon-Fri, except PH
286X	Hin Keng ↔ Sham Shui Po	Daily, Circular
287P	Shui Chuen O → Yau Ma Tei	AM peak, Mon-Fri, except PH
287R	Jordan → MTR Wu Kai Sha Station	Special Events Only
287X	Shui Chuen O ↔ Jordan	Daily, Circular
288C	Shui Chuen O → Hin Keng	AM peak, Mon-Fri, except PH
	Hin Keng → Shui Chuen O (Upper)	AM peak, Mon-Fri, except PH
798P	MTR Tai Wai Station ↔ Tseung Kwan O Industrial Estate	AM peak, Mon-Fri, except PH
982X	Yu Chui Court / Shui Chuen O → Wan Chai (Fleming Road)	AM peak, Mon-Sat, except PH
	MTR Admiralty Station (East) → Yu Chui Court	PM peak, Mon-Fri, except PH

Route No.	Origin & Destination	Remarks
985	Mei Tin (Mei Chi House) → Wan Chai	AM peak, Sat, except PH
	MTR Admiralty Station (East) → Mei Tin	PM peak, Mon-Fri, except PH
985A	Mei Tin Estate (Mei Chi House) → Wan Chai	AM peak, Mon-Fri, except PH
986	Sha Tin Wai →Sai Wai Ho (Tai On Street)	AM peak, Mon-Fri, except PH
	Sai Wai Ho (Tai Hong Street) → Sha Tin Wai	PM peak, Mon-Fri, except PH
989	Fo Tan (Chun Yeung Estate) → Sai Wai Ho (Tai On Street)	AM peak, Mon-Fri, except PH
	Sai Wai Ho (Tai Hong Street) → Fo Tan (Chun Yeung Estate)	PM peak, Mon-Fri, except PH
A41	Shek Mun Estate ↔ Airport (Ground Transportation Centre)	Daily
A42	Wong Nai Tau ↔ Airport (Ground Transportation Centre)	Daily
A46	Fo Tan (Royal Ascot) ↔ Airport (Ground Transportation Centre)	Daily
B8	MTR Tai Wai Station ↔ Heung Yuen Wai Port	Daily (limited hours on weekdays)
E42	Pok Hong ↔ Airport (Ground Transportation Centre)	Daily
E42C	Pok Hong → Airport (Aircraft Maintenance Area)	AM peak, Daily
	Airport (Aircraft Maintenance Area) → Pok Hong	PM peak, Daily
E42P	Tung Chung (Yat Tung) → Fo Tan (Shan Mei Street)	AM peak, Mon-Sat, except PH
	Fo Tan (Shan Mei Street) → Tung Chung (Yat Tung)	PM peak, Mon-Sat, except PH
N42	MTR Tung Chung Station → Yiu On Bus Terminus	Daily, after midnight only
	Yiu On Bus Terminus → MTR Tung Chung Station	Daily, early morning only
N170	Shatin Central ↔ Wah Fu (Central)	Daily Overnight
N182	Kwong Yuen ↔ Central (Macau Ferry)	Daily Overnight
N281	Kam Ying Court ↔ MTR Hung Hom Station	Daily Overnight
N283	Tsim Sha Tsui East (Mody Road) → Wong Nai Tau	Few trips after midnight
NA41	HZMB Hong Kong Port →Shui Chuen O	Daily, after midnight only
	Shui Chuen O → HZMB Hong Kong Port	Daily, after midnight only
R40	Disneyland → MTR Wu Kai Sha Station	Specific Day only
R42	MTR Tai Wai Station → Disneyland	Sun and PH mornings only
	Disneyland → MTR Tai Wai Station	Sat, Sun and PH evenings only
R283	Wong Nai Tau → Tsim Sha Tsui East (Mody Road)	Specific Day only
X47	AsiaWorld Expo Bus Terminus → Tai Po (Fu Heng)	Specific Day only
GMB		
61M	Worldwide Garden ↔ MTR Tai Wai Station PTI	Daily
63A	Mei Chung Court ↔ MTR Tai Wai Station (Tsuen Nam Road)	Daily, Circular
63B	Granville Garden ↔ MTR Tai Wai Station (Tsuen Nam Road)	Daily, Circular
63K	Mei Tin Estate PTI ↔ MTR Tai Wai Station (Tsuen Nam Road)	Daily, Circular
63S	Mei Tin Estate PTI ↔ Mong Kok	Daily Overnight, Circular
64A	MTR Tai Wai Station (Tsuen Nam Road) ↔ Pui Kiu College	AM & PM peak, School days, Circular

Route No.	Origin & Destination	Remarks
64K	Fu Shan ↔ MTR Tai Wai Station (Tsuen Nam Road)	Daily
68K	MTR Sha Tin Station (Pai Tau Street) ↔ Julimount Garden	Daily
403X	MTR Tai Wai Station Public Transport Interchange ↔ Shek Li	Daily, Circular
481B	Tsuen Wan (Tsuen Wan Market Street) ↔ Tung Lo Wan Hill Road, Tai Wai	Daily
482	Tsuen Wan (Tsuen Wan Market Street) ↔ Shatin Central	Daily Overnight
803	Hin Keng ↔ Lee On Estate	Daily
803K	Hin Keng ↔ MTR Tai Wai Station Public Transport Interchange	Daily
804	Kwong Yuen ↔ Hin Keng	Daily
812	Shui Chuen O ↔ Hin Keng (Che Kung Miu Road)	Daily

2.5.2 As shown in **Table 2.6**, the proposed housing development will be well served by the existing abundant public transport facilities / services provided in the vicinity.

3. TRAFFIC IMPACT ASSESSMENT

3.1 Development Traffic Routing

3.1.1 As per the traffic review study conducted by the ArchSD/Atkins, their assumptions on traffic routings of the subject development as shown in **Figure nos. W07/TIA/201** and **202** will be adopted directly.

3.1.2 Traffic generations by the subject development would be manually superimposed onto the road network accordingly on top of the design years' Reference Cases traffic forecast to form the 'Design Cases' in years 2032 and 2035 – refer to **Figure nos. W07/TIA 403** and **404** for details of the traffic flows.

3.2 Annual Growth Rate

3.2.1 In this study of update to ArchSD/Atkins' Traffic Review project, it is crucial to verify the previously adopted annual growth rates to ensure reasonable assessment in this traffic review update.

3.2.2 Besides, as mentioned in **Section 2.3**, the commissioning of the subject site would be in year 2032. Hence, years 2032 and 2035 would be the design years adopted for this TIA study for updating the traffic review (further to their adopted design years of 2029 and 2032 assuming commissioning date in year 2029).

3.2.3 For the future road network, it is assumed that there will have no major changes to the existing road network connecting the concerned key junctions in our study area except the project of Trunk Road T4 (further elaborated in **Section 3.3.2**). Therefore, it is considered to carry forward the adoption of annual growth rate practice to deduce the traffic forecast of future design years in this traffic review update which is consistent to the previous study by the ArchSD/Atkins.

3.2.4 Hence, traffic forecast for the two design years were projected by applying an appropriate growth rate to the observed traffic flows for the appropriate design horizons. The appropriate annual growth rates were determined with reference to the latest Annual Traffic Census (ATC) reports published by the Transport Department (TD) and the most updated 2019-based Base District Traffic Models (BDTM) published by the TD and the 2019-based Territorial Population and Employment Data Matrices (TPEDM) planning data published by the Planning Department (PlanD).

Annual Traffic Census (ATC)

3.2.5 The historical traffic growth trend of the major roads in the vicinity of the Subject Development was reviewed making reference to the ATC reports. The Annual Average Daily Traffic (AADT) data from year 2016 to 2021 were extracted and the average annual growth rate of +1.09% p.a. had been derived as given in **Table 3.1**.

Table 3.1 – Traffic Growth Rate from ATC

Stn. No.	Road Name	AADT					
		2016	2017	2018	2019	2020	2021
5212	Hung Mui Kuk Road	28,300*	28,370*	32,110	31,140	29,370*	31,210*
5214	Tai Po Road Tai Wai	10,410*	10,440*	9,000	9,430	8,900*	9,460*
5448	Tsuen Nam Road	9,420*	9,360*	9,510*	8,070	7,910	8,280*
5617	Mei Tin Road	28,760	28,840*	28,940*	28,910*	26,890	29,120
5844	Che Kung Miu Road	21,010	20,460	20,800*	20,650*	19,860*	20,640
6012	Hung Mui Kuk Road	31,480*	32,240	33,620	33,590*	31,680*	33,670*
6615	Shing Wan Road	1,370	1,500	1,410	1,520	1,360	1,450
Total		130,750	28,300	28,370	32,110	31,140	29,370
Growth Rate (p.a.)		**1.09%**					

Remarks: *AADT estimated by growth factor and are not included in the assessment.

Base District Traffic Model (BDTM)

3.2.6 The growth rate was determined with reference to the latest 2019-based BDTM. The AM and PM peak hours traffic flows of the key road links in the Tai Wai area from year 2021 to 2031 were reviewed and the corresponding growth rates of +1.82% and -0.86% p.a. for the periods of year 2023-2026 and 2026-2031 had been derived as summarized in **Table 3.2** below.

Table 3.2 – Traffic Growth Rates from 2019-based BDTM

Road Name	Traffic Demand (pcu/hr)					
	AM			PM		
	2021	2026	2031	2021	2026	2031
Mei Tin Road	2,460	2,912	2,403	2,510	2,333	2,342
Chik Wan Street	726	801	736	774	752	809
Che Kung Miu Riad	2,624	3,154	2,947	2,222	2,508	2,259
Tai Po Road – Tai Wai	1,808	2,054	1,765	2,007	2,036	1,948
Tai Wai Road	660	738	793	460	525	411
Chik Fai Street	577	617	531	615	483	506
Chik Chuen Street	238	257	256	237	202	206
Chik Fuk Street	182	193	197	206	175	178
Chik Luk Lane	439	442	469	433	397	419
Tsuen Nam Road	646	666	758	434	442	355
Man Lam Road	458	433	411	951	841	806
Growth rate (2021-2026)	**1.82%**					
Growth rate (2026-2031)	**-0.86%**					

Territorial Population and Employment Data Matrices (TPEDM)

3.2.7 With reference to the latest 2019-based TPEDM (open version) published on the PlanD's website from year 2019 to year 2031 in the Sha Tin area, the average annual growth rates in terms of population and employment planning data were found to be <0% per annual (negative growth).

Table 3.3 – 2019-based TPEDM [(1)] for the Study Area

Planning Data District	Population and Employment			Average Annual Growth	
	2019	2026	2031	2019-2026	2026-2031
Sha Tin	683,050	680,000	640,500	-0.06%	-1.19%

Remarks:
(1) The reference of latest open version 2019-based TPEDM is extracted from the Planning Department official website: https://www.pland.gov.hk/pland_en/info_serv/statistic/tpedm19.html

Adopted Annual Growth Rates

3.2.8 After reviewing the latest available data from ATC, BDTM and TPEDM, to make a reasonable assessment, it is proposed to adopt +1.82% & +1% as the annual growth rates for the periods of year 2023 to 2026 and year 2026 to 2035 respectively in order not to overestimate the future traffic in design years 2032 and 2035. Traffic forecast for the design years were projected by the adopted growth rates to the observed traffic flows for the purpose of this update of ArchSD/Atkins' Final Traffic Review.

3.3 Adjustments for Interfacing Projects / Others' Junction Improvements

Planned junction improvements / highway infrastructure by others

3.3.1 As per communication with the Transport Department, it was understood that there shall be junction improvement works at key junction J10 (Che Kung Miu Road / Hung Mui Kuk Road) by year 2030. Refer to **Appendix C** for the schematic layout of the improvement measures by others.

3.3.2 It was also noted that there would be provision of Trunk Road T4 and associated road improvement works in future. From the latest information of this project in public domain, it is anticipated that the proposed roadworks would alleviate the junction performances in the area including our key junction J4 (Tai Po Road - Tai Wai / Shing Chuen Road). However, as the precise implementation schedule of Trunk Road T4 is still unknown at the time of writing this report and the degree of alleviation is uncertain, it would not be considered in this TIA quantitatively from conservative approach.

Planned / committed adjacent developments

3.3.3 There are few planned and committed developments in the adjacent area to the subject site which will induce traffic impacts to the Study Area in future design years 2032 and 2035 which would be necessary to be considered in this update to ArchSD/Atkins' Traffic Review and they are summarized in **Table 3.4** below:

Table 3.4 – Assumptions for Adjacent Planned / Committed Developments

Development	Parameters	Year of Completion	Considered in Design Year	
			2032	2035
Pavilia Farm (Private Housing Development Project) [(1)]	Phase 2 - 1,415 flats	2023 Q1	Y	Y
	Phase 3 - 892 flats	2025	Y	Y
	The Wai (Shopping Centre) - ~60,000sqm GFA	2023 Q2	Y	Y

Development	Parameters	Year of Completion	Considered in Design Year	
			2032	2035
	Community College of City University of Hong Kong (UOW)	2023/2024	Y	Y
Mei Tin Estate Phase 4 (Public Housing Development Project)	450 flats (2) G/IC facilities including: - Day Care Centre for the Elderly - Home Care Services for Frail Elderly Persons	2028	Y	Y
Residential Development at Heung Fan Liu (Private)	1,325 flats	By 2030	Y	Y
Residential Development at Tung Lo Wan Hill Road (Private)	160 flats	By 2030	Y	Y

Remarks:
1) *The Pavilia Farm Phase 1 had been commissioned in late 2022 which had been well captured in the traffic survey conducted in this study.*
2) *For assessment purpose, 10% variation had been assumed in the proposed flat numbers to allow design flexibility.*

3.3.4 Hence, these planned / committed adjacent developments will all be in place in our future design years 2032 and 2035.

3.3.5 The volumes of trip generations for the abovementioned planned / committed adjacent developments are summarized in **Table 3.5** below:

Table 3.5 – Traffic Generations for the Adjacent Planned / Committed Developments

Development	Component	Parameter	Trip Generation Rates (pcu/hr/flat) (2)				Traffic Generation (pcu/hr) (3)(4)			
			AM Peak		PM Peak		AM Peak		PM Peak	
			GEN	ATT	GEN	ATT	GEN	ATT	GEN	ATT
Pavilia Farm	Private Housing H-D/R(A), average flat size ~80m^2	1,415 flats	0.1058	0.0605	0.0426	0.0590	150	86	60	83
	Private Housing H-D/R(A), average flat size ~100m^2	892 flats	0.1887	0.0942	0.0862	0.1214	94	54	38	53
	Shopping Complex 'The Wai'	60,387m^2	0.3307	0.3342	0.3839	0.4504	200	202	232	272
	UOW	30 classrooms	-	-	-	-	53	57	37	17
						Subtotal	497	399	367	425
Mei Tin Estate Phase 4	Public Housing, average flat size ~40m^2	450 flats (1)	0.0539	0.0439	0.0278	0.0339	30	25	16	19
	G/IC Facilities	~763m^2 NOFA	-	-	-	-	30	30	30	30
						Subtotal	60	55	46	49

Development	Component	Parameter	Trip Generation Rates (pcu/hr/flat) (2)				Traffic Generation (pcu/hr) (3)(4)			
			AM Peak		PM Peak		AM Peak		PM Peak	
			GEN	ATT	GEN	ATT	GEN	ATT	GEN	ATT
Residential Development in Heung Fan Liu	Private Housing, average flat size <50m^2	1,325 flats	0.0718	0.0425	0.0286	0.0370	95	56	38	49
Residential Development at Tung Lo Wan Hill Road	Private Housing M-D/R(B), average flat size <100m^2	160 flats	0.1961	0.1116	0.0955	0.1321	31	18	15	21
						Total (by year 2032)	**683**	**528**	**466**	**544**

Remarks:

(1) For assessment purpose, 10% variation had been assumed in the proposed flat numbers to allow design flexibility.

(2) Traffic generation rates for private housing, public housing, and retail/shopping complex are based on 'Traffic Rates for Residential/Non-Residential Developments at 95% Confidence Level' adopted in the Transport Planning and Design Manual (TPDM).

(3) Trip generation rates for college are based on inhouse database for similar facilities at the Hong Kong Institute of Vocational Education (Tsing Yi) which is considered less accessible comparatively and hence conservative enough for the UOW considered in this study.

(4) Vehicular trip generations / attractions of G/IC facilities had been assumed as 30 pcu/hr.

3.3.1 As these planned / committed adjacent developments will all be in place by year 2030, their associated trips as summarized in **Table 3.5** above had been superimposed onto the road network in the Study Area manually in the traffic forecast for the 2 design years to form the Year 2032 and 2035 Reference Cases accordingly.

3.4 Traffic Forecast

3.4.1 The background traffic forecasts for the design years 2032 and 2035 were projected by applying the appropriate annual growth factors (as elaborated in **Section 3.2**) to the observed traffic flows obtained from traffic surveys for the respective timeframes also considering the traffic generations to/from the adjacent planned / committed developments (as elaborated in **Section 3.3**) to form the Years 2032 and 2035 Reference Cases.

3.4.2 The corresponding traffic forecasts are presented in **Figure nos. W07/TIA/401** and **402**.

3.5 Traffic Impact Assessment

3.5.1 To update the junction performances during operational phase of the subject site, the development traffic flows as elaborated in **Section 2.3** would be manually assigned to the design year Reference Cases traffic flows basing on the development traffic routings adopted in ArchSD/Atkins' study, i.e. Year 2032 and 2035 Reference Case traffic flows, to form the Year 2032 and 2035 Design Case traffic flows to assess the future performances of the key junctions. The corresponding traffic flows are presented in **Figure nos. W07/TIA/401** to **404**.

3.5.2 The results of the junction performances in design years 2032 and 2035 are presented in **Tables 3.6** and **3.7** below respectively. Corresponding calculation sheets are under **Appendix B**.

Table 3.6 – Year 2032 Junction Performance (Reference and Design Cases)

Index (1)	Junction	Junction Type	Year 2032 Reference Case RC (2) / DFC (3)		Year 2032 Design Case RC (2) / DFC (3)	
			AM Peak	PM Peak	AM Peak	PM Peak
J1	Mei Tin Road / Tai Wai Road	Signalized	66%	78%	66%	78%
J2	Tai Po Road - Tai Wai / Tai Wai Road	Signalized	83%	78%	77%	72%
J3	Tai Po Road - Tai Wai / Shing Ho Road	Priority	0.09	0.09	0.09	0.09
J4	Tai Po Road - Tai Wai / Shing Chuen Road	Signalized	17%	87%	17%	84%
J5	Tsuen Nam Road / Chik Luk Lane	Priority	0.74	0.85	0.84	**0.93**
J6	Tai Wai Road / Tsuen Nam Road	Signalized	>100%	77%	83%	65%
J7	Tai Wai Road / Chik Fai Street	Signalized	>100%	>100%	>100%	98%
J8	Mei Tin Road / Chik Fai Street	Signalized	59%	43%	50%	39%
J9	Mei Tin Road / Chik Wan Street	Signalized	72%	99%	71%	98%
J10	Che Kung Miu Road / Hung Mui Kuk Road / Mei Tin Road	Roundabout	0.82	0.76	0.83	0.76
J11	Tsuen Nam Road / Shing Wan Road / Shing Chuen Road	Priority	0.11	0.09	0.11	0.09
J12	Shing Chuen Road / Shing Hing Street	Priority	0.04	0.07	0.04	0.07
J14	Mei Tin Road / Tsing Sha Highway	Signalized	>100%	90%	96%	85%
J15	Mei Tin Road / Heung Fan Liu Street	Signalized	25%	60%	25%	60%
J16	Tai Wai Road / Chik Chuen Street	Priority	0.28	0.34	0.32	0.38
J17	Shing Ho Road / Chik Chuen Street	Priority	0.70	**0.93**	0.79	**1.01**

Remarks:
*(1) Location of key junctions are shown in Figure no. **W07/TIA/201**.*
(2) Figures shown represent Reserve Capacity (RC) for the signal-controlled junctions. Negative RC indicates overload conditions; RC of <15% indicates marginal performance; and RC of =/>15% indicates satisfactory performance.
(3) Figures shown represent Design Flow / Capacity (DFC) for the priority junctions and roundabouts. DFC of >1.00 indicates overload conditions; and DFC of </=0.85 indicates satisfactory performance.

Table 3.7 – Year 2035 Junction Performance (Reference and Design Cases)

Index (1)	Junction	Junction Type	Year 2035 Reference Case RC (2) / DFC (3)		Year 2035 Design Case RC (2) / DFC (3)	
			AM Peak	PM Peak	AM Peak	PM Peak
J1	Mei Tin Road / Tai Wai Road	Signalized	61%	73%	61%	73%
J2	Tai Po Road - Tai Wai / Tai Wai Road	Signalized	78%	73%	72%	68%
J3	Tai Po Road - Tai Wai / Shing Ho Road	Priority	0.09	0.09	0.09	0.09
J4	Tai Po Road - Tai Wai / Shing Chuen Road	Signalized	**14%**	82%	**13%**	79%
J5	Tsuen Nam Road / Chik Luk Lane	Priority	0.76	**0.87**	**0.87**	**0.96**
J6	Tai Wai Road / Tsuen Nam Road	Signalized	95%	72%	79%	60%
J7	Tai Wai Road / Chik Fai Street	Signalized	>100%	>100%	>100%	92%
J8	Mei Tin Road / Chik Fai Street	Signalized	54%	39%	46%	35%
J9	Mei Tin Road / Chik Wan Street	Signalized	67%	93%	66%	92%
J10	Che Kung Miu Road / Hung Mui Kuk Road / Mei Tin Road	Roundabout	**0.87**	0.79	**0.87**	0.79
J11	Tsuen Nam Road / Shing Wan Road / Shing Chuen Road	Priority	0.11	0.10	0.11	0.10
J12	Shing Chuen Road / Shing Hing Street	Priority	0.04	0.07	0.04	0.07
J14	Mei Tin Road / Tsing Sha Highway	Signalized	96%	85%	91%	79%
J15	Mei Tin Road / Heung Fan Liu Street	Signalized	22%	56%	22%	56%
J16	Tai Wai Road / Chik Chuen Street	Priority	0.29	0.35	0.33	0.39
J17	Shing Ho Road / Chik Chuen Street	Priority	0.72	**0.96**	0.81	**1.04**

Remarks:
*(1) Location of key junctions are shown in Figure no. **W07/TIA/201**.*
(2) Figures shown represent Reserve Capacity (RC) for the signal-controlled junctions. Negative RC indicates overload conditions; RC of <15% indicates marginal performance; and RC of =/>15% indicates satisfactory performance.
(3) Figures shown represent Design Flow / Capacity (DFC) for the priority junctions and roundabouts. DFC of >1.00 indicates overload conditions; and DFC of </=0.85 indicates satisfactory performance.

3.5.3 As shown in **Tables 3.6** and **3.7**, the concerned key junctions in the Study Area would be operating satisfactorily in Reference and Design Cases in Years 2032 and 2035, except for key junctions J4, J5, J10 and J17 which will be operating with marginal capacities / above-capacity situations in Years 2032 and/or 2035 Reference and/or Design Cases – junctions J5 and J17 shall be further reviewed in terms of impacts arising from illegal parking for more accurate assessments (refer to **Section 3.6** for details); while elaborations for junctions J4 and J10 are as follows.

3.5.4 For the proposal by ArchSD/Atkins in their Final Traffic Review report to lengthen the cycle time of key junction J4 (Tai Po Road - Tai Wai / Shing Chuen Road), as the junction will still perform marginally satisfactory (~13% RC) even in Year 2035 Design Case AM peak (as shown in **Table 3.7** above), plus the future highway infrastructure project of 'Trunk Road T4' will offload at-grade traffic passing J4 alleviating the junction performance of J4 back to >15% RC, necessity of the ArchSD/Atkins' junction improvement scheme would be further reviewed.

3.5.5 For critical junction J10 (Che Kung Miu Road / Hung Mui Kuk Road / Mei Tin Road), as the performances in both Reference and Design cases in year 2035 are marginally satisfactory (DFC of near 0.85) with local improvement scheme by others considered, while the traffic impacts of the subject development would be negligible, i.e. no delta in DFC values between Reference and Design cases, detailed holistic assessment of this critical junction would be subject to other projects including the 'Trunk Road T4' project offloading at-grade traffic between Sha Tin Road and Tsing Sha Highway / Shing Mun Tunnel Road via Mei Tin Road / Hung Mui Kuk Road.

3.6 Sensitivity Test for Illegal Parking / Kerbside Activities

3.6.1 ArchSD/Atkins' traffic review study also looked at the traffic impacts arising from illegal parking and significant kerbside activities at key junctions J2 (Tai Po Road - Tai Wai / Tai Wai Road), J5 (Tsuen Nam Road / Chik Luk Lane), J6 (Tai Wai Road / Tsuen Nam Road) and J7 (Tai Wai Road / Chik Fai Street) in the form of sensitivity test. **Table 3.8** below summarized the junction performances of these concerned junctions in existing case and worst scenario of year 2035 Reference Case (no subject site scenario):

Table 3.8 – Year 2023 and 2035 Junction Performances (Existing and Reference Cases) – Sensitivity for Illegal Parking / Kerbside Activities

Index (1)	Junction	Junction Type	Year 2023 Existing Case Sensitivity RC (2) / DFC (3)		Year 2035 Reference Case Sensitivity RC (2) / DFC (3)	
			AM Peak	PM Peak	AM Peak	PM Peak
J2	Tai Po Road - Tai Wai / Tai Wai Road	Signalized	73%	65%	46%	40%
J5	Tsuen Nam Road / Chik Luk Lane	Priority	0.79	**0.90**	**0.92**	**1.05**
J6	Tai Wai Road / Tsuen Nam Road	Signalized	65%	45%	43%	25%
J7	Tai Wai Road / Chik Fai Street	Signalized	78%	27%	53%	**10%**
J16	Tai Wai Road / Chik Chuen Street	Priority	0.26	0.32	0.31	0.38
J17	Shing Ho Road / Chik Chuen Street	Priority	0.65	0.86	0.76	**1.00**

Remarks:
*(1) Location of key junctions are shown in Figure no. **W07/TIA/201**.*
(2) Figures shown represent Reserve Capacity (RC) for the signal-controlled junctions. Negative RC indicates overload conditions; RC of <15% indicates marginal performance; and RC of =/>15% indicates satisfactory performance.
(3) Figures shown represent Design Flow / Capacity (DFC) for the priority junctions and roundabouts. DFC of >1.00 indicates overload conditions; and DFC of </=0.85 indicates satisfactory performance.

3.6.2 From **Table 3.8**, it was found that the 3 of the 6 concerned key junctions will have capacity concerns in year 2035 Reference Case sensitivity test, namely junctions J5 (Tsuen Nam Road / Chik Luk Lane), J7 (Tai Wai Road / Chik Fai Street) and J17 (Shing Ho Road / Chik Chuen Street). Hence, it is also necessary to review the potential alleviation of the illegal parking situation brought about by the provision of PVP at the subject site as below.

3.6.3 Basing on ArchSD/Atkins' findings on the partial provision of the PVP at the subject site in their Traffic Review Report (Final) dated September 2021, the illegal parking situation will be alleviated to certain extent, i.e. illegal parking within 50m of 'critical intersections' would be mitigated as elaborated in para. 6.8.21 of Atkins' report. Hence, the resultant junction performances under sensitivity test for these concerned junctions would be relatively better in 2035 Design Case as compared to the 2035 Reference Case as summarized in **Table 3.9** below:

Table 3.9 – Year 2035 Junction Performances (Reference and Design Cases) - Sensitivity for Illegal Parking / Kerbside Activities

Index (1)	Junction	Junction Type	Reference Case Sensitivity RC (2) / DFC (3)		Design Case Sensitivity RC (2) / DFC (3)	
			AM Peak	PM Peak	AM Peak	PM Peak
J2	Tai Po Road - Tai Wai / Tai Wai Road	Signalized	46%	40%	55%	50%
J5	Tsuen Nam Road / Chik Luk Lane	Priority	**0.92**	**1.05**	**0.87**	**0.96**
J6	Tai Wai Road / Tsuen Nam Road	Signalized	43%	25%	43%	28%
J7	Tai Wai Road / Chik Fai Street	Signalized	53%	**10%**	37%	15%

Index (1)	Junction	Junction Type	Reference Case Sensitivity RC (2) / DFC (3)		Design Case Sensitivity RC (2) / DFC (3)	
			AM Peak	PM Peak	AM Peak	PM Peak
J16	Tai Wai Road / Chik Chuen Street	Priority	0.31	0.38	0.33	0.39
J17	Shing Ho Road / Chik Chuen Street	Priority	0.76	**1.00**	0.81	**1.04**

Remarks:
*(1) Location of key junctions are shown in Figure no. **W07/TIA/201**.*
(2) Figures shown represent Reserve Capacity (RC) for the signal-controlled junctions. Negative RC indicates overload conditions; RC of <15% indicates marginal performance; and RC of =/>15% indicates satisfactory performance.
(3) Figures shown represent Design Flow / Capacity (DFC) for the priority junctions and roundabouts. DFC of >1.00 indicates overload conditions; and DFC of </=0.85 indicates satisfactory performance.

3.6.4 From **Table 3.9**, it was found that only 2 of the 6 concerned key junctions with illegal parking situations will still have capacity concerns in year 2035 Design Case sensitivity test, namely J5 (Tsuen Nam Road / Chik Luk Lane) and J17 (Shing Ho Road / Chik Chuen Street).

3.6.5 Critical junction J5 shall have improvement scheme as per previous proposal by ArchSD/Atkins – refer to paragraphs 3.7.1 to 2 for details.

3.6.6 For critical junction J17, refer to paragraphs 3.7.4 to 8 for details on way forward.

3.7 Junction Improvement Schemes for Critical Junctions J5 and J17

Improvement Scheme for Critical Junction J5

3.7.1 As elaborated in para. 3.6.5, same conclusion had been deduced in this traffic review update. Chik Luk Lane southbound, which is currently the minor arm, is observed with higher traffic flows than that of Tsuen Nam Road westbound. Similar pattern will exist in future design years plus the traffic impacts induced by the subject site. To optimize the junction performance in Design Case, it is considered preferable to switch the minor and major arm assignment at this priority junction. Therefore, it is proposed to carry forward the improvement scheme from the previous study by ArchSD/Atkins.

3.7.2 To optimize the junction performance, priority shall be given to Chik Luk Lane southbound with greater traffic demands. The proposed improvement scheme is illustrated in **Figure no. W07/TIA/501**. The junction performances of the abovementioned proposed improvement scheme are assessed and the results including the due considerations on illegal parking are summarized in **Table 3.10**. The calculation sheets are attached in **Appendix B**.

Table 3.10 – Critical Junction J5 Performance (With and Without Proposed Improvement Scheme) in Year 2035 Normal & Sensitivity Cases

Scenario	Junction (1)	Junction Type	DFC for No Improvement Scheme (2)		DFC for With Proposed Improvement Scheme (2)	
			AM Peak	PM Peak	AM Peak	PM Peak
Reference Case – Normal	Tsuen Nam Road / Chik Luk Lane	Priority	0.76	**0.87**	-	-
Reference Case – Sensitivity			**0.92**	**1.05**	-	-
Design Case – Normal			**0.87**	**0.96**	0.44	0.38

Scenario	Junction (1)	Junction Type	DFC for No Improvement Scheme (2)		DFC for With Proposed Improvement Scheme (2)	
			AM Peak	PM Peak	AM Peak	PM Peak
Design Case – Sensitivity			**0.87**	**0.96**	0.45	0.39

Remarks:
*(1) Location of key junctions are shown in Figure no. **W07/TIA/201**.*
(2) Figures shown represent Design Flow / Capacity (DFC) for the priority junctions and roundabouts. DFC of >1.00 indicates overload conditions; and DFC of </=0.85 indicates satisfactory performance.

3.7.3 The results show that the critical junction J5 (Tsuen Nam Road / Chik Luk Lane) would operate satisfactorily, i.e. DFC of <0.85 even in worst case of year 2035 Design Case with the implementation of the proposed junction improvement scheme for both normal and sensitivity (illegal parking consideration) scenarios.

Improvement Scheme for Critical Junction J17

3.7.4 It was found that the traffic forecast on Chik Chuen Street eastbound would be much larger than Shing Ho Road southbound in future years 2032 and 2035. Hence, it was initially proposed to switch the major and minor arm of this priority junction to tackle the anticipated performance issues.

3.7.5 This proposal is possible as traffic forecast on Shing Ho Road southbound will be about 200 pcu/hr, i.e. <4 pcu/min. The upstream lane is a dedicated left turn lane on Tai Po Road – Tai Wai westbound with more than 40m length adequate to stack this waiting traffic of <4 pcu/min without encroaching onto straight ahead lanes on Tai Po Road – Tai Wai westbound. With the switching of major and minor arm, it is anticipated that the impact to junction capacity due to illegal parking would be insignificant.

3.7.6 Refer to **Table 3.11** for the junction performances with the said improvement scheme and **Appendix B** for the corresponding junction calculation sheets.

Table 3.11 – Critical Junction J17 Performance (With and Without Proposed Improvement Scheme) in Year 2035 Cases

Index (1)	Junction	Junction Type	Design Case Sensitivity – No Improvement DFC (2)		Design Case – With Improvement DFC (3)	
			AM Peak	PM Peak	AM Peak	PM Peak
J17	Shing Ho Road / Chik Chuen Street	Priority	0.81	**1.04**	0.30	0.27

Remarks:
*(1) Location of key junctions are shown in Figure no. **W07/TIA/201**.*
(2) Figures shown represent Design Flow / Capacity (DFC) for the priority junctions and roundabouts. DFC of >1.00 indicates overload conditions; and DFC of </=0.85 indicates satisfactory performance.

3.7.7 From **Table 3.11** above, the results show that the critical junction J17 (Chik Chuen Street / Shing Ho Road) would operate desirably, i.e. DFC of <0.50 even in peak hours in worst case of year 2035 Design Case with the implementation of the proposed junction improvement scheme.

3.7.8 However, as per further dialogue with the TD, it was understood that there would be concerns for traffic queuing on Shing Ho Road southbound if a priority junction is

created, resulting in possible tailing back to the key traffic corridor of Tai Po Road – Tai Wai westbound, hence the adoption of an alternative scheme to remove this priority junction and provide two exclusive lanes for the two traffic bounds at this intersection to minimize potential delays. Refer to **Figure no. W07/TIA/502** for details – corresponding swept paths as illustrated in **Figure no. W07/TIA/503**.

Implementation Party for the Junction Improvement Schemes

3.7.9 These abovementioned junction improvement schemes as illustrated in **Figure nos. W07/TIA/501** and **502** will be implemented by contractors of the HKHA building contract and make ready upon commissioning of the subject development.

3.8 Development Vehicular Access

Design of the Development Run-in

3.8.1 As mentioned in para. 2.3.6 above, Option 1 of ArchSD/Atkins' design had been adopted. The vehicular ingress and egress at the site will be limited to left-in left-out movements only. The proposed traffic arrangement is illustrated in **Figure no. W07/TIA/203**.

Traffic Conditions in the vicinity

3.8.2 ArchSD/Atkins' traffic review study had conducted a queuing analysis at the subject site's vehicular run-in/out location. As PVP provision is updated, the overall vehicular trips for the subject site had also been updated and summarized in **Table 2.3**.

3.8.3 As illustrated in **Table 2.3**, the peak vehicular arrival rate at the dropped gate of the subject site would be 65 pcu/hr, i.e. around 1.1 pcu/min (~1 veh/min). Sufficient spacing had been allowed between the dropped gate of the development access and the site boundary (building edge) – around 17m length which is enough for about 3 private cars / 1 HGV and 1 private car to queue up for access without encroaching onto the footpath outside the site.

3.8.4 Hence, it is anticipated there would not be back queuing of vehicles onto Chik Fuk Street southbound even with more than 1 vehicles arriving simultaneously even during peak hours in future design years.

3.8.5 Moreover, in year 2035 Design Case, the traffic forecast would be 537 pcu/hr in busier evening peak (including the 62 pcu/hr turning into the subject development). That is equivalent to about 10 pcu/min, i.e. 1 pcu (vehicle) in every 6 seconds. That means there would be buffer timings for vehicles to pull into the site without causing significant delays to traffic along Chik Fuk Street southbound. Traffic from site can also pull out easily while another vehicle pulls into the site simultaneously.

Traffic Enhancement Measures on Chik Fuk Street southbound

3.8.6 To further enhance traffic conditions on Chik Fuk Street southbound, it is proposed to i) replace existing centre line road marking (RM1104) with double white line (RM1001); ii) shorten the existing 24-hour no-stopping restriction (RM1040) at south

end of Shing Ho Road to before diverging point toward Chik Fuk Street northbound; iii) set back the existing traffic islands at south end of Shing Ho Road and south end of Chik Fuk Street to enable the slow lane on Chik Fuk Street southbound as queuing area of PVP at subject site in case of full PVP occupation (as further elaborated in para. 3.8.8 to 3.8.12 below); and iv) provide a direction sign at south end of Shing Ho Road southbound indicating that nearside lane of Chik Fuk Street southbound is for the PVP. Refer to **Figure nos. W07/TIA/203** and **203A** for details.

Safety Enhancement Measures at the Subject Site's Vehicular Run-in/out

3.8.7 To enhance the potential conflicting point between pedestrians and egressing vehicles from the subject site, the following safety enhancement measures can be provided subject to further review:

- Amber revolving lantern with audible alerts for pedestrians upon vehicles egressing from site;
- Provision of convex mirror for northbound pedestrians to see the traffic conditions behind the 90-degree intersection;
- Distinctive paving for the dropped kerb extent;
- LED light modules projecting bright colors / image projection of warning signs on ground before the run-in/out to increase pedestrian awareness; and
- Road hump to slow motorists egressing from site before entering the footpath area.

Likelihood for Full PVP Occupation

3.8.8 As per ArchSD/Atkins' study on review of partial provision of PVP at 105 nos. of spaces (~50% of ultimate provision of 240 nos. private car parking spaces), it was concluded that the 'shortfall' would still reduce the illegal parking situation in the local area to adequately mitigate traffic impacts to the 6 critical intersections identified.

3.8.9 Moreover, an additional 390 nos. of private car parking spaces had been introduced to the vicinity of the subject site in view of the commissioning of new mall 'The Wai' next to MTR Tai Wai Station – less than 200m from the subject site of this study. Utilizations of parking under 'The Wai' had also been reviewed and average occupancies over different periods were recorded. The overall parking supply and demand assessment for the vicinity of subject site is shown in **Table 3.12** below:

Table 3.12 – Adequacy of Parking Provision in the Vicinity of Subject Site (Year 2035)

Period	Supply from existing local area in Tai Wai (1)	Supply from Subject Site PVP	Average Supply from The Wai (2)	Total Supply	Total Demand (3)	V/C
Weekday morning	245	105	195 (~50% vacant)	545	~385	0.71
Weekday afternoon	245		290 (~75% vacant)	640	~460	0.72
Weekday nighttime	325		359 (~92% vacant)	789	~520	0.66
Weekend afternoon	245		90 (~23% vacant)	440	~475 (4)	**1.08**

Remarks:
*(1) Figures adopted from **Table 6.5** of the Traffic Review Report (Final) dated September 2021 of ArchSD/Atkins' precedent study.*
(2) Real time occupancy data had been taken during corresponding time periods in April and May 2024 from the website of 'The Wai': https://www.thewaimall.com/en/parking .
*(3) Figures are rounded up to nearest 5, basing on the year 2032 figures presented in **Table 6.5** of the Traffic Review Report (Final) dated September 2021 of ArchSD/Atkins' precedent study with consistent annual growth rate to deduce the parking demands in year 2035.*
(4) A deficit of ~35 nos. of parking provision in the weekend afternoon period, i.e. 475 – 440 = 35.

3.8.10 As shown in **Table 3.12**, it is anticipated that full PVP occupation should be adequately alleviated in future design year on typical weekdays basing on latest holistic car parking supply review for the vicinity of subject site except weekend afternoon periods.

3.8.11 For weekend afternoons, as the car parking at 'The Wai' would be heavily utilized (>75% occupied) resulting in very limited car parking surplus to the area, illegal parking may still occur in the vicinity of the subject site due to full occupancy of the subject site's PVP. Nonetheless, the shortfall would be greatly reduced from the previous value of 118 nos. (conclusion stated in ArchSD/Atkins' traffic review study – para. 7.1.21 in the Traffic Review Report (Final), replacement sheets) to 35 nos. as shown in **Table 3.12**, meaning the illegal parking at adjacent local road network would be significantly reduced nonetheless. It is anticipated that the resultant 35 nos. of illegally parked private cars in the vicinity, which is equivalent to ~210m length of kerbline, would not constitute to adverse traffic impacts to nearby key junctions in weekends.

3.8.12 Nonetheless, queue of motorists waiting to enter the PVP during weekend afternoon periods would be able to make use of the additional on-street queuing zone of the PVP at nearside lane of Chik Fuk Street southbound outside the TWGHs Sin Chu Wan Primary school between Chik Luk Lane and Shing Ho Road as elaborated in para. 3.8.6 and shown in **Figure nos. W07/TIA/203** and **203A**. With the proposed modifications to existing traffic layout, an additional queuing zone of up to 80m would be made available, allowing up to 13 private vehicles to stack on-street on top of the queuing zone allowed within the subject site; traffic along Chik Fuk Street southbound between Shing Ho Road and Chik Luk Lane would be unhindered with the queuing of private cars at slow lane toward run-in of subject site. This will be timely implemented by HKHA's contractor prior to the commissioning of the subject site.

3.8.13 Moreover, other measures should be exercised to ensure smooth traffic along Chik Fuk Street southbound as elaborated below.

Other Measures to Tackle Potential Issues upon Full PVP Occupation

3.8.14 To ensure no blockages on Chik Fuk Street southbound by motorists queuing to enter the proposed PVP, staffs of the building management staff shall keep close monitoring of traffic conditions on upstream of Chik Fuk Street southbound and urge any motorists waiting on carriageway of Chik Fuk Street southbound to leave immediately.

3.8.15 With the PVP at subject site in place, enforcement measures would be strengthened to deter illegal parking at the loading/unloading bay outside the primary school across the day to ensure smooth traffic along Chik Fuk Street southbound.

3.9 Pedestrian Assessment

3.9.1 ArchSD/Atkins' traffic review study had conducted pedestrian assessment for their existing case (year 2021) and future year design case in 2032.

3.9.2 The method to assess the width of footpath for pedestrian movements is the Level-of-Service (LOS) in the Highway Capacity Manual 2000 (HCM 2000) / TPDM Volume 6 Chapter 10.5.2.2 item (viii)(c). Definition of the LOS conditions are shown in **Table 3.13** below. As stipulated in TPDM Volume 6 Annex E, footpath should be designed to achieve Level-of-Service (LOS) C or above for satisfactory performance.

Table 3.13 – Definition of LOS

LOS	Ped. Flow Rate (ped/min/m)	Description
A	≤16	Pedestrians basically move in desired paths without altering their movements in response to other pedestrians. Walking speeds are freely selected, and conflicts between pedestrians are unlikely.
B	16 – 23	Sufficient space is provided for pedestrians to freely select their walking speeds, to bypass other pedestrians and to avoid crossing conflicts with others. At this level, pedestrians begin to be aware of other pedestrians and to respond to their presence in the selection of walking paths.
C	23 – 33	Sufficient space is available to select normal walking speeds and to bypass other pedestrians primarily in unidirectional stream. Where reverse direction or crossing movement exit, minor conflicts will occur, and speed and volume will be somewhat lower.
D	33 – 49	Freedom to select individual walking speeds and bypass other pedestrians is restricted. Where crossing or reverse-flow movements exist, the probability of conflicts is high and its avoidance requires changes of speeds and position. The LOS provides reasonable fluid flow; however considerable friction and interactions between pedestrians are likely to occur.
E	49 – 75	Virtually, all pedestrians would have their normal walking speeds restricted. At the lower range of this LOS, forward movement is possible only be shuffling. Space is insufficient to pass over slower pedestrians. Cross-and reverse-movement are possible only with extreme difficulties. Design volumes approach the limit of walking capacity with resulting stoppages and interruptions to flow.

LOS	Ped. Flow Rate (ped/min/m)	Description
F	>75	Walking speeds are severely restricted. Forward progress is made only by shuffling. There are frequent and unavoidable conflicts with other pedestrians. Cross-and reverse-movements are virtually impossible. Flow is sporadic and unstable. Space is more characteristics of queued pedestrians than of moving pedestrian streams.

3.9.3 Existing pedestrian conditions of key footpaths around the subject site had been verified and the performance of key footpaths are summarized below in **Table 3.14**:

Table 3.14 – Existing Performance of Key Footpaths (Year 2023)

Index *(1)*	Location	Peak 15-min Flow (ped/15min) *(2)*	Clear Width (m)	Effective Width (m) / Area (sqm)	Flow Rate (ppm/m)	LOS / V/C
W1	Chik Luk Lane eastern footpath	275	2.6	1.6m	11.5	A
W2	Tsuen Nam Road northern footpath	120	3.2	2.2m	3.6	A
W7	Refuge island between Chik Luk Lane and Tsuen Nam Road	395	-	~30sqm	-	<0.2 (3)

Remarks:
*(1) Refer to Figure no. **W07/TIA/201**.*
(2) Figures are rounded up to nearest 5.
(3) Peak minute flow at refuge island is 27 ped/min. Assuming the peak minute pedestrian loading all stuck at refuge island, and assuming average pedestrian area occupancy of 0.2 sqm/person as per TPDM Vol. 4 Chapter 3.2.6.2, the required area would be 5.4 sqm.

3.9.1 From **Table 3.14** above, it was found that evening during the busier morning peak period, the key footpaths outside the subject site would be operating with desirable LOS "A" in existing case.

3.9.2 To forecast the pedestrian demands in design year 2035, i.e. 3 years after completion of the subject development, a 1% annual growth rate had been applied to the year 2032 Reference Case pedestrian forecast to form the Year 2035 Reference Case pedestrian forecast (conservative approach as adopting a larger annual growth rate as compared to the ArchSD/Atkins' study) except for key footpath W2 which had been updated in view of survey data from year 2023.

3.9.3 The year 2035 Reference Case performances of key footpaths during the busier morning peak are summarized in **Table 3.15** below.

Table 3.15 – Performance of Key Footpaths (Year 2035 Reference Case)

Index *(1)*	Location	Peak 15-min Flow (ped/15min) *(2)*	Clear Width (m)	Effective Width (m)	Flow Rate (ppm/m)	LOS
W1	Chik Luk Lane eastern footpath	425	2.6	1.6	17.7	B
W2	Tsuen Nam Road northern footpath	135 *(3)*	3.2	2.2	4.1	A
W3	Tsuen Nam Road southern footpath	595	3.5	1.5 *(4)*	26.4	C
W4	Chik Luk Lane western footpath	25	2.4	1.4	1.2	A
W5	Chik Fuk Street eastern footpath	645	2.6	1.4	31.7	C
W6	Chik Fuk Street western footpath	30	1.7	0.7	2.9	A
W7	Refuge island between Chik Luk Lane and Tsuen Nam Road	440	-	~37sqm (concrete pavement extent)	6sqm (required area) *(5)*	<0.2

Remarks:
*(1) Refer to Figure no. **W07/TIA/201**.*
(2) Figures are rounded up to nearest 5.
(3) Basing on year 2023 survey data and applied with 1% annual growth rate to form the year 2035 Reference flow.
(4) Assume that footpath is partially occupied by passengers waiting at the GMB stand.
(5) Assume average pedestrian area occupancy of 0.2 sqm/person; and assume the minute flow pedestrians will all wait at the refuge island from conservative approach.

3.9.4 As shown in **Table 3.15**, all key footpaths near the subject site would be operating with desirable LOS "C" or above during the busier morning peak in year 2035 without the subject development.

3.9.5 The estimated pedestrian demands of PVP had also been updated based on the change in PVP provision. The pedestrian trips due to the PVP had been derived as per **Table 3.16** below:

Table 3.16 – Pedestrian Generations / Attractions of PVP

Development Components	Traffic Generation / Attraction (pcu/hr) (1)		Pedestrian Generation / Attraction (pph) (1)	
	AM Peak		AM Peak	
	Generation	Attraction	Generation	Attraction
PVP (1)	13	7	26	14

Remarks:
(1) Refer to Table 2.3 of this report.
(2) Carrying forward the assumption of 2 nos. of pedestrians would be generated from 1 pcu for conservative approach as per ArchSD/Atkins' Traffic Review Report (Final) under contract no. CPM 303_01/20 dated 3 September 2021.

3.9.6 The estimated pedestrian generations / attractions of the proposed development are summarised in **Table 3.17**.

Table 3.17 – Pedestrian Generations / Attractions of the Subject Development

Development Components	Pedestrian Generation / Attraction (pph)	
	AM Peak	
	Generation	Attraction
PH (1)	219	31
PVP	26	14
Total	**245 ped/hr (equivalent to 62 ped/ 15mins)**	**45 ped/hr (equivalent to 12 ped/ 15mins)**

Remarks:
(1) Pedestrian generations are based on Table 5.6 of the 'Traffic Review Report (Final)' under the ArchSD/Atkins' study under contract no. CPM 303_01/20 dated 3 September 2021.

3.9.7 Based on the latest ground floor layout of the development (refer to plan under **Appendix D**), the pedestrian access for the proposed public housing development will be at the corner of intersection of Chik Fuk Street and Tsuen Nam Road. It is anticipated that most pedestrians will use the footpath along Tsuen Nam Road to travel to/from the MTR Tai Wai Station and its PTI for rail and road-based public transport services. The key pedestrian desire lines to/from the subject site are illustrated in **Figure no. W07/TIA/301**.

3.9.8 Adopting ArchSD/Atkins' assumptions on pedestrian routings and directional splits, it is anticipated that 65%, 25% and 10% of pedestrians would use key footpaths W3, W1 and W2 respectively to/from the subject site.

3.9.9 The adopted pedestrian generations /attractions of the subject development were assigned onto the concerned footpaths and superimposed onto the year 2035 Reference Case pedestrian flows to derive the Design Case pedestrian forecast. The performances of the concerned footpaths in Year 2035 Design Case are summarised in **Table 3.18** below.

Table 3.18 – Performance of Key Footpaths (Year 2035 Design Case)

Index (1)	Location	Peak 15-min Flow (ped/15min) (2)	Clear Width (m)	Effective Width (m)	Flow Rate (ppm/m)	LOS
W1	Chik Luk Lane eastern footpath	445	2.6	1.6	18.5	B
W2	Tsuen Nam Road northern footpath	145 (3)	3.2	2.2	4.4	A
W3	Tsuen Nam Road southern footpath	645	3.5	1.5 (4)	28.7	C
W4	Chik Luk Lane western footpath	25	2.4	1.4	1.2	A
W5	Chik Fuk Street eastern footpath	665	2.4	1.4	31.7	C
W6	Chik Fuk Street western footpath	30	1.7	0.7	2.9	A
W7	Refuge island between Chik Luk Lane and Tsuen Nam Road	490	-	~37m^2 (concrete pavement extent)	6.6m^2 (required area) (5)	<0.2

Remarks:
*(1) Refer to Figure no. **W07/TIA/201**.*
(2) Figures are rounded up to nearest 5.
(3) Updated as elaborated in Table 3.15.
(4) Assume that footpath is partially occupied by passengers waiting at the GMB stand.
(5) Assume average pedestrian area occupancy of 0.2 sqm/person; and assume the minute flow pedestrians will all be waiting at the refuge island from conservative approach.

3.9.10 As shown in **Table 3.18**, all key footpaths near the subject site would operate with desirable LOS "C" or above during the busier morning peak in year 2035 Design Case even with presence of the subject development; the refuge island at priority junction outside the subject site would also be operating with a V/C of <0.2 which is considered desirable.

4. CONCLUSION

4.1.1 This study aims at updating the ArchSD/Atkins' Final Traffic Review (their report dated September 2021) of the subject site at Tsuen Nam Road to examine the latest existing traffic conditions and appropriate traffic forecast to reasonably assess the situations in future design years.

4.1.2 The updated government data including the latest 2019-based BDTM and planning data and the revised commissioning year of 2032 had been considered in the traffic forecast in this update on ArchSD/Atkins' traffic review. The latest adjacent planned/ committed developments and junction improvement schemes affecting the concerned key junctions had also been accounted for holistically. The provision of Public Vehicle Park at the subject site had also been considered.

4.1.3 It had been revealed that the performances of the key junctions will be satisfactory in future design years 2032 and 2035 Design Cases except for critical junctions J5 (Tsuen Nam Road / Chik Luk Lane) which is similar to ArchSD/Atkins' findings and J17 (Shing Ho Road / Chik Chuen Street) which is further away from subject site and will be operating beyond its capacity before commissioning of the subject site in year 2030.

4.1.4 Hence, the improvement scheme by ArchSD/Atkins for key junction J5 had been carried forward accordingly to effectively alleviate the anticipated traffic impacts at this junction upon commissioning of the subject site by HKHA's contractor.

4.1.5 For J17, a junction improvement scheme had been proposed as per the Transport Department's comment to tackle the anticipated junction performance issues in future design years 2032 and 2035 with a scheme for two exclusive lanes for this critical junction.

4.1.6 For key junction J4 (Tai Po Road - Tai Wai / Shing Chuen Road), necessity of the junction improvement measure proposed under ArchSD/Atkins' traffic review shall be further reviewed in view of marginally satisfactory junction performance in year 2035 Design Case and the expected alleviations to be provided by future 'Trunk Road T4'.

4.1.7 For key junction J10 (Hung Mui Kuk Road / Mei Tin Road / Che Kung Mui Road), although a slightly marginal performance is anticipated in future design year 2035, similar to J4, it is expected that the future 'Trunk Road T4' will also help alleviate the traffic conditions at this location.

4.1.8 To address potential queuing on Chik Fuk Street southbound arisen from full occupation of PVP at the subject site, traffic enhancement measures are proposed along the southbound carriageway between Shing Ho Road and Chik Luk Lane to provide additional on-street stacking spaces such that through passing traffic on Chik Fuk Street southbound would be unhindered.

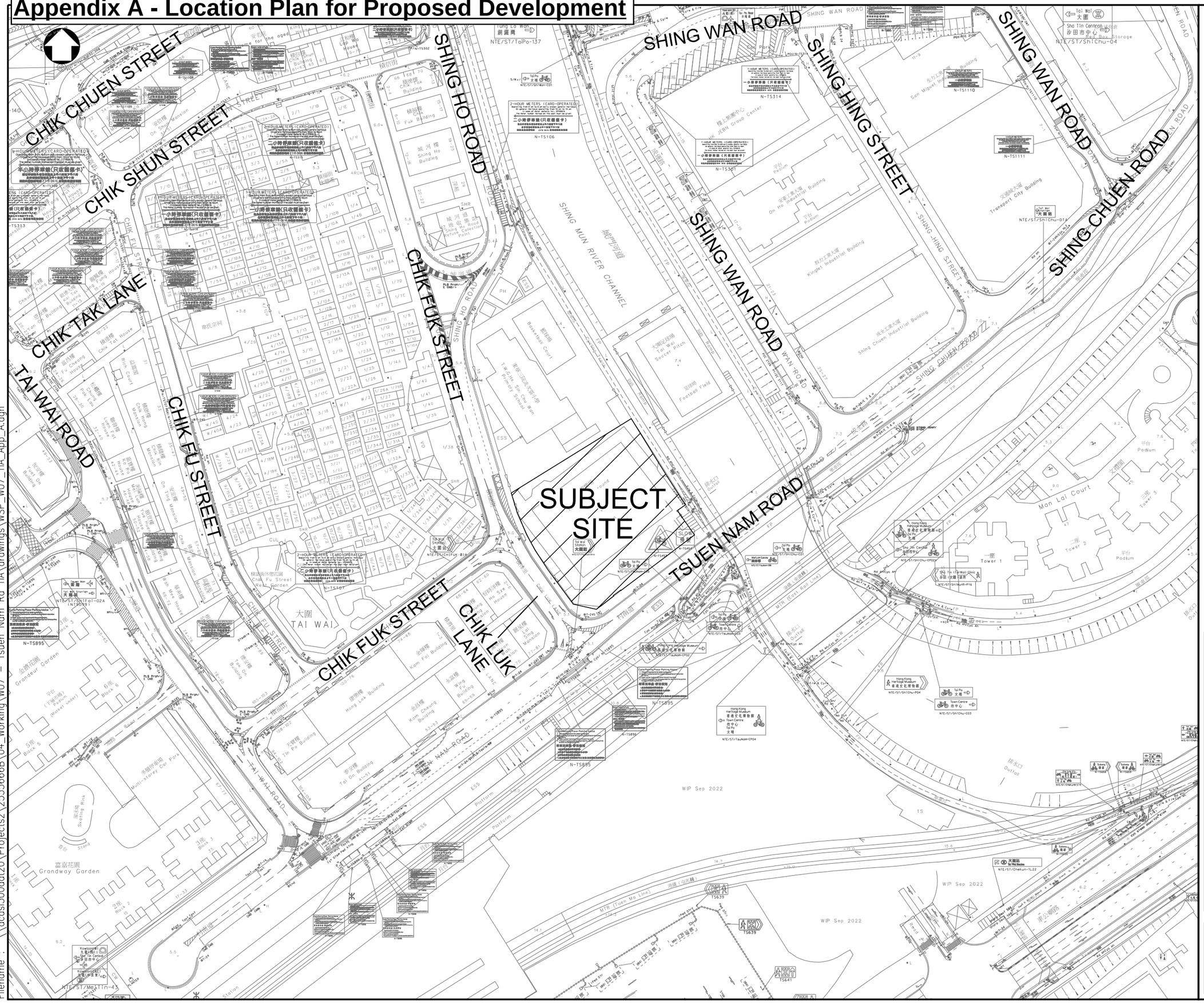
4.1.9 In general, the proposed Tai Wai Government Complex co-located with public housing development at Tsuen Nam Road, Tai Wai would not cause adverse traffic impacts to the adjacent road network after implementation of the road junction

improvement schemes at critical junctions J5 (Tsuen Nam Road / Chik Luk Lane) and J17 (Chik Chuen Street / Shing Ho Road) by the HKHA to be ready upon commissioning of the subject site in year 2032.

APPENDIX A

Location Plan for Proposed Development

Appendix A - Location Plan for Proposed Development



LEGEND :

SUBJECT SITE

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CB202104 24 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title

LOCATION PLAN FOR PROPOSED DEVELOPMENT

Drawing no.	Rev.
—	—

Drawn	Date	Checked	Approved
JY	JUN 2024	AP	AP

Scale	Status
NTS	—

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 11/6/2024
Filename : \\dcasi300dat20\Projects2\2535666B\04_Working\W07 - Tsuen Nam Rd TIA\drawings\WSP_W07_TIA_App_A.dgn

APPENDIX B

Junction Calculation Sheets

TRAFFIC SIGNALS CALCULATION SHEET

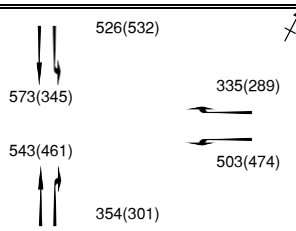
Junction: Mei Tin Road / Tai Wai Road Junction No.: J01

Scenario: Observe Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road NB																
↑	B	1	3.0						2055	2055	181	0.09		154	0.07	
↑	B	1	3.0						2055	2055	181	0.09		153	0.07	
↑	B	1	3.0						2055	2055	181	0.09		154	0.07	
↱	B	1	3.0		25				1940	1940	178	0.09		152	0.08	0.08
↱	B	1	3.0		20				1910	1910	176	0.09	0.09	149	0.08	
Mei Tin Road SB																
↰	D	2,3	5.5	30					2060	2060	526	0.26		532	0.26	
↑	A	2	3.3						2085	2085	191	0.09		115	0.06	
↑	A	2	3.3						2085	2085	191	0.09		115	0.06	
↑	A	2	3.3						2085	2085	191	0.09		115	0.06	
Tai Wai Road WB																
↰	C	3	3.5	15					1250	1250	240	0.19	0.19	226	0.18	
↰	C	3	3.5	20					1370	1370	263	0.19		248	0.18	0.18
↱	C	3	3.5		20				1960	1960	169	0.09		146	0.07	
↱	C	3	3.5		15				1915	1915	166	0.09		143	0.07	
Pedestrian Crossing																
	Ep	2	MIN GREEN + FLASH =			16	+	14	=	30			*			*
	Fp	1	MIN GREEN + FLASH =			5	+	7	=	12						
	Gp	1,3	MIN GREEN + FLASH =			5	+	9	=	14						
	Hp	2	MIN GREEN + FLASH =			5	+	10	=	15						

NOTES:

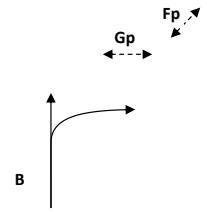
Flow: (pcu/hr)



Group		B,Ep,C	Group		B,Ep,C
Sum of Critical *y* ***Y***		0.28	Sum of Critical *y*		0.26
Lost Time ***L*** (sec)		45	Lost Time ***L*** (sec)		45
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.55	Practical *Y* ***Ypr***		0.54
Reserve Capacity ***RC***		94%	Reserve Capacity ***RC***		>100%

Stage / Phase Diagrams

1.



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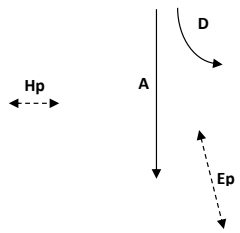

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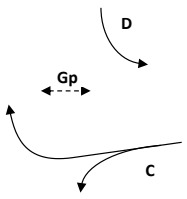


4.

5.

I/G= 6		I/G= 9	30	I/G= 2		I/G=		I/G=	
I/G= 6		I/G= 9	30	I/G= 2		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Tai Wai Road

Junction No.: J01

TRAFFIC SIGNALS CALCULATION SHEET

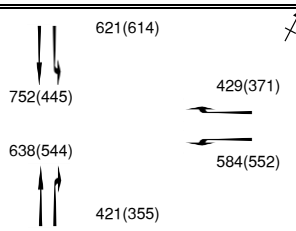
Junction: Mei Tin Road / Tai Wai Road Junction No.: J01

Scenario: Reference Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road NB																
↑	B	1	3.0						2055	2055	213	0.10		181	0.09	
↑	B	1	3.0						2055	2055	212	0.10		182	0.09	
↑	B	1	3.0						2055	2055	213	0.10		181	0.09	
↱	B	1	3.0		25				1940	1940	212	0.11		179	0.09	0.09
↱	B	1	3.0		20				1910	1910	209	0.11	0.11	176	0.09	
Mei Tin Road SB																
↰	D	2,3	5.5	30					2060	2060	621	0.30		614	0.30	
↑	A	2	3.3						2085	2085	251	0.12		148	0.07	
↑	A	2	3.3						2085	2085	250	0.12		149	0.07	
↑	A	2	3.3						2085	2085	251	0.12		148	0.07	
Tai Wai Road WB																
↰	C	3	3.5	15					1250	1250	279	0.22	0.22	263	0.21	
↰	C	3	3.5	20					1370	1370	305	0.22		289	0.21	0.21
↱	C	3	3.5		20				1960	1960	217	0.11		188	0.10	
↱	C	3	3.5		15				1915	1915	212	0.11		183	0.10	
Pedestrian Crossing																
	Ep	2	MIN GREEN + FLASH =			16	+	14	=	30			*			*
	Fp	1	MIN GREEN + FLASH =			5	+	7	=	12						
	Gp	1,3	MIN GREEN + FLASH =			5	+	9	=	14						
	Hp	2	MIN GREEN + FLASH =			5	+	10	=	15						

NOTES:

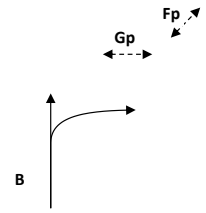
Flow: (pcu/hr)



Group		B,Ep,C	Group		B,Ep,C
Sum of Critical *y* ***Y***		0.33	Sum of Critical *y*		0.30
Lost Time ***L*** (sec)		45	Lost Time ***L*** (sec)		45
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.55	Practical *Y* ***Ypr***		0.54
Reserve Capacity ***RC***		66%	Reserve Capacity ***RC***		78%

Stage / Phase Diagrams

1.



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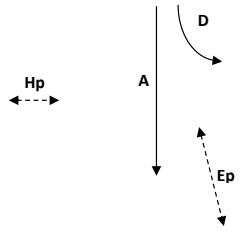

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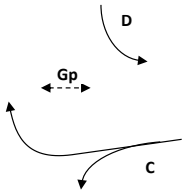


4.

5.

I/G= 6		I/G= 9	30	I/G= 2		I/G=		I/G=	
I/G= 6		I/G= 9	30	I/G= 2		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Tai Wai Road

Junction No.: J01

TRAFFIC SIGNALS CALCULATION SHEET

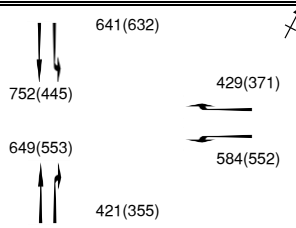
Junction: Mei Tin Road / Tai Wai Road Junction No.: J01

Scenario: Design Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road NB																
↑	B	1	3.0						2055	2055	216	0.11		184	0.09	
↑	B	1	3.0						2055	2055	217	0.11		185	0.09	
↑	B	1	3.0						2055	2055	216	0.11		184	0.09	
↱	B	1	3.0		25				1940	1940	212	0.11		179	0.09	0.09
↱	B	1	3.0		20				1910	1910	209	0.11	0.11	176	0.09	
Mei Tin Road SB																
↰	D	2,3	5.5	30					2060	2060	641	0.31		632	0.31	
↑	A	2	3.3						2085	2085	251	0.12		148	0.07	
↑	A	2	3.3						2085	2085	250	0.12		149	0.07	
↑	A	2	3.3						2085	2085	251	0.12		148	0.07	
Tai Wai Road WB																
↰	C	3	3.5	15					1250	1250	279	0.22	0.22	263	0.21	
↰	C	3	3.5	20					1370	1370	305	0.22		289	0.21	0.21
↱	C	3	3.5		20				1960	1960	217	0.11		188	0.10	
↱	C	3	3.5		15				1915	1915	212	0.11		183	0.10	
Pedestrian Crossing																
	Ep	2	MIN GREEN + FLASH =			16	+	14	=	30			*			*
	Fp	1	MIN GREEN + FLASH =			5	+	7	=	12						
	Gp	1,3	MIN GREEN + FLASH =			5	+	9	=	14						
	Hp	2	MIN GREEN + FLASH =			5	+	10	=	15						

NOTES:

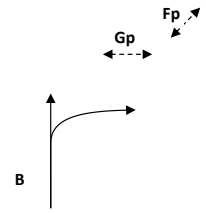
Flow: (pcu/hr)



Group		B,Ep,C	Group		B,Ep,C
Sum of Critical *y* ***Y***		0.33	Sum of Critical *y*		0.30
Lost Time ***L*** (sec)		45	Lost Time ***L*** (sec)		45
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.55	Practical *Y* ***Ypr***		0.54
Reserve Capacity ***RC***		66%	Reserve Capacity ***RC***		78%

Stage / Phase Diagrams

1.



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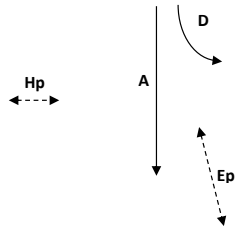

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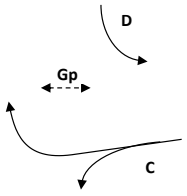


4.

5.

I/G= 6		I/G= 9	30	I/G= 2		I/G=		I/G=	
I/G= 6		I/G= 9	30	I/G= 2		I/G=		I/G=	

Junction: Mei Tin Road / Tai Wai Road

Junction No.: J01

TRAFFIC SIGNALS CALCULATION SHEET

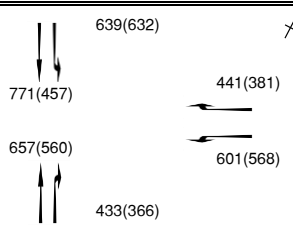
Junction: Mei Tin Road / Tai Wai Road Junction No.: J01

Scenario: Reference Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road NB																
↑	B	1	3.0						2055	2055	219	0.11		187	0.09	
↑	B	1	3.0						2055	2055	219	0.11		186	0.09	
↑	B	1	3.0						2055	2055	219	0.11		187	0.09	
↱	B	1	3.0		25				1940	1940	218	0.11		184	0.09	
↱	B	1	3.0		20				1910	1910	215	0.11	0.11	182	0.10	0.10
Mei Tin Road SB																
↰	D	2,3	5.5	30					2060	2060	639	0.31		632	0.31	
↑	A	2	3.3						2085	2085	257	0.12		152	0.07	
↑	A	2	3.3						2085	2085	257	0.12		153	0.07	
↑	A	2	3.3						2085	2085	257	0.12		152	0.07	
Tai Wai Road WB																
↰	C	3	3.5	15					1250	1250	287	0.23	0.23	271	0.22	0.22
↰	C	3	3.5	20					1370	1370	314	0.23		297	0.22	
↱	C	3	3.5		20				1960	1960	223	0.11		193	0.10	
↱	C	3	3.5		15				1915	1915	218	0.11		188	0.10	
Pedestrian Crossing																
	Ep	2	MIN GREEN + FLASH =			16	+	14	=	30			*			*
	Fp	1	MIN GREEN + FLASH =			5	+	7	=	12						
	Gp	1,3	MIN GREEN + FLASH =			5	+	9	=	14						
	Hp	2	MIN GREEN + FLASH =			5	+	10	=	15						

NOTES:

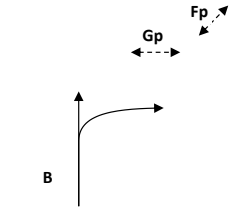
Flow: (pcu/hr)



Group		B,Ep,C	Group		B,Ep,C
Sum of Critical *y* ***Y***		0.34	Sum of Critical *y*		0.31
Lost Time ***L*** (sec)		45	Lost Time ***L*** (sec)		45
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.55	Practical *Y* ***Ypr***		0.54
Reserve Capacity ***RC***		61%	Reserve Capacity ***RC***		73%

Stage / Phase Diagrams

1.



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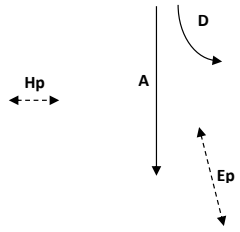

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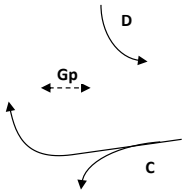


4.

5.

I/G= 6		I/G= 9	30	I/G= 2		I/G=		I/G=	
I/G= 6		I/G= 9	30	I/G= 2		I/G=		I/G=	

Junction: Mei Tin Road / Tai Wai Road

Junction No.: J01

TRAFFIC SIGNALS CALCULATION SHEET

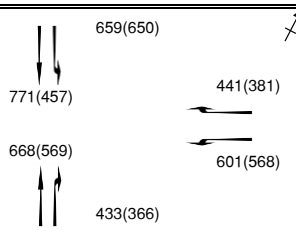
Junction: Mei Tin Road / Tai Wai Road Junction No.: J01

Scenario: Design Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road NB																
↑	B	1	3.0						2055	2055	223	0.11		190	0.09	
↑	B	1	3.0						2055	2055	222	0.11		189	0.09	
↑	B	1	3.0						2055	2055	223	0.11		190	0.09	
↱	B	1	3.0		25				1940	1940	218	0.11		184	0.09	
↱	B	1	3.0		20				1910	1910	215	0.11	0.11	182	0.10	0.10
Mei Tin Road SB																
↰	D	2,3	5.5	30					2060	2060	659	0.32		650	0.32	
↑	A	2	3.3						2085	2085	257	0.12		152	0.07	
↑	A	2	3.3						2085	2085	257	0.12		153	0.07	
↑	A	2	3.3						2085	2085	257	0.12		152	0.07	
Tai Wai Road WB																
↰	C	3	3.5	15					1250	1250	287	0.23	0.23	271	0.22	0.22
↰	C	3	3.5	20					1370	1370	314	0.23		297	0.22	
↱	C	3	3.5		20				1960	1960	223	0.11		193	0.10	
↱	C	3	3.5		15				1915	1915	218	0.11		188	0.10	
Pedestrian Crossing																
	Ep	2	MIN GREEN + FLASH =			16	+	14	=	30			*			*
	Fp	1	MIN GREEN + FLASH =			5	+	7	=	12						
	Gp	1,3	MIN GREEN + FLASH =			5	+	9	=	14						
	Hp	2	MIN GREEN + FLASH =			5	+	10	=	15						

NOTES:

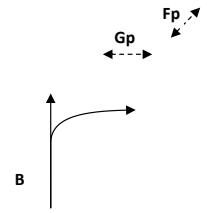
Flow: (pcu/hr)



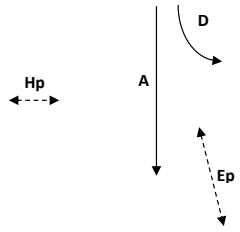
Group		B,Ep,C	Group		B,Ep,C
Sum of Critical *y* ***Y***		0.34	Sum of Critical *y*		0.31
Lost Time ***L*** (sec)		45	Lost Time ***L*** (sec)		45
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.55	Practical *Y* ***Ypr***		0.54
Reserve Capacity ***RC***		61%	Reserve Capacity ***RC***		73%

Stage / Phase Diagrams

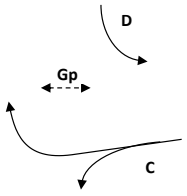
1.



2.



3.



4.

5.

I/G= 6		I/G= 9	30	I/G= 2		I/G=		I/G=	
I/G= 6		I/G= 9	30	I/G= 2		I/G=		I/G=	

Junction: Mei Tin Road / Tai Wai Road

Junction No.: J01

TRAFFIC SIGNALS CALCULATION SHEET

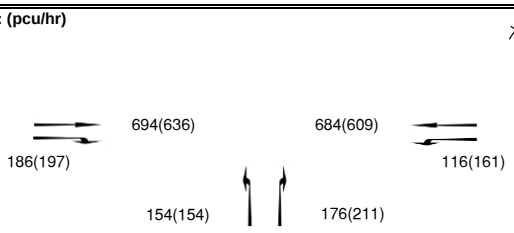
Junction: Tai Po Road / Tai Wai Road Junction No.: J02

Scenario: Observe Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road EB																
↑	D	1,2	3.3						1945	1945	266	0.14		244	0.13	
↑	D	1,2	3.3						2085	2085	285	0.14		261	0.13	
↑	D	1,2	3.3						1045	1045	143	0.14		131	0.13	
↱	B	2	4.0		25				2035	2035	186	0.09	0.09	197	0.10	0.10
Tai Wai Road NB																
↰	C	4	3.3	10					845	845	98	0.12		108	0.13	
↑	C	4	3.3	15	50		24% / 76%	18% / 82%	1990	2000	232	0.12	0.12	257	0.13	0.13
Tai Po Road WB																
↰	A	1	3.7	10					1850	1850	116	0.06		161	0.09	
↑	A	1	3.7						2125	2125	228	0.11	0.11	203	0.10	0.10
↑	A	1	3.7						2125	2125	228	0.11		203	0.10	
↑	A	1	3.7						2125	2125	228	0.11		203	0.10	
Pedestrian Crossing																
	Ep	1,2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	2,3	MIN GREEN + FLASH =			10	+	14	=	24						
	Gp	1,3,4	MIN GREEN + FLASH =			5	+	5	=	10						
	Hp	3,4	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	3,4	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:

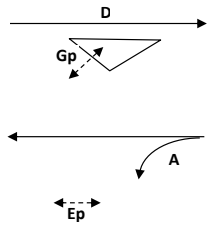
Flow: (pcu/hr)



Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.32	Sum of Critical *y*		0.32
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		>100%	Reserve Capacity		>100%

Stage / Phase Diagrams

1.



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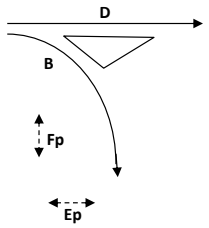
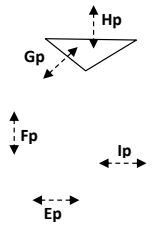
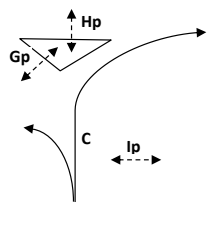


3.



4.

5.



I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	
I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	

Junction: Tai Po Road / Tai Wai Road

Junction No.: J02

TRAFFIC SIGNALS CALCULATION SHEET

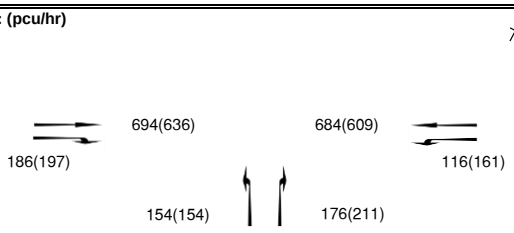
Junction: Tai Po Road / Tai Wai Road Junction No.: J02

Scenario: Observe (With Illegal Parking Impact) Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road EB																
	D	1,2	3.3						1945	1945	266	0.14		244	0.13	
	D	1,2	3.3						2085	2085	285	0.14		261	0.13	
	D	1,2	3.3						1045	1045	143	0.14		131	0.13	
	B	2	4.0		25				2035	2035	186	0.09	0.09	197	0.10	0.10
Tai Wai Road NB																
	C	4	3.3	15	50		47% / 53%	42% / 58%	1765	1770	330	0.19	0.19	365	0.21	0.21
Tai Po Road WB																
	A	1	3.7	10					1850	1850	116	0.06		161	0.09	
	A	1	3.7						2125	2125	228	0.11	0.11	203	0.10	0.10
	A	1	3.7						2125	2125	228	0.11		203	0.10	
	A	1	3.7						2125	2125	228	0.11		203	0.10	
Pedestrian Crossing																
	Ep	1,2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	2,3	MIN GREEN + FLASH =			10	+	14	=	24						
	Gp	1,3,4	MIN GREEN + FLASH =			5	+	5	=	10						
	Hp	3,4	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	3,4	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:
It is assumed that Tai Wai Road N/B is limited to 1 traffic lane due to illegal parking

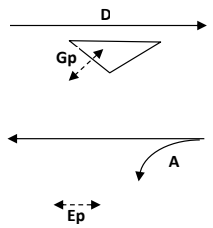
Flow: (pcu/hr)



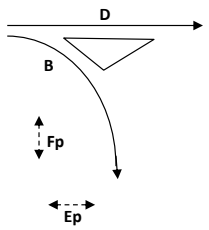
Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.39	Sum of Critical *y*		0.40
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		73%	Reserve Capacity		65%

Stage / Phase Diagrams

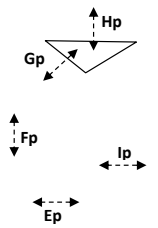
1.



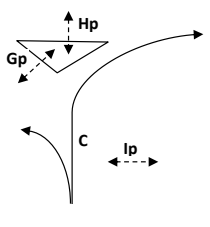
2.



3.



4.



5.

I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	
I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	

Junction: Tai Po Road / Tai Wai Road

Junction No.: J02

TRAFFIC SIGNALS CALCULATION SHEET

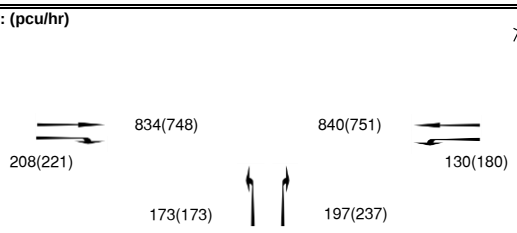
Junction: Tai Po Road / Tai Wai Road Junction No.: J02

Scenario: Reference Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road EB																
↑	D	1,2	3.3						1945	1945	320	0.16		287	0.15	
↑	D	1,2	3.3						2085	2085	342	0.16		307	0.15	
↑	D	1,2	3.3						1045	1045	172	0.16		154	0.15	
↱	B	2	4.0		25				2035	2035	208	0.10	0.10	221	0.11	0.11
Tai Wai Road NB																
↰	C	4	3.3	10					845	845	110	0.13		122	0.14	0.14
↑	C	4	3.3	15	50		24% / 76%	18% / 82%	1990	2000	260	0.13	0.13	288	0.14	
Tai Po Road WB																
↰	A	1	3.7	10					1850	1850	130	0.07		180	0.10	
↑	A	1	3.7						2125	2125	280	0.13	0.13	250	0.12	
↑	A	1	3.7						2125	2125	280	0.13		251	0.12	0.12
↑	A	1	3.7						2125	2125	280	0.13		250	0.12	
Pedestrian Crossing																
	Ep	1,2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	2,3	MIN GREEN + FLASH =			10	+	14	=	24						
	Gp	1,3,4	MIN GREEN + FLASH =			5	+	5	=	10						
	Hp	3,4	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	3,4	MIN GREEN + FLASH =			5	+	9	=	14						

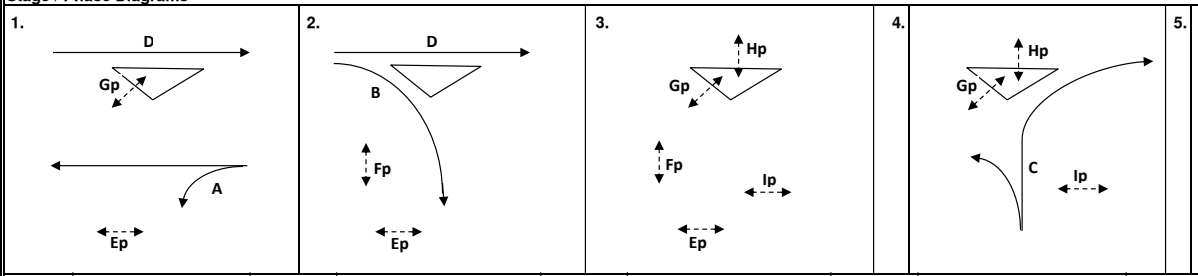
NOTES:

Flow: (pcu/hr)



Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.36	Sum of Critical *y*		0.37
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		83%	Reserve Capacity		78%

Stage / Phase Diagrams



I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	
I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	

wsp

Junction: Tai Po Road / Tai Wai Road

Junction No.: J02

TRAFFIC SIGNALS CALCULATION SHEET

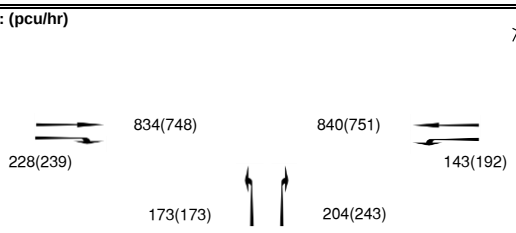
Junction: Tai Po Road / Tai Wai Road Junction No.: J02

Scenario: Design Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road EB																
↑	D	1,2	3.3						1945	1945	320	0.16		287	0.15	
↑	D	1,2	3.3						2085	2085	342	0.16		307	0.15	
↑	D	1,2	3.3						1045	1045	172	0.16		154	0.15	
↱	B	2	4.0		25				2035	2035	228	0.11	0.11	239	0.12	0.12
Tai Wai Road NB																
↰	C	4	3.3	10					845	845	112	0.13		124	0.15	0.15
↑	C	4	3.3	15	50		23% / 77%	17% / 83%	1995	2000	265	0.13	0.13	292	0.15	
Tai Po Road WB																
↰	A	1	3.7	10					1850	1850	143	0.08		192	0.10	
↑	A	1	3.7						2125	2125	280	0.13	0.13	250	0.12	
↑	A	1	3.7						2125	2125	280	0.13		251	0.12	0.12
↑	A	1	3.7						2125	2125	280	0.13		250	0.12	
Pedestrian Crossing																
	Ep	1,2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	2,3	MIN GREEN + FLASH =			10	+	14	=	24						
	Gp	1,3,4	MIN GREEN + FLASH =			5	+	5	=	10						
	Hp	3,4	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	3,4	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:

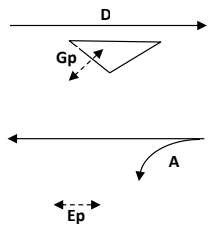
Flow: (pcu/hr)



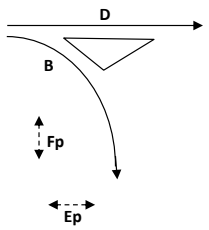
Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.38	Sum of Critical *y*		0.38
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		77%	Reserve Capacity		72%

Stage / Phase Diagrams

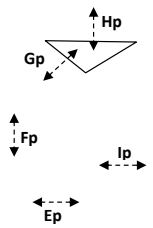
1.



2.



3.



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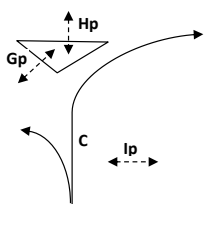


5.

I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	
I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	

wsp

Junction: Tai Po Road / Tai Wai Road

Junction No.: J02

TRAFFIC SIGNALS CALCULATION SHEET

Junction: Tai Po Road / Tai Wai Road Junction No.: J02

Scenario: Reference Design Year: 2035

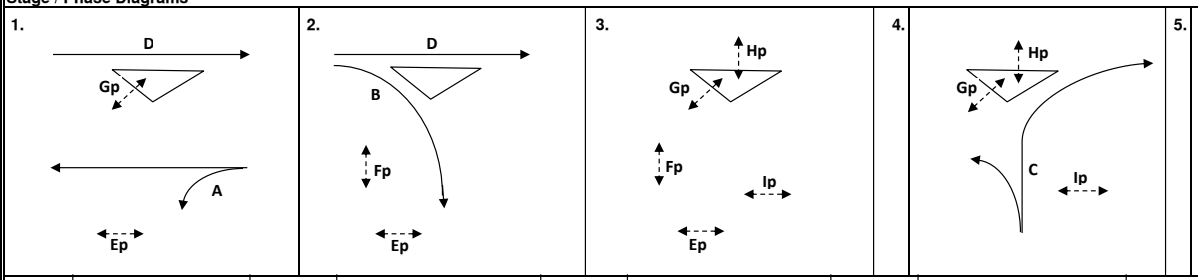
Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road EB																
↑	D	1,2	3.3						1945	1945	329	0.17		295	0.15	
↑	D	1,2	3.3						2085	2085	352	0.17		316	0.15	
↑	D	1,2	3.3						1045	1045	177	0.17		158	0.15	
↱	B	2	4.0		25				2035	2035	214	0.11	0.11	228	0.11	0.11
Tai Wai Road NB																
↰	C	4	3.3	10					845	845	113	0.13		125	0.15	
↑	C	4	3.3	15	50		24% / 76%	18% / 82%	1990	2000	268	0.13	0.13	297	0.15	0.15
Tai Po Road WB																
↰	A	1	3.7	10					1850	1850	134	0.07		185	0.10	
↑	A	1	3.7						2125	2125	288	0.14	0.14	257	0.12	
↑	A	1	3.7						2125	2125	287	0.14		258	0.12	0.12
↑	A	1	3.7						2125	2125	288	0.14		257	0.12	
Pedestrian Crossing																
	Ep	1,2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	2,3	MIN GREEN + FLASH =			10	+	14	=	24						
	Gp	1,3,4	MIN GREEN + FLASH =			5	+	5	=	10						
	Hp	3,4	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	3,4	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:

Flow: (pcu/hr)

Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.38	Sum of Critical *y*		0.38
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		78%	Reserve Capacity		73%

Stage / Phase Diagrams



I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	
I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	

Junction: Tai Po Road / Tai Wai Road

Junction No.: J02

TRAFFIC SIGNALS CALCULATION SHEET

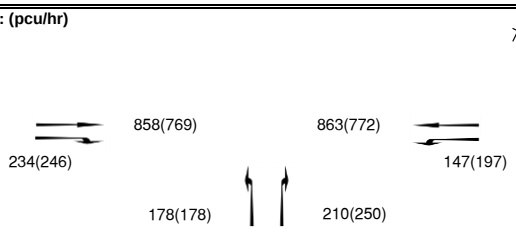
Junction: Tai Po Road / Tai Wai Road Junction No.: J02

Scenario: Design Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road EB																
↑	D	1,2	3.3						1945	1945	329	0.17		295	0.15	
↑	D	1,2	3.3						2085	2085	352	0.17		316	0.15	
↑	D	1,2	3.3						1045	1045	177	0.17		158	0.15	
↱	B	2	4.0		25				2035	2035	234	0.11	0.11	246	0.12	0.12
Tai Wai Road NB																
↰	C	4	3.3	10					845	845	116	0.14	0.14	127	0.15	
↑	C	4	3.3	15	50		23% / 77%	17% / 83%	1995	2000	272	0.14		301	0.15	0.15
Tai Po Road WB																
↰	A	1	3.7	10					1850	1850	147	0.08		197	0.11	
↑	A	1	3.7						2125	2125	288	0.14	0.14	257	0.12	
↑	A	1	3.7						2125	2125	287	0.14		258	0.12	0.12
↑	A	1	3.7						2125	2125	288	0.14		257	0.12	
Pedestrian Crossing																
	Ep	1,2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	2,3	MIN GREEN + FLASH =			10	+	14	=	24						
	Gp	1,3,4	MIN GREEN + FLASH =			5	+	5	=	10						
	Hp	3,4	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	3,4	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:

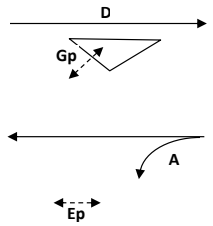
Flow: (pcu/hr)



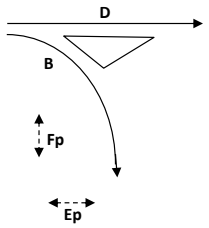
Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.39	Sum of Critical *y*		0.39
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		72%	Reserve Capacity		68%

Stage / Phase Diagrams

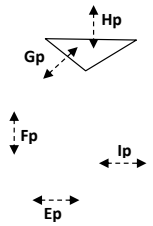
1.



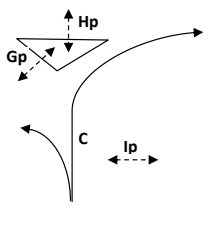
2.



3.



4.



5.

I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	
I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	

wsp

Junction: Tai Po Road / Tai Wai Road

Junction No.: J02

TRAFFIC SIGNALS CALCULATION SHEET

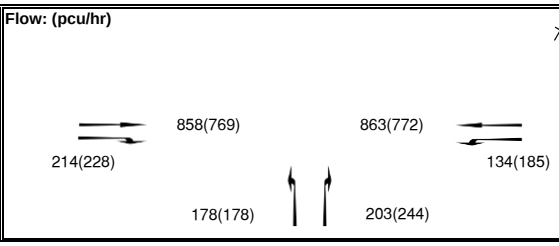
Junction: Tai Po Road / Tai Wai Road — Junction No.: J02

Scenario: Reference (Sensitivity for Illegal Parking Impact) — Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road EB																
↑	D	1,2	3.3						1945	1945	329	0.17		295	0.15	
↑	D	1,2	3.3						2085	2085	352	0.17		316	0.15	
↑	D	1,2	3.3						1045	1045	177	0.17		158	0.15	
↱	B	2	4.0		25				2035	2035	214	0.11	0.11	228	0.11	0.11
Tai Wai Road NB																
↑↓	C	4	3.3	15	50		47% / 53%	42% / 58%	1765	1770	381	0.22	0.22	422	0.24	0.24
Tai Po Road WB																
↰	A	1	3.7	10					1850	1850	134	0.07		185	0.10	
↑	A	1	3.7						2125	2125	288	0.14	0.14	257	0.12	
↑	A	1	3.7						2125	2125	287	0.14		258	0.12	0.12
↑	A	1	3.7						2125	2125	288	0.14		257	0.12	
Pedestrian Crossing																
	Ep	1,2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	2,3	MIN GREEN + FLASH =			10	+	14	=	24						
	Gp	1,3,4	MIN GREEN + FLASH =			5	+	5	=	10						
	Hp	3,4	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	3,4	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:
It is assumed that Tai Wai Road N/B is limited to 1 traffic lane due to illegal parking

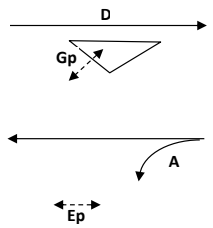
Flow: (pcu/hr)



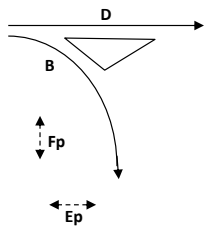
Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.46	Sum of Critical *y*		0.47
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		46%	Reserve Capacity		40%

Stage / Phase Diagrams

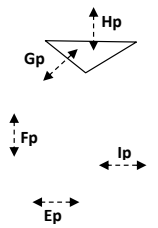
1.



2.

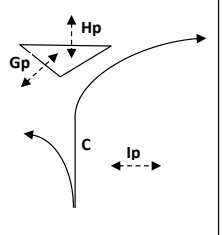


3.



4.

5.



I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	
I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	

wsp

Junction: Tai Po Road / Tai Wai Road

Junction No.: J02

TRAFFIC SIGNALS CALCULATION SHEET

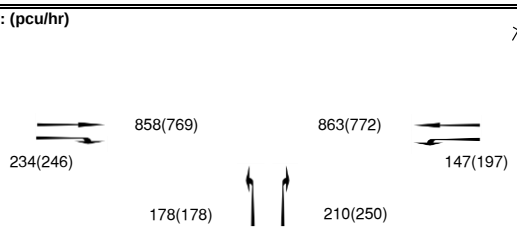
Junction: Tai Po Road / Tai Wai Road Junction No.: J02

Scenario: Design (Sensitivity for Illegal Parking Impact) Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road EB																
↑	D	1,2	3.3						1945	1945	329	0.17		295	0.15	
↑	D	1,2	3.3						2085	2085	352	0.17		316	0.15	
↑	D	1,2	3.3						1045	1045	177	0.17		158	0.15	
↱	B	2	4.0		25				2035	2035	234	0.11	0.11	246	0.12	0.12
Tai Wai Road NB																
↑↓	C	4	3.3	15	50		46% / 54%	42% / 58%	2160	2165	388	0.18	0.18	428	0.20	0.20
Tai Po Road WB																
↑	A	1	3.7	10					1850	1850	147	0.08		197	0.11	
↑	A	1	3.7						2125	2125	288	0.14	0.14	257	0.12	
↑	A	1	3.7						2125	2125	287	0.14		258	0.12	0.12
↑	A	1	3.7						2125	2125	288	0.14		257	0.12	
Pedestrian Crossing																
	Ep	1,2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	2,3	MIN GREEN + FLASH =			10	+	14	=	24						
	Gp	1,3,4	MIN GREEN + FLASH =			5	+	5	=	10						
	Hp	3,4	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	3,4	MIN GREEN + FLASH =			5	+	9	=	14						

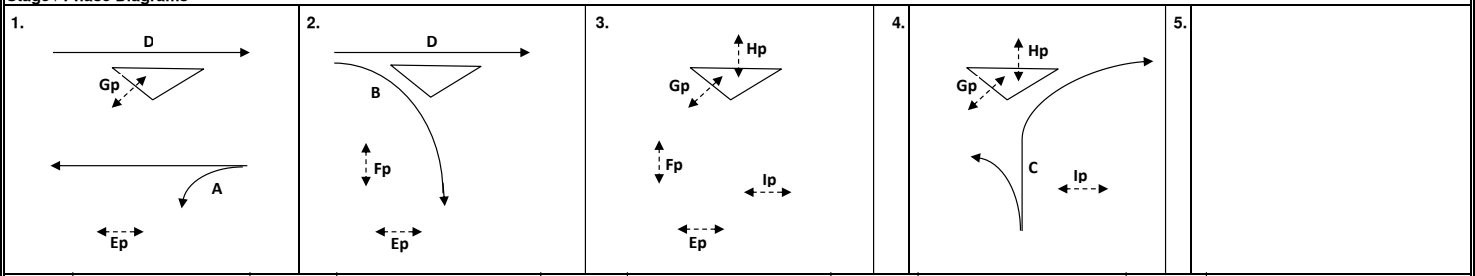
NOTES:
It is assumed that Tai Wai Road N/B is limited to 1 traffic lane due to illegal parking - though the situation will be further away from the intersection point resulting in higher saturation flow of the remaining N/B lane.

Flow: (pcu/hr)



Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.43	Sum of Critical *y*		0.44
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		55%	Reserve Capacity		50%

Stage / Phase Diagrams



I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	
I/G= 7		I/G= 5		I/G= 19		I/G= 2		I/G=	

wsp

Junction: Tai Po Road / Tai Wai Road

Junction No.: J02

Priority Junction Capacity Calculation

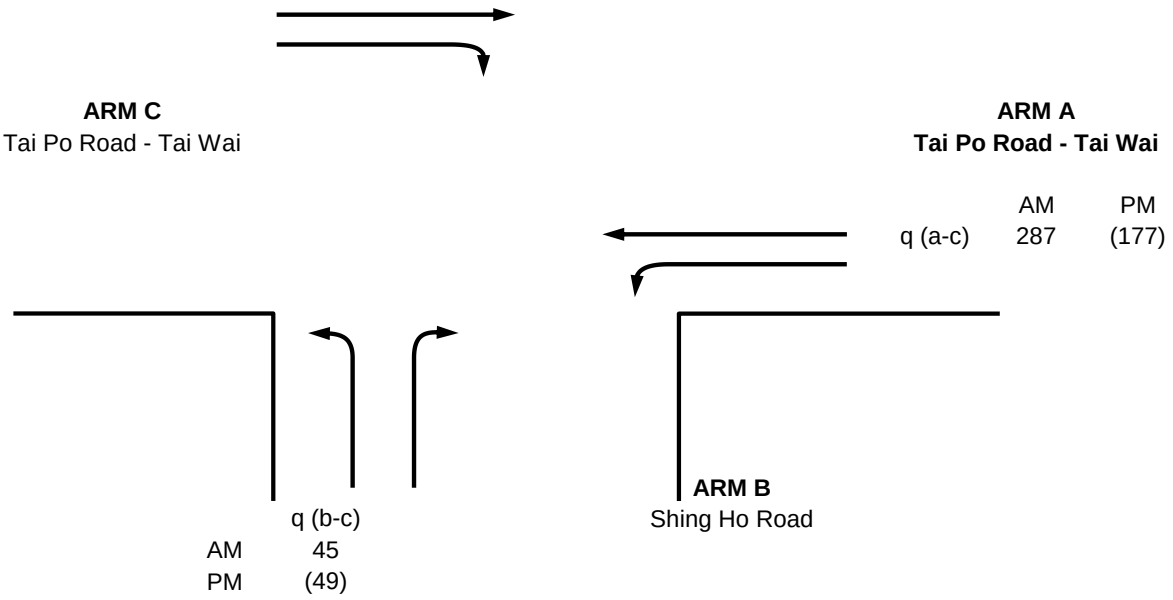
Junction : Tai Po Road / Shing Ho Road

Junction No. : J03

Scenario : Observe

Design Year : 2023

ARM A	Tai Po Road - Tai Wai
ARM B	Shing Ho Road
ARM C	Tai Po Road - Tai Wai



Geometry			Analysis						
Major Road Width	W	8.4	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			0		0
Residual Width	Wr(c-a)	0.0		q(c-b)			0		0
Lane Width	w(b-a)	3.3		q(a-b)			0		0
	w(b-c)	3.3		q(a-c)			287		177
	w(c-b)	0.0		q(b-a)			0		0
Visibilities				q(b-c)			45		49
	Vr(b-a)	27		f			1.00		1.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	27		Q(b-a)			444		466
	Vr(c-b)	0		Q(b-c)			592		617
Geometric Parameter				Q(c-b)			393		410
	D	0.802		Q(b-ac)			592		617
	E	0.882		Q(c-a)			1800		1800
	F	0.586	DFC's						
	Y	0.710		b-a			0.00		0.00
				b-ac			0.08		0.08
				c-b			0.00		0.00
				c-a			0.00		0.00
			Critical DFC				0.08		0.08

Priority Junction Capacity Calculation

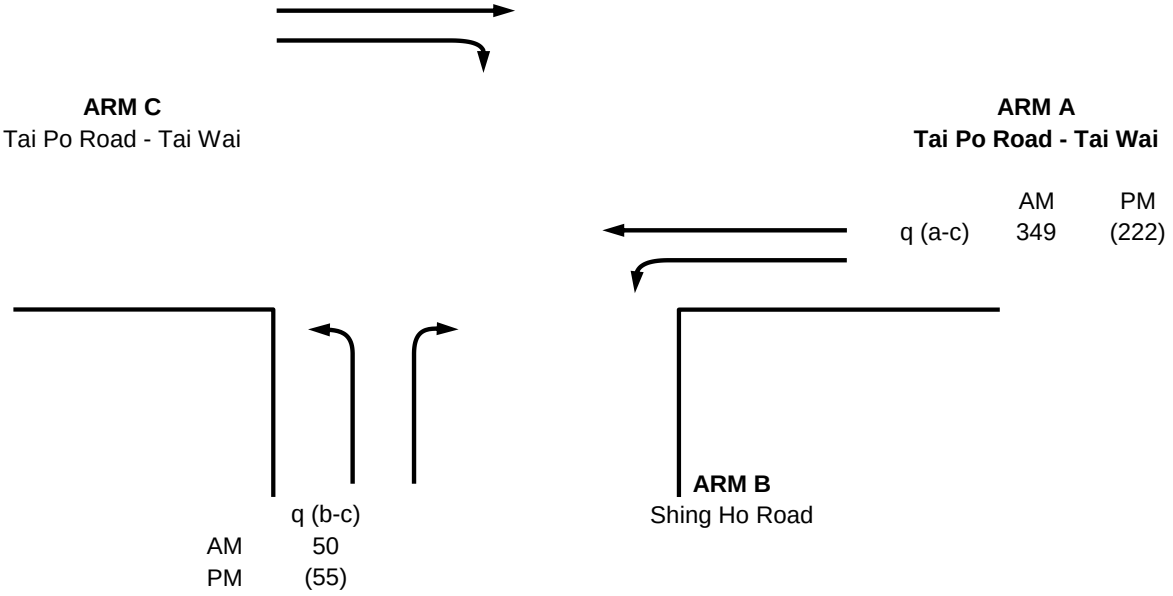
Junction : Tai Po Road / Shing Ho Road

Junction No. : J03

Scenario : Reference

Design Year : 2032

ARM A	Tai Po Road - Tai Wai
ARM B	Shing Ho Road
ARM C	Tai Po Road - Tai Wai



Geometry			Analysis						
Major Road Width	W	8.4	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			0		0
Residual Width	Wr(c-a)	0.0		q(c-b)			0		0
Lane Width	w(b-a)	3.3		q(a-b)			0		0
	w(b-c)	3.3		q(a-c)			349		222
	w(c-b)	0.0		q(b-a)			0		0
Visibilities				q(b-c)			50		55
	Vr(b-a)	27		f			1.00		1.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	27		Q(b-a)			431		457
	Vr(c-b)	0		Q(b-c)			577		606
Geometric Parameter				Q(c-b)			384		403
	D	0.802		Q(b-ac)			577		606
	E	0.882		Q(c-a)			1800		1800
	F	0.586	DFC's						
	Y	0.710		b-a			0.00		0.00
				b-ac			0.09		0.09
				c-b			0.00		0.00
				c-a			0.00		0.00
			Critical DFC				0.09		0.09

Priority Junction Capacity Calculation

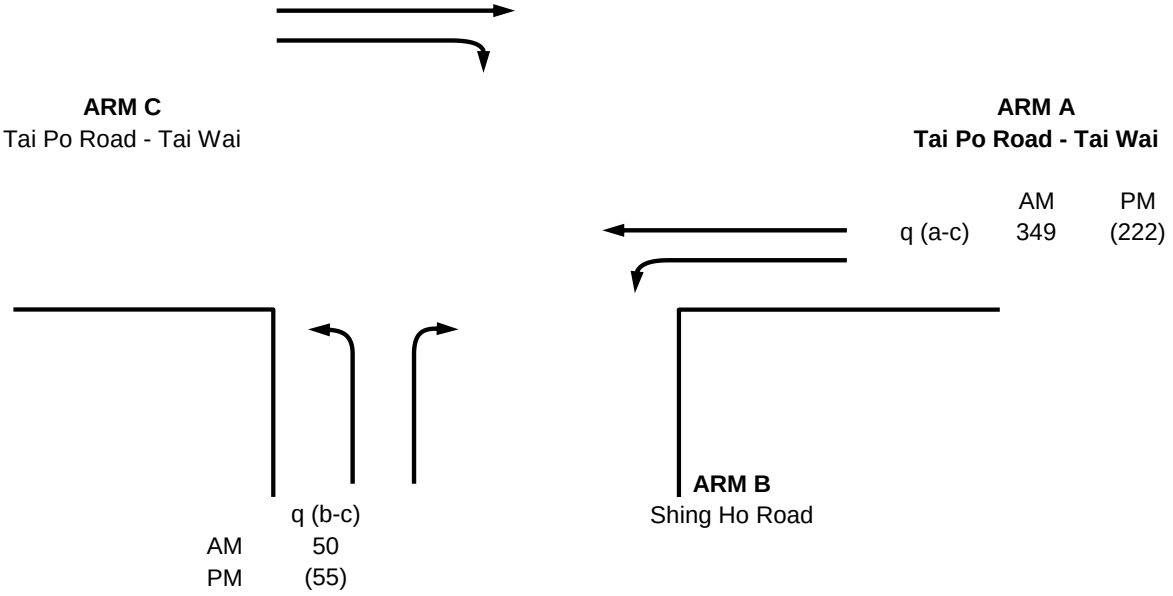
Junction : Tai Po Road / Shing Ho Road

Junction No. : J03

Scenario : Design

Design Year : 2032

ARM A	Tai Po Road - Tai Wai
ARM B	Shing Ho Road
ARM C	Tai Po Road - Tai Wai



Geometry			Analysis						
Major Road Width	W	8.4	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			0		0
Residual Width	Wr(c-a)	0.0		q(c-b)			0		0
Lane Width	w(b-a)	3.3		q(a-b)			0		0
	w(b-c)	3.3		q(a-c)			349		222
	w(c-b)	0.0		q(b-a)			0		0
Visibilities				q(b-c)			50		55
	Vr(b-a)	27		f			1.00		1.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	27		Q(b-a)			431		457
	Vr(c-b)	0		Q(b-c)			577		606
Geometric Parameter				Q(c-b)			384		403
	D	0.802		Q(b-ac)			577		606
	E	0.882		Q(c-a)			1800		1800
	F	0.586	DFC's						
	Y	0.710		b-a			0.00		0.00
				b-ac			0.09		0.09
				c-b			0.00		0.00
				c-a			0.00		0.00
			Critical DFC				0.09		0.09

Priority Junction Capacity Calculation

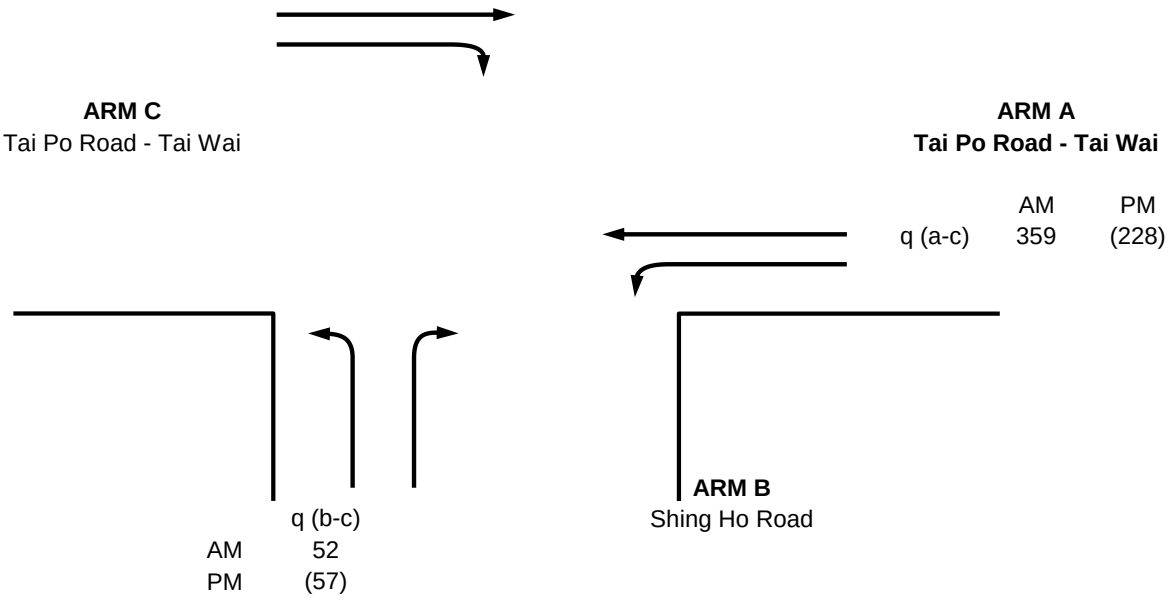
Junction : Tai Po Road / Shing Ho Road

Junction No. : J03

Scenario : Reference

Design Year : 2035

ARM A	Tai Po Road - Tai Wai
ARM B	Shing Ho Road
ARM C	Tai Po Road - Tai Wai



Geometry			Analysis						
Major Road Width	W	8.4	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			0		0
Residual Width	Wr(c-a)	0.0		q(c-b)			0		0
Lane Width	w(b-a)	3.3		q(a-b)			0		0
	w(b-c)	3.3		q(a-c)			359		228
	w(c-b)	0.0		q(b-a)			0		0
Visibilities				q(b-c)			52		57
	Vr(b-a)	27		f			1.00		1.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	27		Q(b-a)			429		456
	Vr(c-b)	0		Q(b-c)			575		605
Geometric Parameter				Q(c-b)			382		402
	D	0.802		Q(b-ac)			575		605
	E	0.882		Q(c-a)			1800		1800
	F	0.586	DFC's						
	Y	0.710		b-a			0.00		0.00
				b-ac			0.09		0.09
				c-b			0.00		0.00
				c-a			0.00		0.00
			Critical DFC				0.09		0.09

Priority Junction Capacity Calculation

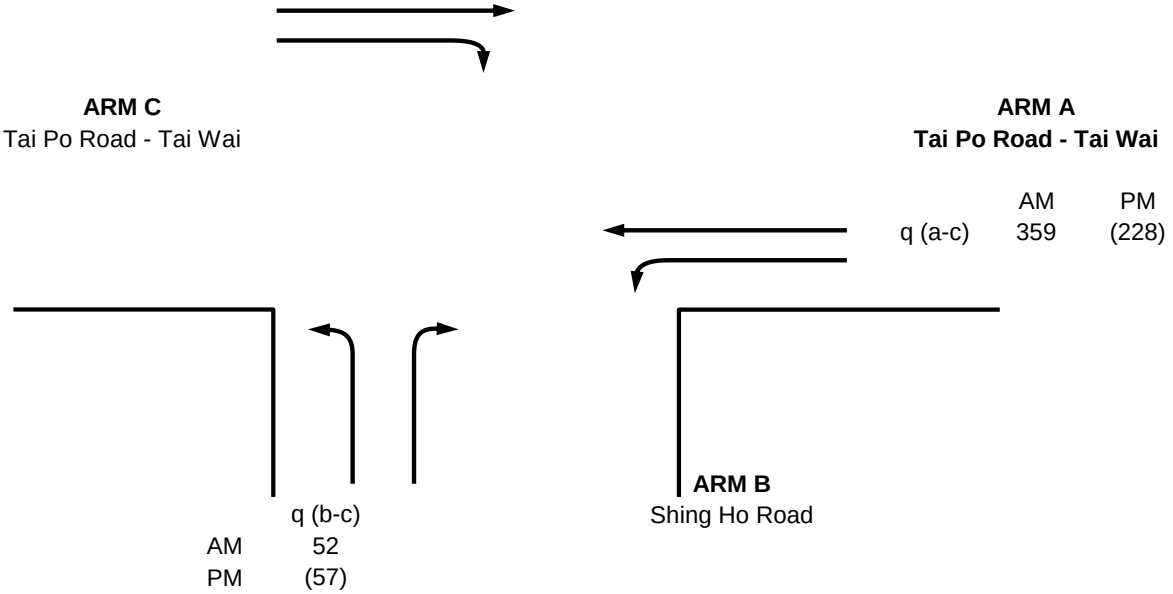
Junction : Tai Po Road / Shing Ho Road

Junction No. : J03

Scenario : Design

Design Year : 2035

ARM A	Tai Po Road - Tai Wai
ARM B	Shing Ho Road
ARM C	Tai Po Road - Tai Wai



Geometry			Analysis						
Major Road Width	W	8.4	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			0		0
Residual Width	Wr(c-a)	0.0		q(c-b)			0		0
Lane Width	w(b-a)	3.3		q(a-b)			0		0
	w(b-c)	3.3		q(a-c)			359		228
	w(c-b)	0.0		q(b-a)			0		0
Visibilities				q(b-c)			52		57
	Vr(b-a)	27		f			1.00		1.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	27		Q(b-a)			429		456
	Vr(c-b)	0		Q(b-c)			575		605
Geometric Parameter				Q(c-b)			382		402
	D	0.802		Q(b-ac)			575		605
	E	0.882		Q(c-a)			1800		1800
	F	0.586	DFC's						
	Y	0.710		b-a			0.00		0.00
				b-ac			0.09		0.09
				c-b			0.00		0.00
				c-a			0.00		0.00
			Critical DFC				0.09		0.09

TRAFFIC SIGNALS CALCULATION SHEET

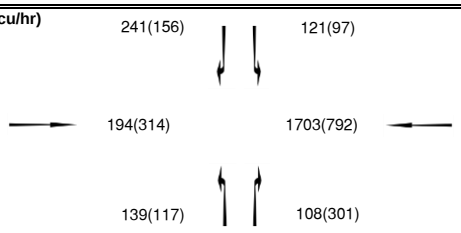
Junction: Tai Po Road / Shing Chuen Road Junction No.: J04

Scenario: Observe Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road - Tai Wai EB																
↑	B	1	3.4						2095	2095	97	0.05		157	0.07	
↑	B	1	3.4						2095	2095	97	0.05		157	0.07	
Shing Chuen Road NB																
↰	D	3	3.6	20					1285	1285	67	0.05	0.05	56	0.04	
↰	D	3	3.6	25					1395	1395	72	0.05		61	0.04	
↱	D	3	3.6		25				1595	1595	48	0.03		135	0.08	0.08
↱	D	3	3.6		20				1965	1965	60	0.03		166	0.08	
Tai Po Road - Tai Wai WB																
↑	A	1	3.4						2095	2095	852	0.41	0.41	396	0.19	0.19
↑	A	1	3.4						2095	2095	851	0.41		396	0.19	
Chung Ling Road SB																
↰	C	2	3.2	10					1180	1180	57	0.05		46	0.04	
↰	C	2	3.2	15					1320	1320	64	0.05		51	0.04	
↱	C	2	3.2		15				1510	1510	123	0.08		80	0.05	0.05
↱	C	2	3.2		10				1445	1445	118	0.08	0.08	76	0.05	
Pedestrian Crossing																
	Ep	1,3	MIN GREEN + FLASH =			5	+	17	=	22						
	Fp	1,2	MIN GREEN + FLASH =			5	+	18	=	23						

NOTES:

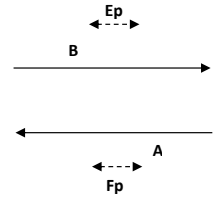
Flow: (pcu/hr)



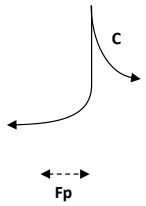
Group		A,C,D	Group		A,C,D
Sum of Critical *y*		0.54	Sum of Critical *y*		0.33
Lost Time ***L*** (sec)		20	Lost Time ***L*** (sec)		20
Cycle Time ***c*** (sec)		100	Cycle Time ***c*** (sec)		90
Practical *Y* ***Ypr***		0.72	Practical *Y* ***Ypr***		0.70
Reserve Capacity		33%	Reserve Capacity		>100%

Stage / Phase Diagrams

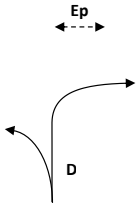
1.



2.



3.



4.

5.

I/G= 10		I/G= 6		I/G= 7		I/G=		I/G=	
I/G= 10		I/G= 6		I/G= 7		I/G=		I/G=	

Junction: Tai Po Road / Shing Chuen Road

Junction No.: J04

TRAFFIC SIGNALS CALCULATION SHEET

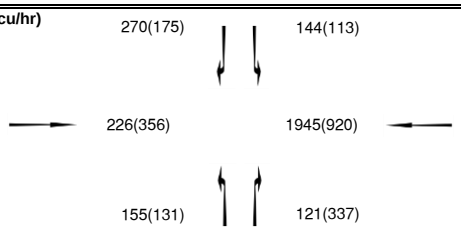
Junction: Tai Po Road / Shing Chuen Road Junction No.: J04

Scenario: Reference Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road - Tai Wai EB																
↑	B	1	3.4						2095	2095	113	0.05		178	0.08	
↑	B	1	3.4						2095	2095	113	0.05		178	0.08	
Shing Chuen Road NB																
↰	D	3	3.6	20					1285	1285	74	0.06		63	0.05	
↰	D	3	3.6	25					1395	1395	81	0.06	0.06	68	0.05	
↱	D	3	3.6		25				1595	1595	54	0.03		151	0.09	0.09
↱	D	3	3.6		20				1965	1965	67	0.03		186	0.09	
Tai Po Road - Tai Wai WB																
↑	A	1	3.4						2095	2095	973	0.46	0.46	460	0.22	0.22
↑	A	1	3.4						2095	2095	972	0.46		460	0.22	
Chung Ling Road SB																
↰	C	2	3.2	10					1180	1180	68	0.06		53	0.04	
↰	C	2	3.2	15					1320	1320	76	0.06		60	0.05	
↱	C	2	3.2		15				1510	1510	138	0.09	0.09	89	0.06	
↱	C	2	3.2		10				1445	1445	132	0.09		86	0.06	0.06
Pedestrian Crossing																
	Ep	1,3	MIN GREEN + FLASH =			5	+	17	=	22						
	Fp	1,2	MIN GREEN + FLASH =			5	+	18	=	23						

NOTES:

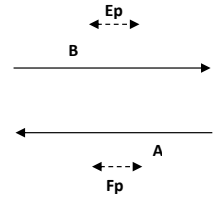
Flow: (pcu/hr)



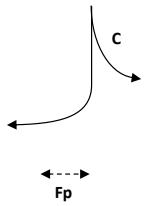
Group		A,C,D	Group		A,C,D
Sum of Critical *y*		0.61	Sum of Critical *y*		0.37
Lost Time ***L*** (sec)		20	Lost Time ***L*** (sec)		20
Cycle Time ***c*** (sec)		100	Cycle Time ***c*** (sec)		90
Practical *Y* ***Ypr***		0.72	Practical *Y* ***Ypr***		0.70
Reserve Capacity		17%	Reserve Capacity		87%

Stage / Phase Diagrams

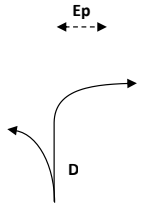
1.



2.



3.



4.

5.

I/G= 10		I/G= 6		I/G= 7		I/G=		I/G=	
I/G= 10		I/G= 6		I/G= 7		I/G=		I/G=	

Junction: Tai Po Road / Shing Chuen Road

Junction No.: J04

TRAFFIC SIGNALS CALCULATION SHEET

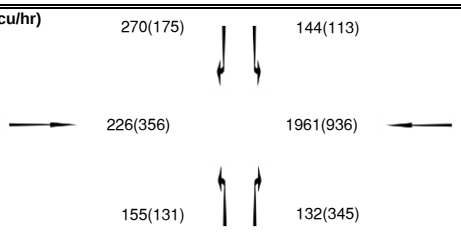
Junction: Tai Po Road / Shing Chuen Road Junction No.: J04

Scenario: Design Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road - Tai Wai EB																
↑	B	1	3.4						2095	2095	113	0.05		178	0.08	
↑	B	1	3.4						2095	2095	113	0.05		178	0.08	
Shing Chuen Road NB																
↰	D	3	3.6	20					1285	1285	74	0.06		63	0.05	
↰	D	3	3.6	25					1395	1395	81	0.06	0.06	68	0.05	
↱	D	3	3.6		25				1595	1595	59	0.04		155	0.10	0.10
↱	D	3	3.6		20				1965	1965	73	0.04		190	0.10	
Tai Po Road - Tai Wai WB																
↑	A	1	3.4						2095	2095	981	0.47	0.47	468	0.22	0.22
↑	A	1	3.4						2095	2095	980	0.47		468	0.22	
Chung Ling Road SB																
↰	C	2	3.2	10					1180	1180	68	0.06		53	0.04	
↰	C	2	3.2	15					1320	1320	76	0.06		60	0.05	
↱	C	2	3.2		15				1510	1510	138	0.09	0.09	89	0.06	
↱	C	2	3.2		10				1445	1445	132	0.09		86	0.06	0.06
Pedestrian Crossing																
	Ep	1,3	MIN GREEN + FLASH =			5	+	17	=	22						
	Fp	1,2	MIN GREEN + FLASH =			5	+	18	=	23						

NOTES:

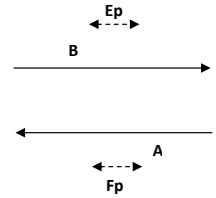
Flow: (pcu/hr)



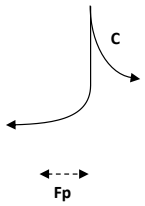
Group		A,C,D	Group		A,C,D
Sum of Critical *y*		0.62	Sum of Critical *y*		0.38
Lost Time ***L*** (sec)		20	Lost Time ***L*** (sec)		20
Cycle Time ***c*** (sec)		100	Cycle Time ***c*** (sec)		90
Practical *Y* ***Ypr***		0.72	Practical *Y* ***Ypr***		0.70
Reserve Capacity		17%	Reserve Capacity		84%

Stage / Phase Diagrams

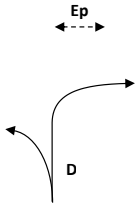
1.



2.



3.



4.

5.

I/G= 10		I/G= 6		I/G= 7		I/G=		I/G=	
I/G= 10		I/G= 6		I/G= 7		I/G=		I/G=	

Junction: Tai Po Road / Shing Chuen Road

Junction No.: J04

TRAFFIC SIGNALS CALCULATION SHEET

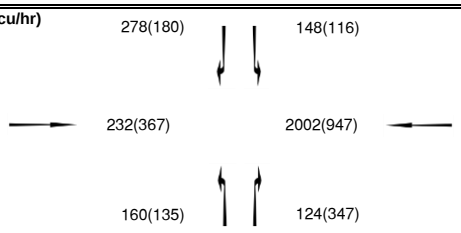
Junction: Tai Po Road / Shing Chuen Road Junction No.: J04

Scenario: Reference Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road - Tai Wai EB																
↑	B	1	3.4						2095	2095	116	0.06		184	0.09	
↑	B	1	3.4						2095	2095	116	0.06		183	0.09	
Shing Chuen Road NB																
↰	D	3	3.6	20					1285	1285	77	0.06	0.06	65	0.05	
↰	D	3	3.6	25					1395	1395	83	0.06		70	0.05	
↱	D	3	3.6		25				1595	1595	56	0.04		155	0.10	
↱	D	3	3.6		20				1965	1965	68	0.03		192	0.10	0.10
Tai Po Road - Tai Wai WB																
↑	A	1	3.4						2095	2095	1001	0.48	0.48	474	0.23	0.23
↑	A	1	3.4						2095	2095	1001	0.48		473	0.23	
Chung Ling Road SB																
↰	C	2	3.2	10					1180	1180	70	0.06		55	0.05	
↰	C	2	3.2	15					1320	1320	78	0.06		61	0.05	
↱	C	2	3.2		15				1510	1510	142	0.09		92	0.06	0.06
↱	C	2	3.2		10				1445	1445	136	0.09	0.09	88	0.06	
Pedestrian Crossing																
	Ep	1,3	MIN GREEN + FLASH =			5	+	17	=	22						
	Fp	1,2	MIN GREEN + FLASH =			5	+	18	=	23						

NOTES:

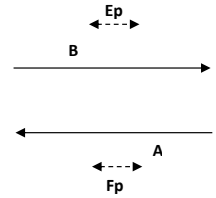
Flow: (pcu/hr)



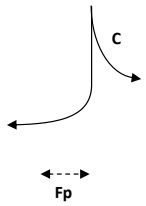
Group		A,C,D	Group		A,C,D
Sum of Critical *y*		0.63	Sum of Critical *y*		0.38
Lost Time ***L*** (sec)		20	Lost Time ***L*** (sec)		20
Cycle Time ***c*** (sec)		100	Cycle Time ***c*** (sec)		90
Practical *Y* ***Ypr***		0.72	Practical *Y* ***Ypr***		0.70
Reserve Capacity		14%	Reserve Capacity		82%

Stage / Phase Diagrams

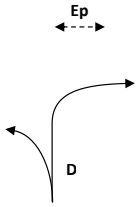
1.



2.



3.



4.

5.

I/G= 10		I/G= 6		I/G= 7		I/G=		I/G=	
I/G= 10		I/G= 6		I/G= 7		I/G=		I/G=	

Junction: Tai Po Road / Shing Chuen Road

Junction No.: J04

TRAFFIC SIGNALS CALCULATION SHEET

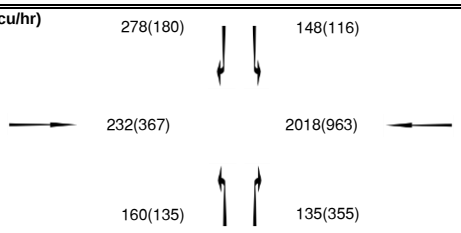
Junction: Tai Po Road / Shing Chuen Road Junction No.: J04

Scenario: Design Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tai Po Road - Tai Wai EB																
↑	B	1	3.4						2095	2095	116	0.06		184	0.09	
↑	B	1	3.4						2095	2095	116	0.06		183	0.09	
Shing Chuen Road NB																
↰	D	3	3.6	20					1285	1285	77	0.06	0.06	65	0.05	
↰	D	3	3.6	25					1395	1395	83	0.06		70	0.05	
↱	D	3	3.6		25				1595	1595	60	0.04		159	0.10	
↱	D	3	3.6		20				1965	1965	75	0.04		196	0.10	0.10
Tai Po Road - Tai Wai WB																
↑	A	1	3.4						2095	2095	1009	0.48	0.48	482	0.23	0.23
↑	A	1	3.4						2095	2095	1009	0.48		481	0.23	
Chung Ling Road SB																
↰	C	2	3.2	10					1180	1180	70	0.06		55	0.05	
↰	C	2	3.2	15					1320	1320	78	0.06		61	0.05	
↱	C	2	3.2		15				1510	1510	142	0.09		92	0.06	0.06
↱	C	2	3.2		10				1445	1445	136	0.09	0.09	88	0.06	
Pedestrian Crossing																
	Ep	1,3	MIN GREEN + FLASH =			5	+	17	=	22						
	Fp	1,2	MIN GREEN + FLASH =			5	+	18	=	23						

NOTES:

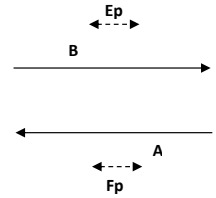
Flow: (pcu/hr)



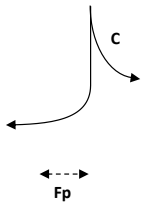
Group		A,C,D	Group		A,C,D
Sum of Critical *y*		0.64	Sum of Critical *y*		0.39
Lost Time ***L*** (sec)		20	Lost Time ***L*** (sec)		20
Cycle Time ***c*** (sec)		100	Cycle Time ***c*** (sec)		90
Practical *Y* ***Ypr***		0.72	Practical *Y* ***Ypr***		0.70
Reserve Capacity		13%	Reserve Capacity		79%

Stage / Phase Diagrams

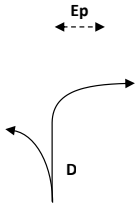
1.



2.



3.



4.

5.

I/G= 10		I/G= 6		I/G= 7		I/G=		I/G=	
I/G= 10		I/G= 6		I/G= 7		I/G=		I/G=	

Junction: Tai Po Road / Shing Chuen Road

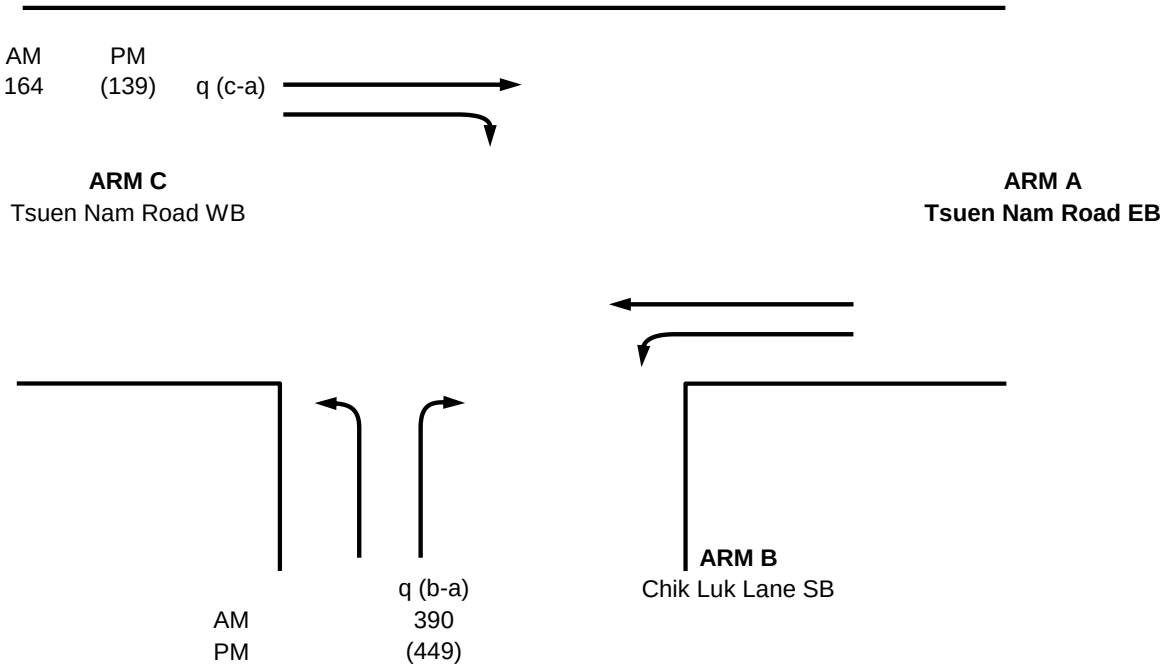
Junction No.: J04

Priority Junction Capacity Calculation

Junction : Tsuen Nam Road / Chik Luk Lane Junction No. : J05

Scenario : Observe Design Year : 2023

ARM A	Tsuen Nam Road EB
ARM B	Chik Luk Lane SB
ARM C	Tsuen Nam Road WB



Geometry			Analysis					
Major Road Width	W	10.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		164		139
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	5.0		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		390		449
Visibilities				q(b-c)		0		0
	Vr(b-a)	30		f		0.00		0.00
	Vl(b-a)	70	Capacities					
	Vr(b-c)	30		Q(b-a)		594		598
	Vr(c-b)	200		Q(b-c)		450		450
Geometric Parameter				Q(c-b)		525		525
	D	0.986		Q(b-ac)		594		598
	E	0.604		Q(c-a)		1800		1800
	F	0.704	DFC's					
	Y	0.655		b-a		0.66		0.75
				b-c		0.00		0.00
				c-b		0.00		0.00
				c-a		0.09		0.08
			Critical DFC			0.66		0.75

Priority Junction Capacity Calculation

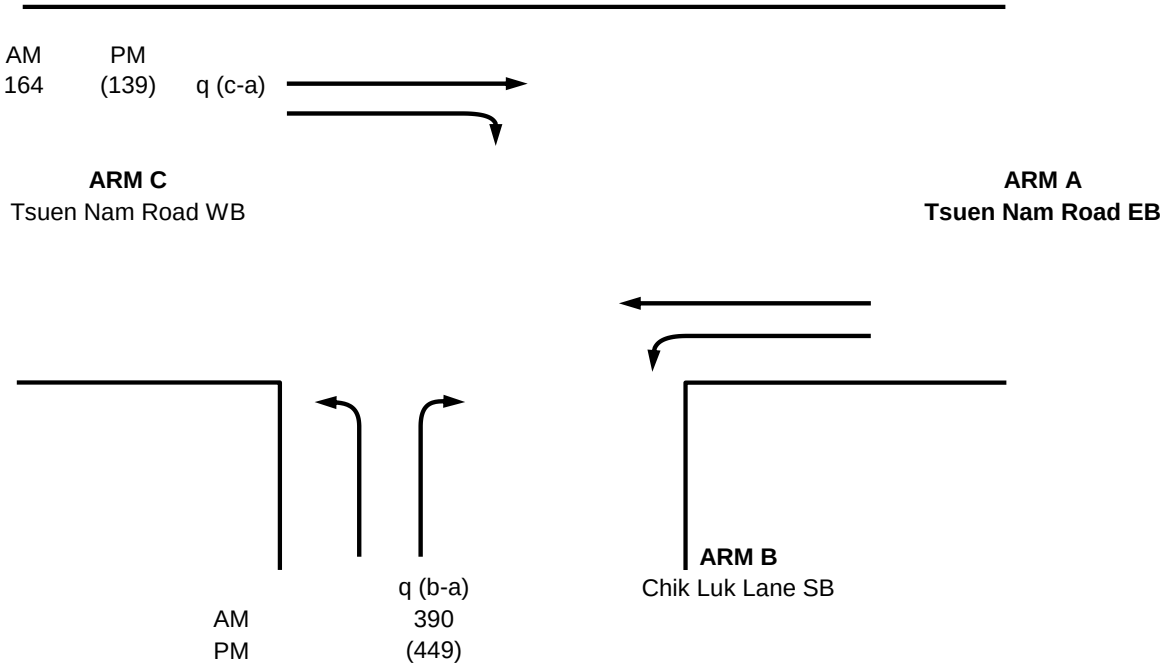
Junction : Tsuen Nam Road / Chik Luk Lane

Junction No. : J05

Scenario : Observe (With Illegal Parking Impact)

Design Year : 2023

ARM A	Tsuen Nam Road EB
ARM B	Chik Luk Lane SB
ARM C	Tsuen Nam Road WB



Geometry			Analysis					
Major Road Width	W	10.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		164		139
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	3.0		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		390		449
Visibilities				q(b-c)		0		0
	Vr(b-a)	30		f		0.00		0.00
	Vl(b-a)	70	Capacities					
	Vr(b-c)	30		Q(b-a)		495		498
	Vr(c-b)	200		Q(b-c)		450		450
Geometric Parameter				Q(c-b)		525		525
	D	0.821		Q(b-ac)		495		498
	E	0.604		Q(c-a)		1800		1800
	F	0.704	DFC's					
	Y	0.655		b-a		0.79		0.90
				b-c		0.00		0.00
				c-b		0.00		0.00
				c-a		0.09		0.08
			Critical DFC			0.79		0.90

Priority Junction Capacity Calculation

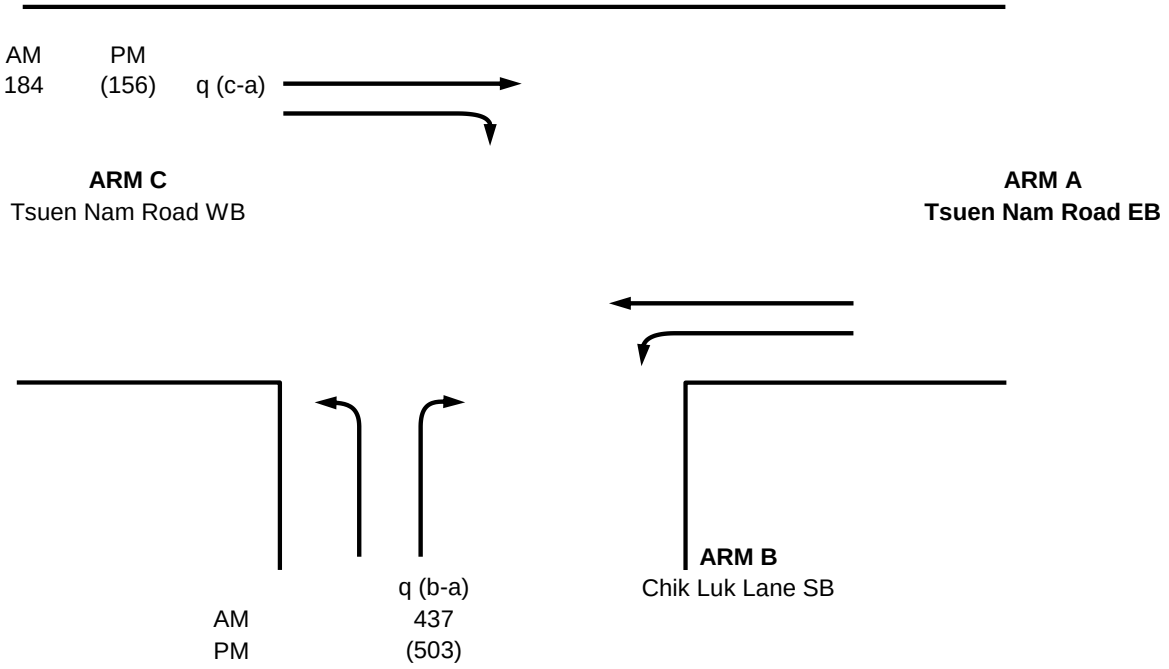
Junction : Tsuen Nam Road / Chik Luk Lane

Junction No. : J05

Scenario : Reference

Design Year : 2032

ARM A	Tsuen Nam Road EB
ARM B	Chik Luk Lane SB
ARM C	Tsuen Nam Road WB



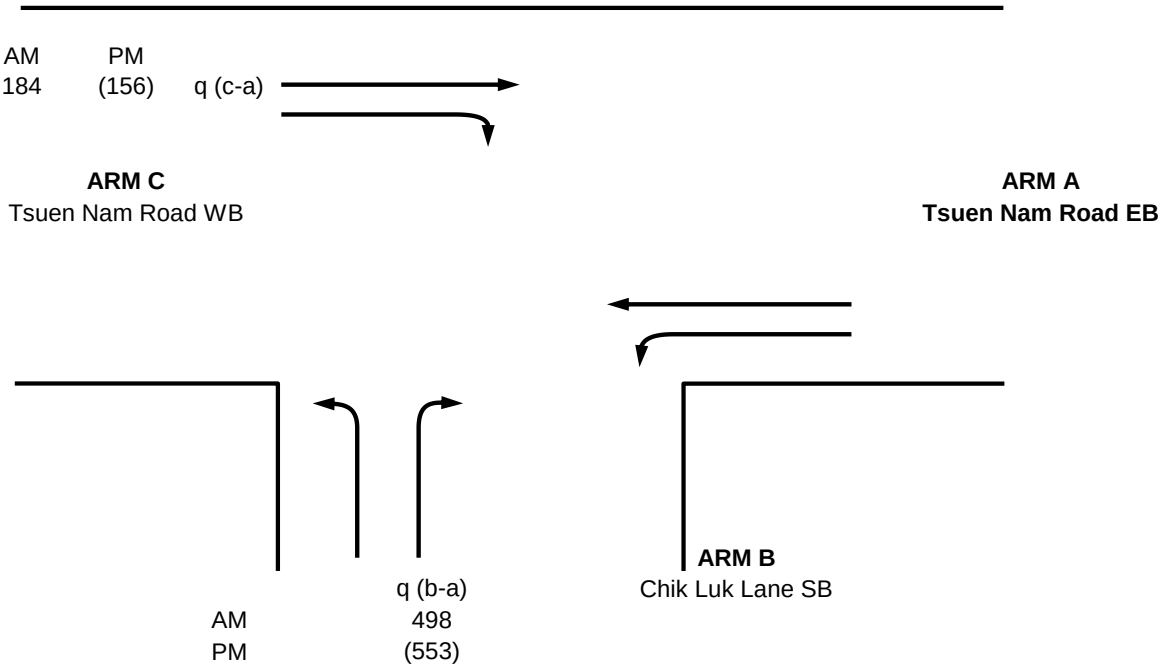
Geometry			Analysis					
Major Road Width	W	10.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		184		156
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	5.0		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		437		503
Visibilities				q(b-c)		0		0
	Vr(b-a)	30		f		0.00		0.00
	Vl(b-a)	70	Capacities					
	Vr(b-c)	30		Q(b-a)		591		595
	Vr(c-b)	200		Q(b-c)		450		450
Geometric Parameter				Q(c-b)		525		525
	D	0.986		Q(b-ac)		591		595
	E	0.604		Q(c-a)		1800		1800
	F	0.704	DFC's					
	Y	0.655		b-a		0.74		0.85
				b-c		0.00		0.00
				c-b		0.00		0.00
				c-a		0.10		0.09
			Critical DFC			0.74		0.85

Priority Junction Capacity Calculation

Junction : Tsuen Nam Road / Chik Luk Lane Junction No. : J05

Scenario : Design Design Year : 2032

ARM A	Tsuen Nam Road EB
ARM B	Chik Luk Lane SB
ARM C	Tsuen Nam Road WB



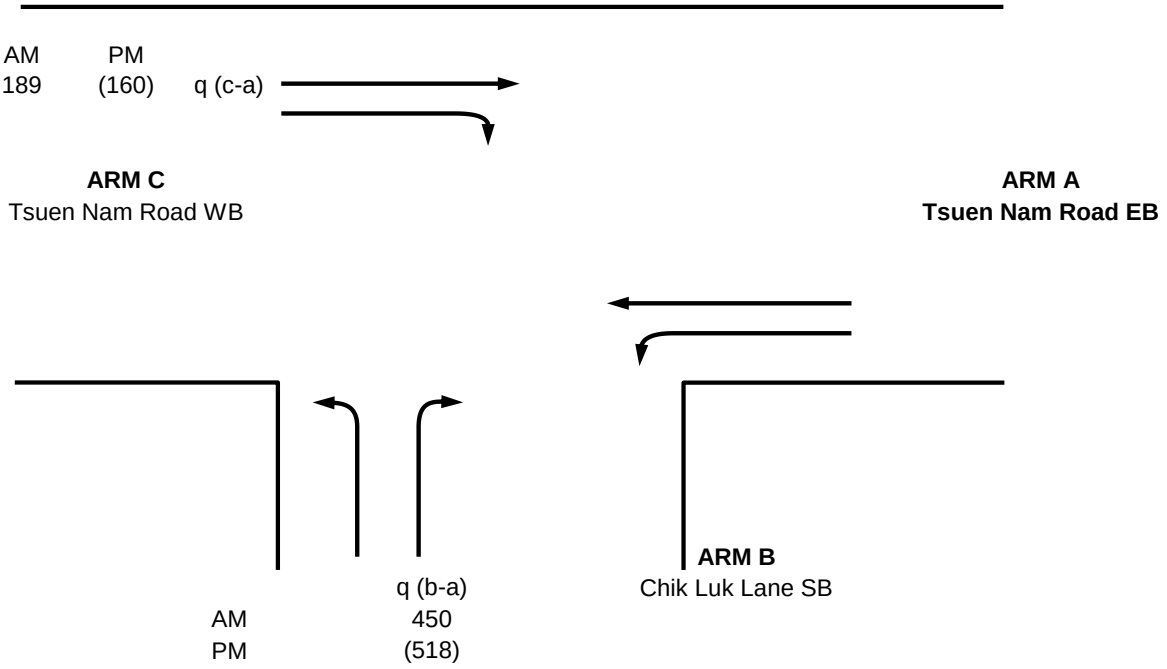
Geometry			Analysis						
Major Road Width	W	10.0	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			184		156
Residual Width	Wr(c-a)	0.0		q(c-b)			0		0
Lane Width	w(b-a)	5.0		q(a-b)			0		0
	w(b-c)	0.0		q(a-c)			0		0
	w(c-b)	0.0		q(b-a)			498		553
Visibilities				q(b-c)			0		0
	Vr(b-a)	30		f			0.00		0.00
	Vl(b-a)	70	Capacities						
	Vr(b-c)	30		Q(b-a)			591		595
	Vr(c-b)	200		Q(b-c)			450		450
Geometric Parameter				Q(c-b)			525		525
	D	0.986		Q(b-ac)			591		595
	E	0.604		Q(c-a)			1800		1800
	F	0.704	DFC's						
	Y	0.655		b-a			0.84		0.93
				b-c			0.00		0.00
				c-b			0.00		0.00
				c-a			0.10		0.09
			Critical DFC				0.84		0.93

Priority Junction Capacity Calculation

Junction : Tsuen Nam Road / Chik Luk Lane Junction No. : J05

Scenario : Reference Design Year : 2035

ARM A	Tsuen Nam Road EB
ARM B	Chik Luk Lane SB
ARM C	Tsuen Nam Road WB



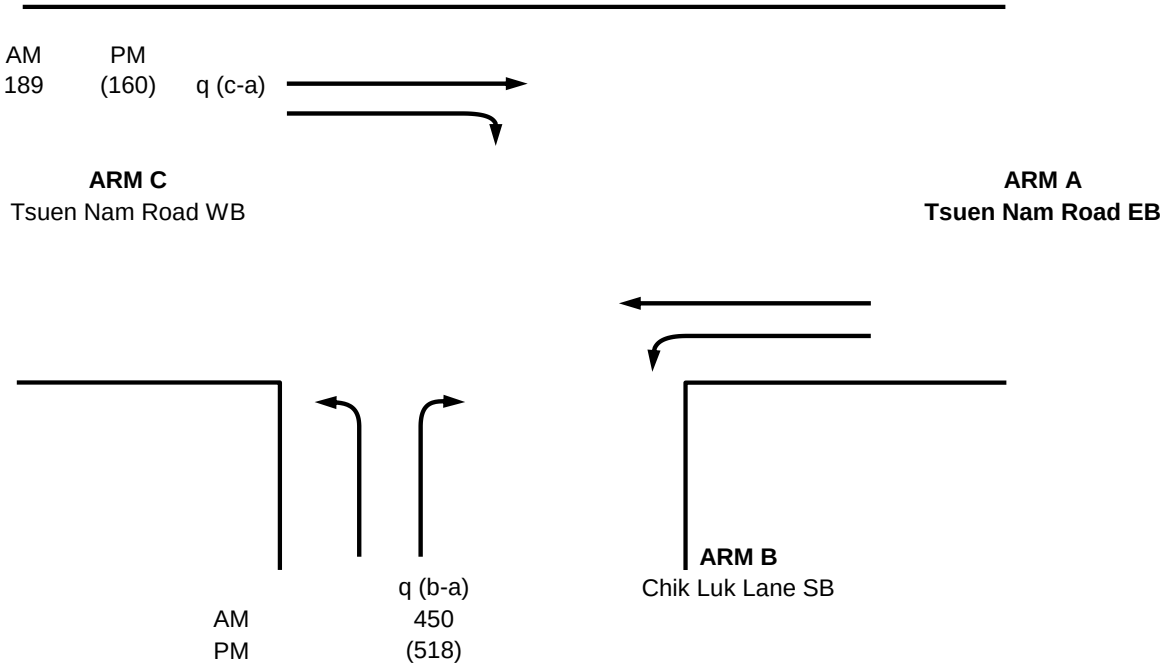
Geometry			Analysis			AM		PM
Major Road Width	W	10.0	Traffic flows					
Central Reserve Width	Wcr	0		q(c-a)		189		160
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	5.0		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		450		518
Visibilities				q(b-c)		0		0
	Vr(b-a)	30		f		0.00		0.00
	Vl(b-a)	70	Capacities					
	Vr(b-c)	30		Q(b-a)		590		595
	Vr(c-b)	200		Q(b-c)		450		450
Geometric Parameter				Q(c-b)		525		525
	D	0.986		Q(b-ac)		590		595
	E	0.604		Q(c-a)		1800		1800
	F	0.704	DFC's					
	Y	0.655		b-a		0.76		0.87
				b-c		0.00		0.00
				c-b		0.00		0.00
				c-a		0.11		0.09
			Critical DFC			0.76		0.87

Priority Junction Capacity Calculation

Junction : Tsuen Nam Road / Chik Luk Lane Junction No. : J05

Scenario : Reference (Sensitivity for Illegal Parking Impact) Design Year : 2035

ARM A	Tsuen Nam Road EB
ARM B	Chik Luk Lane SB
ARM C	Tsuen Nam Road WB



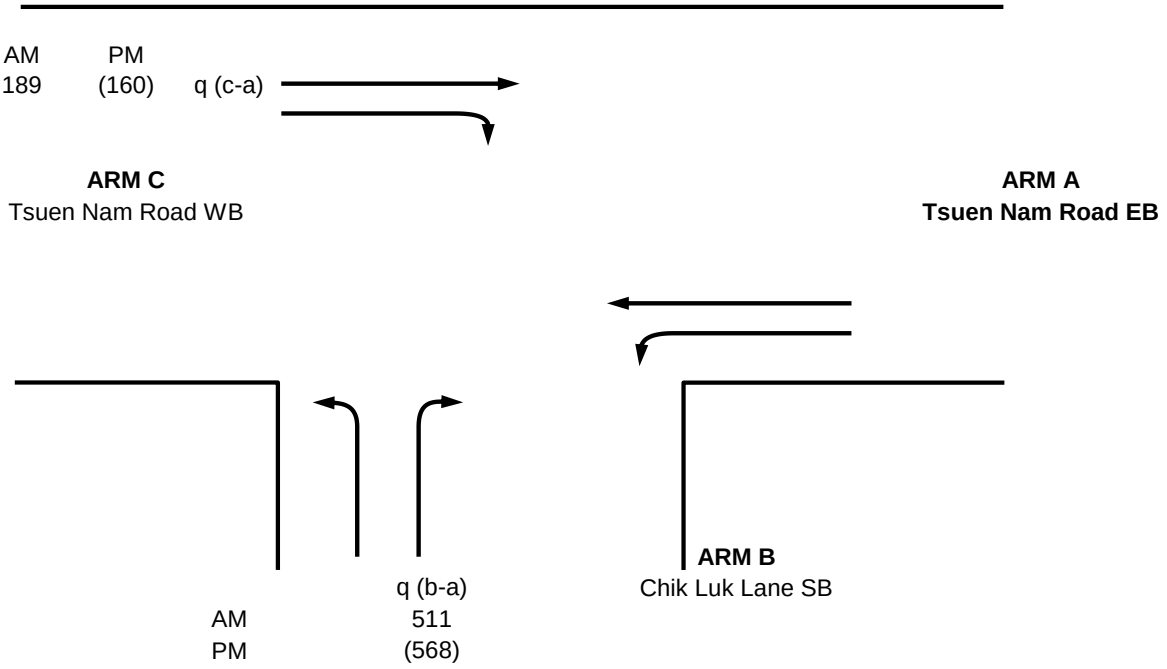
Geometry			Analysis					
Major Road Width	W	10.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		189		160
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	3.0		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		450		518
Visibilities				q(b-c)		0		0
	Vr(b-a)	30		f		0.00		0.00
	Vl(b-a)	70	Capacities					
	Vr(b-c)	30		Q(b-a)		492		495
	Vr(c-b)	200		Q(b-c)		450		450
Geometric Parameter				Q(c-b)		525		525
	D	0.821		Q(b-ac)		492		495
	E	0.604		Q(c-a)		1800		1800
	F	0.704	DFC's					
	Y	0.655		b-a		0.92		1.05
				b-c		0.00		0.00
				c-b		0.00		0.00
				c-a		0.11		0.09
			Critical DFC			0.92		1.05

Priority Junction Capacity Calculation

Junction : Tsuen Nam Road / Chik Luk Lane Junction No. : J05

Scenario : Design Design Year : 2035

ARM A	Tsuen Nam Road EB
ARM B	Chik Luk Lane SB
ARM C	Tsuen Nam Road WB



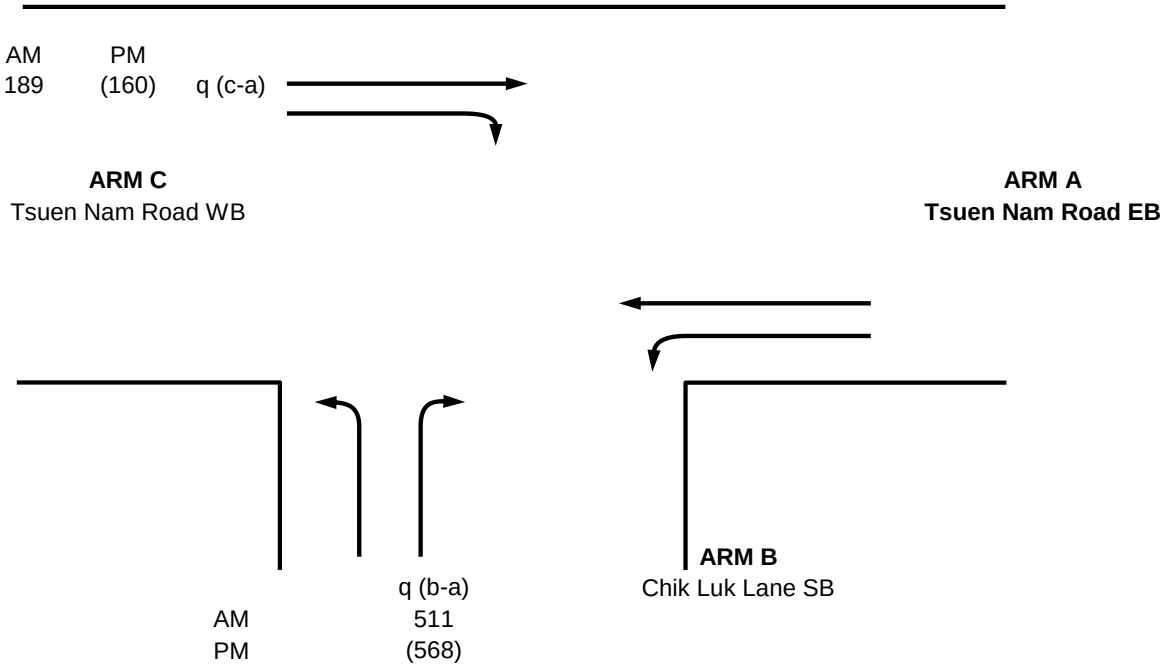
Geometry			Analysis					
Major Road Width	W	10.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		189		160
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	5.0		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		511		568
Visibilities				q(b-c)		0		0
	Vr(b-a)	30		f		0.00		0.00
	Vl(b-a)	70	Capacities					
	Vr(b-c)	30		Q(b-a)		590		595
	Vr(c-b)	200		Q(b-c)		450		450
Geometric Parameter				Q(c-b)		525		525
	D	0.986		Q(b-ac)		590		595
	E	0.604		Q(c-a)		1800		1800
	F	0.704	DFC's					
	Y	0.655		b-a		0.87		0.96
				b-c		0.00		0.00
				c-b		0.00		0.00
				c-a		0.11		0.09
			Critical DFC			0.87		0.96

Priority Junction Capacity Calculation

Junction : Tsuen Nam Road / Chik Luk Lane Junction No. : J05

Scenario : Design (Sensitivity for Illegal Parking Impact) Design Year : 2035

ARM A	Tsuen Nam Road EB
ARM B	Chik Luk Lane SB
ARM C	Tsuen Nam Road WB



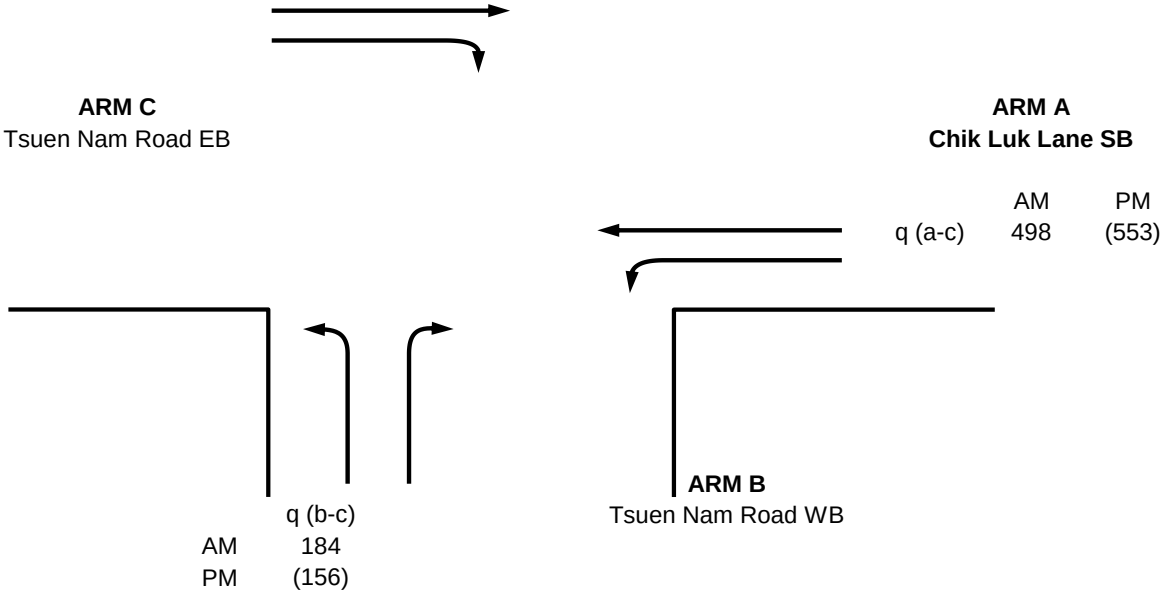
Geometry			Analysis					
Major Road Width	W	10.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		189		160
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	5.0		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		511		568
Visibilities				q(b-c)		0		0
	Vr(b-a)	30		f		0.00		0.00
	Vl(b-a)	70	Capacities					
	Vr(b-c)	30		Q(b-a)		590		595
	Vr(c-b)	200		Q(b-c)		450		450
Geometric Parameter				Q(c-b)		525		525
	D	0.986		Q(b-ac)		590		595
	E	0.604		Q(c-a)		1800		1800
	F	0.704	DFC's					
	Y	0.655		b-a		0.87		0.96
				b-c		0.00		0.00
				c-b		0.00		0.00
				c-a		0.11		0.09
			Critical DFC			0.87		0.96

Priority Junction Capacity Calculation

Junction : Tsuen Nam Road / Chik Luk Lane Junction No. : J05

Scenario : With Proposed Improvement Scheme Design Year : 2032

ARM A	Chik Luk Lane SB
ARM B	Tsuen Nam Road WB
ARM C	Tsuen Nam Road EB



Geometry			Analysis						
Major Road Width	W	7.5	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			0		0
Residual Width	Wr(c-a)	0.0		q(c-b)			0		0
Lane Width	w(b-a)	5.0		q(a-b)			0		0
	w(b-c)	0.0		q(a-c)			498		553
	w(c-b)	0.0		q(b-a)			0		0
Visibilities				q(b-c)			184		156
	Vr(b-a)	50		f			1.00		1.00
	Vl(b-a)	200	Capacities						
	Vr(b-c)	200		Q(b-a)			536		520
	Vr(c-b)	200		Q(b-c)			430		420
Geometric Parameter				Q(c-b)			430		420
	D	1.088		Q(b-ac)			430		420
	E	0.704		Q(c-a)			1800		1800
	F	0.704	DFC's						
	Y	0.741		b-a			0.00		0.00
				b-ac			0.43		0.37
				c-b			0.00		0.00
				c-a			0.00		0.00
			Critical DFC				0.43		0.37

Priority Junction Capacity Calculation

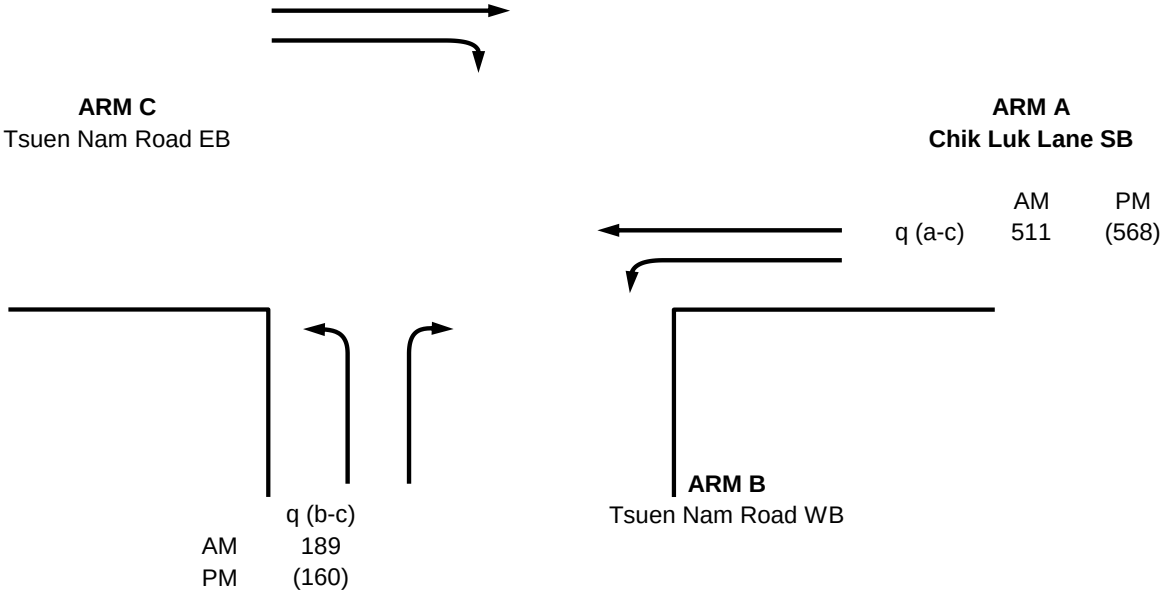
Junction : Tsuen Nam Road / Chik Luk Lane

Junction No. : J05

Scenario : With Proposed Improvement Scheme

Design Year : 2035

ARM A	Chik Luk Lane SB
ARM B	Tsuen Nam Road WB
ARM C	Tsuen Nam Road EB



Geometry			Analysis						
Major Road Width	W	7.5	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			0		0
Residual Width	Wr(c-a)	0.0		q(c-b)			0		0
Lane Width	w(b-a)	5.0		q(a-b)			0		0
	w(b-c)	0.0		q(a-c)			511		568
	w(c-b)	0.0		q(b-a)			0		0
Visibilities				q(b-c)			189		160
	Vr(b-a)	50		f			1.00		1.00
	Vl(b-a)	200	Capacities						
	Vr(b-c)	200		Q(b-a)			532		515
	Vr(c-b)	200		Q(b-c)			428		417
Geometric Parameter				Q(c-b)			428		417
	D	1.088		Q(b-ac)			428		417
	E	0.704		Q(c-a)			1800		1800
	F	0.704	DFC's						
	Y	0.741		b-a			0.00		0.00
				b-ac			0.44		0.38
				c-b			0.00		0.00
				c-a			0.00		0.00
			Critical DFC				0.44		0.38

Priority Junction Capacity Calculation

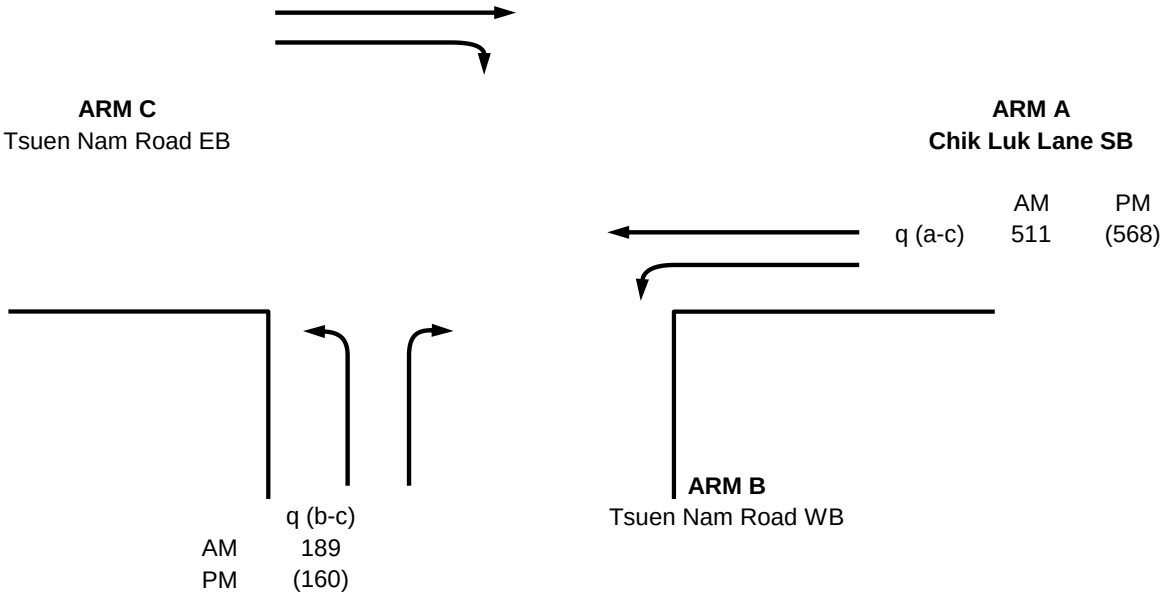
Junction : Tsuen Nam Road / Chik Luk Lane

Junction No. : J05

Scenario : With Proposed Improvement Scheme (Sensitivity for Illegal Parking Impact)

Design Year : 2035

ARM A	Chik Luk Lane SB
ARM B	Tsuen Nam Road WB
ARM C	Tsuen Nam Road EB



Geometry			Analysis						
Major Road Width	W	6.5	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			0		0
Residual Width	Wr(c-a)	0.0		q(c-b)			0		0
Lane Width	w(b-a)	5.0		q(a-b)			0		0
	w(b-c)	0.0		q(a-c)			511		568
	w(c-b)	0.0		q(b-a)			0		0
Visibilities				q(b-c)			189		160
	Vr(b-a)	50		f			1.00		1.00
	Vl(b-a)	200	Capacities						
	Vr(b-c)	200		Q(b-a)			525		507
	Vr(c-b)	200		Q(b-c)			423		412
Geometric Parameter				Q(c-b)			423		412
	D	1.088		Q(b-ac)			423		412
	E	0.704		Q(c-a)			1800		1800
	F	0.704	DFC's						
	Y	0.776		b-a			0.00		0.00
				b-ac			0.45		0.39
				c-b			0.00		0.00
				c-a			0.00		0.00
			Critical DFC				0.45		0.39

TRAFFIC SIGNALS CALCULATION SHEET

Junction: Tai Wai Road / Tsuen Nam Road Junction No.: J06

Scenario: Observe Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tsuen Nam Road EB																
↰	C	3	6.0	13					1985	1985	173	0.09	0.09	190	0.10	0.10
Tsuen Nam Road WB																
↑	A	1	4.0						2015	2015	157	0.08		167	0.08	
↱	A	1	5.0		15				2050	2050	382	0.19	0.19	409	0.20	0.20
Pedestrian Crossing																
	Dp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Ep	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	1,2	MIN GREEN + FLASH =			5	+	6	=	11						

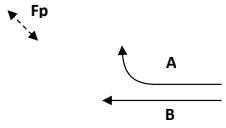
NOTES:

Flow: (pcu/hr)

Group		A,C	Group		A,C
Sum of Critical *y*		0.27	Sum of Critical *y*		0.30
Lost Time ***L*** (sec)		33	Lost Time ***L*** (sec)		33
Cycle Time ***c*** (sec)		105	Cycle Time ***c*** (sec)		95
Practical *Y* ***Ypr***		0.62	Practical *Y* ***Ypr***		0.59
Reserve Capacity		>100%	Reserve Capacity		99%

Stage / Phase Diagrams

1.



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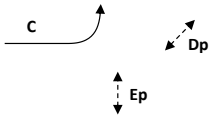


4.

5.

I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	
I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	

Junction: Tai Wai Road / Tsuen Nam Road

Junction No.: J06

TRAFFIC SIGNALS CALCULATION SHEET

Junction: Tai Wai Road / Tsuen Nam Road Junction No.: J06

Scenario: Reference Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tsuen Nam Road EB																
↰	C	3	6.0	13					1985	1985	193	0.10	0.10	213	0.11	0.11
Tsuen Nam Road WB																
↑	A	1	4.0						2015	2015	175	0.09		187	0.09	
↱	A	1	5.0		15				2050	2050	430	0.21	0.21	461	0.22	0.22
Pedestrian Crossing																
	Dp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Ep	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	1,2	MIN GREEN + FLASH =			5	+	6	=	11						

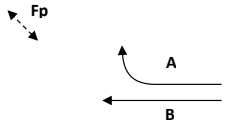
NOTES:

Flow: (pcu/hr)

Group		A,C	Group		A,C
Sum of Critical *y*		0.31	Sum of Critical *y*		0.33
Lost Time ***L*** (sec)		33	Lost Time ***L*** (sec)		33
Cycle Time ***c*** (sec)		105	Cycle Time ***c*** (sec)		95
Practical *Y* ***Ypr***		0.62	Practical *Y* ***Ypr***		0.59
Reserve Capacity		>100%	Reserve Capacity		77%

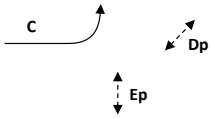
Stage / Phase Diagrams

1.



2.

3.



4.

5.

I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	
I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	

wsp

Junction: Tai Wai Road / Tsuen Nam Road

Junction No.: J06

TRAFFIC SIGNALS CALCULATION SHEET

Junction: Tai Wai Road / Tsuen Nam Road Junction No.: J06

Scenario: Design Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tsuen Nam Road EB																
↰	C	3	6.0	13					1985	1985	193	0.10	0.10	213	0.11	0.11
Tsuen Nam Road WB																
↑	A	1	4.0						2015	2015	175	0.09		187	0.09	
↱	A	1	5.0		15				2050	2050	491	0.24	0.24	511	0.25	0.25
Pedestrian Crossing																
	Dp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Ep	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	1,2	MIN GREEN + FLASH =			5	+	6	=	11						

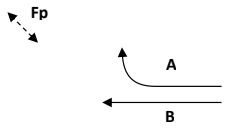
NOTES:

Flow: (pcu/hr)

Group		A,C	Group		A,C
Sum of Critical *y*		0.34	Sum of Critical *y*		0.36
Lost Time ***L*** (sec)		33	Lost Time ***L*** (sec)		33
Cycle Time ***c*** (sec)		105	Cycle Time ***c*** (sec)		95
Practical *Y* ***Ypr***		0.62	Practical *Y* ***Ypr***		0.59
Reserve Capacity		83%	Reserve Capacity		65%

Stage / Phase Diagrams

1.



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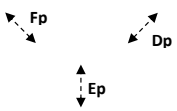

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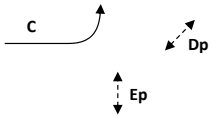


4.

5.

I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	
I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	

TRAFFIC SIGNALS CALCULATION SHEET

Junction: Tai Wai Road / Tsuen Nam Road Junction No.: J06

Scenario: Reference Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tsuen Nam Road EB																
↰	C	3	6.0	13					1985	1985	199	0.10	0.10	219	0.11	0.11
Tsuen Nam Road WB																
↑	A	1	4.0						2015	2015	181	0.09		193	0.10	
↱	A	1	5.0		15				2050	2050	442	0.22	0.22	475	0.23	0.23
Pedestrian Crossing																
	Dp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Ep	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	1,2	MIN GREEN + FLASH =			5	+	6	=	11						

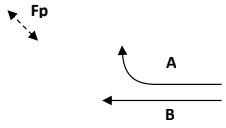
NOTES:

Flow: (pcu/hr)

Group		A,C	Group		A,C
Sum of Critical *y*		0.32	Sum of Critical *y*		0.34
Lost Time ***L*** (sec)		33	Lost Time ***L*** (sec)		33
Cycle Time ***c*** (sec)		105	Cycle Time ***c*** (sec)		95
Practical *Y* ***Ypr***		0.62	Practical *Y* ***Ypr***		0.59
Reserve Capacity		95%	Reserve Capacity		72%

Stage / Phase Diagrams

1.



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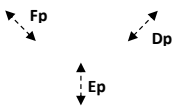

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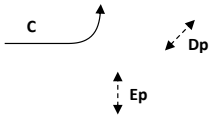


4.

5.

I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	
I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	

wsp

Junction: Tai Wai Road / Tsuen Nam Road

Junction No.: J06

TRAFFIC SIGNALS CALCULATION SHEET

Junction: Tai Wai Road / Tsuen Nam Road Junction No.: J06

Scenario: Design Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tsuen Nam Road EB																
↰	C	3	6.0	13					1985	1985	199	0.10	0.10	219	0.11	0.11
Tsuen Nam Road WB																
↑	A	1	4.0						2015	2015	181	0.09		193	0.10	
↱	A	1	5.0		15				2050	2050	503	0.25	0.25	525	0.26	0.26
Pedestrian Crossing																
	Dp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Ep	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	1,2	MIN GREEN + FLASH =			5	+	6	=	11						

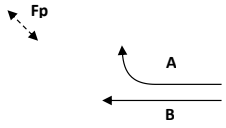
NOTES:

Flow: (pcu/hr)

Group		A,C	Group		A,C
Sum of Critical *y*		0.35	Sum of Critical *y*		0.37
Lost Time ***L*** (sec)		33	Lost Time ***L*** (sec)		33
Cycle Time ***c*** (sec)		105	Cycle Time ***c*** (sec)		95
Practical *Y* ***Ypr***		0.62	Practical *Y* ***Ypr***		0.59
Reserve Capacity		79%	Reserve Capacity		60%

Stage / Phase Diagrams

1.



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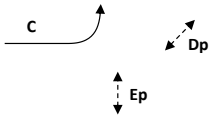
3.



4.

5.

I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	
I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	

wsp

Junction: Tai Wai Road / Tsuen Nam Road

Junction No.: J06

TRAFFIC SIGNALS CALCULATION SHEET

Junction: Tai Wai Road / Tsuen Nam Road Junction No.: J06

Scenario: Observe (With Illegal Parking Impact) Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tsuen Nam Road EB																
←	C	3	6.0	13					1985	1985	173	0.09	0.09	190	0.10	
Tsuen Nam Road WB																
↦	A	1	4.0		15		71%	71%	1880	1880	539	0.29	0.29	576	0.31	0.31
Pedestrian Crossing																
	Dp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						*
	Ep	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	1,2	MIN GREEN + FLASH =			5	+	6	=	11						

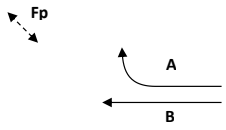
NOTES:
It is assumed that Tsuen Nam Road right-turning lane is occupied by illegal parking

Flow: (pcu/hr)

Group		A,C	Group		A,Dp
Sum of Critical *y*		0.37	Sum of Critical *y*		0.31
Lost Time ***L*** (sec)		33	Lost Time ***L*** (sec)		48
Cycle Time ***c*** (sec)		105	Cycle Time ***c*** (sec)		95
Practical *Y* ***Ypr***		0.62	Practical *Y* ***Ypr***		0.45
Reserve Capacity		65%	Reserve Capacity		45%

Stage / Phase Diagrams

1.



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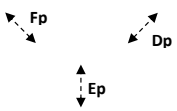

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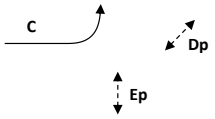


4.

5.

I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	
I/G= 2		I/G= 5	12	I/G= 30		I/G=		I/G=	

wsp

Junction: Tai Wai Road / Tsuen Nam Road

Junction No.: J06

TRAFFIC SIGNALS CALCULATION SHEET

Junction: Tai Wai Road / Tsuen Nam Road Junction No.: J06

Scenario: Reference (Sensitivity for Illegal Parking Impact) Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tsuen Nam Road EB																
←	C	3	6.0	13					1985	1985	199	0.10	0.10	219	0.11	
Tsuen Nam Road WB																
↦	A	1	4.0		15		71%	71%	1880	1880	623	0.33	0.33	668	0.36	0.36
Pedestrian Crossing																
	Dp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						*
	Ep	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	1,2	MIN GREEN + FLASH =			5	+	6	=	11						

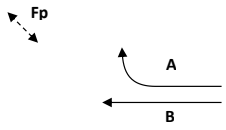
NOTES:
It is assumed that Tsuen Nam Road W/B right-turning lane is occupied by illegal parking, hence 1 lane remaining toward intersection.

Flow: (pcu/hr)

Group		A,C	Group		A,Dp
Sum of Critical *y*		0.43	Sum of Critical *y*		0.36
Lost Time ***L*** (sec)		33	Lost Time ***L*** (sec)		48
Cycle Time ***c*** (sec)		105	Cycle Time ***c*** (sec)		95
Practical *Y* ***Ypr***		0.62	Practical *Y* ***Ypr***		0.45
Reserve Capacity		43%	Reserve Capacity		25%

Stage / Phase Diagrams

1.



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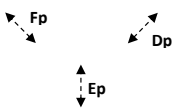

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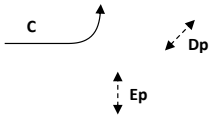


4.

5.

I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	
I/G= 2		I/G= 5	12	I/G= 30		I/G=		I/G=	

wsp

Junction: Tai Wai Road / Tsuen Nam Road

Junction No.: J06

TRAFFIC SIGNALS CALCULATION SHEET

Junction: Tai Wai Road / Tsuen Nam Road Junction No.: J06

Scenario: Design (Sensitivity for Illegal Parking Impact) Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Tsuen Nam Road EB																
←	C	3	6.0	13					1985	1985	199	0.10	0.10	219	0.11	
Tsuen Nam Road WB																
↑→	A	1	4.0		15		74%	73%	2065	2065	684	0.33	0.33	718	0.35	0.35
Pedestrian Crossing																
	Dp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						*
	Ep	2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Fp	1,2	MIN GREEN + FLASH =			5	+	6	=	11						

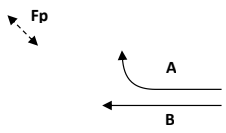
NOTES:
It is assumed that Tsuen Nam Road W/B right-turning lane is occupied by illegal parking with less severe conditions, hence 1 lane remaining toward intersection with higher saturation flow.

Flow: (pcu/hr)

Group		A,C	Group		A,Dp
Sum of Critical *y*		0.43	Sum of Critical *y*		0.35
Lost Time ***L*** (sec)		33	Lost Time ***L*** (sec)		48
Cycle Time ***c*** (sec)		105	Cycle Time ***c*** (sec)		95
Practical *Y* ***Ypr***		0.62	Practical *Y* ***Ypr***		0.45
Reserve Capacity		43%	Reserve Capacity		28%

Stage / Phase Diagrams

1.



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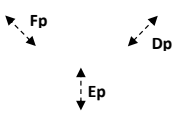

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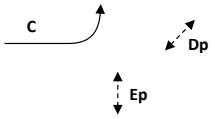


4.

5.

I/G= 5		I/G= 28		I/G= 2		I/G=		I/G=	
I/G= 2		I/G= 5	12	I/G= 30		I/G=		I/G=	

wsp

Junction: Tai Wai Road / Tsuen Nam Road

Junction No.: J06

TRAFFIC SIGNALS CALCULATION SHEET

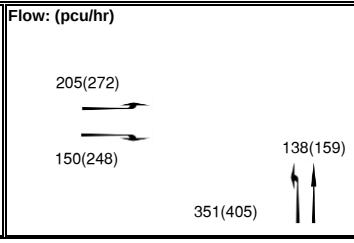
Junction: Tai Wai Road / Chik Fai Street Junction No.: J07

Scenario: Observe Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Chik Fai Street EB																
↰	A	1	3.6	15					1795	1795	205	0.11		272	0.15	0.15
↱	A	1	3.6		10				1840	1840	150	0.08		248	0.13	
Tai Wai Road NB																
↰	B	1,2	4.0	15					1830	1830	351	0.19	0.19	405	0.22	
↑	C	2	4.0						2155	2155	138	0.06		159	0.07	0.07
Pedestrian Crossing																
	Dp	3	MIN GREEN + FLASH =			5	+	9	=	14			*			*
	Ep	2,3	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:

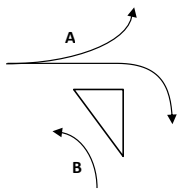
Flow: (pcu/hr)



Group		B,Dp	Group		A,C,Dp
Sum of Critical *y*		0.19	Sum of Critical *y*		0.23
Lost Time ***L*** (sec)		42	Lost Time ***L*** (sec)		47
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.57	Practical *Y* ***Ypr***		0.52
Reserve Capacity		>100%	Reserve Capacity		>100%

Stage / Phase Diagrams

1.



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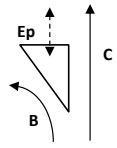

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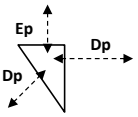


4.

5.

I/G= 2		I/G=		I/G= 27	14	I/G=		I/G=	
I/G= 2		I/G= 6		I/G= 27	14	I/G=		I/G=	

wsp

Junction: Tai Wai Road / Chik Fai Street

Junction No.: J07

TRAFFIC SIGNALS CALCULATION SHEET

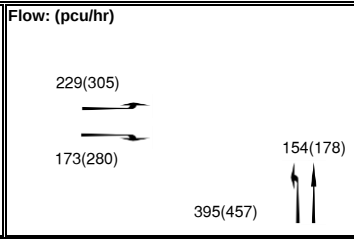
Junction: Tai Wai Road / Chik Fai Street Junction No.: J07

Scenario: Reference Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Chik Fai Street EB																
↰	A	1	3.6	15					1795	1795	229	0.13		305	0.17	0.17
↱	A	1	3.6		10				1840	1840	173	0.09		280	0.15	
Tai Wai Road NB																
↰	B	1,2	4.0	15					1830	1830	395	0.22	0.22	457	0.25	
↑	C	2	4.0						2155	2155	154	0.07		178	0.08	0.08
Pedestrian Crossing																
	Dp	3	MIN GREEN + FLASH =			5	+	9	=	14			*			*
	Ep	2,3	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:

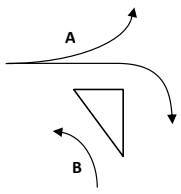
Flow: (pcu/hr)



Group		B,Dp	Group		A,C,Dp
Sum of Critical *y*		0.22	Sum of Critical *y*		0.25
Lost Time ***L*** (sec)		42	Lost Time ***L*** (sec)		47
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.57	Practical *Y* ***Ypr***		0.52
Reserve Capacity		>100%	Reserve Capacity		>100%

Stage / Phase Diagrams

1.



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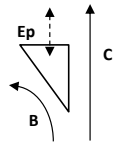

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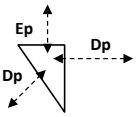


4.

5.

I/G= 2		I/G=		I/G= 27	14	I/G=		I/G=	
I/G= 2		I/G= 6		I/G= 27	14	I/G=		I/G=	

wsp

Junction: Tai Wai Road / Chik Fai Street

Junction No.: J07

TRAFFIC SIGNALS CALCULATION SHEET

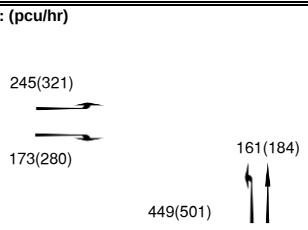
Junction: Tai Wai Road / Chik Fai Street — Junction No.: J07

Scenario: Design — Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Chik Fai Street EB																
↰	A	1	3.6	15					1795	1795	245	0.14		321	0.18	0.18
↱	A	1	3.6		10				1840	1840	173	0.09		280	0.15	
Tai Wai Road NB																
↰	B	1,2	4.0	15					1830	1830	449	0.25	0.25	501	0.27	
↑	C	2	4.0						2155	2155	161	0.07		184	0.09	0.09
Pedestrian Crossing																
	Dp	3	MIN GREEN + FLASH =			5	+	9	=	14			*			*
	Ep	2,3	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:

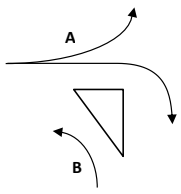
Flow: (pcu/hr)



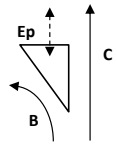
Group		B,Dp	Group		A,C,Dp
Sum of Critical *y*		0.25	Sum of Critical *y*		0.26
Lost Time ***L*** (sec)		42	Lost Time ***L*** (sec)		47
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.57	Practical *Y* ***Ypr***		0.52
Reserve Capacity		>100%	Reserve Capacity		98%

Stage / Phase Diagrams

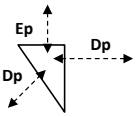
1.



2.



3.



4.

5.

I/G= 2		I/G=		I/G= 27	14	I/G=		I/G=	
I/G= 2		I/G= 6		I/G= 27	14	I/G=		I/G=	

wsp

Junction: Tai Wai Road / Chik Fai Street

Junction No.: J07

TRAFFIC SIGNALS CALCULATION SHEET

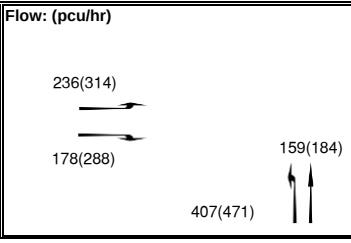
Junction: Tai Wai Road / Chik Fai Street Junction No.: J07

Scenario: Reference Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Chik Fai Street EB																
↰	A	1	3.6	15					1795	1795	236	0.13		314	0.17	0.17
↱	A	1	3.6		10				1840	1840	178	0.10		288	0.16	
Tai Wai Road NB																
↰	B	1,2	4.0	15					1830	1830	407	0.22	0.22	471	0.26	
↑	C	2	4.0						2155	2155	159	0.07		184	0.09	0.09
Pedestrian Crossing																
	Dp	3	MIN GREEN + FLASH =			5	+	9	=	14			*			*
	Ep	2,3	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:

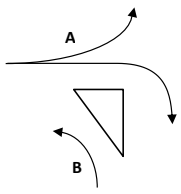
Flow: (pcu/hr)



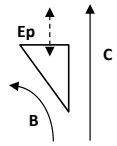
Group		B,Dp	Group		A,C,Dp
Sum of Critical *y*		0.22	Sum of Critical *y*		0.26
Lost Time ***L*** (sec)		42	Lost Time ***L*** (sec)		47
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.57	Practical *Y* ***Ypr***		0.52
Reserve Capacity		>100%	Reserve Capacity		>100%

Stage / Phase Diagrams

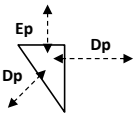
1.



2.



3.



4.

5.

I/G= 2		I/G=		I/G= 27	14	I/G=		I/G=	
I/G= 2		I/G= 6		I/G= 27	14	I/G=		I/G=	

wsp

Junction: Tai Wai Road / Chik Fai Street

Junction No.: J07

TRAFFIC SIGNALS CALCULATION SHEET

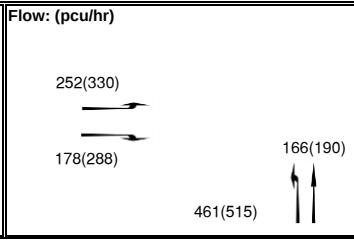
Junction: Tai Wai Road / Chik Fai Street Junction No.: J07

Scenario: Design Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Chik Fai Street EB																
↰	A	1	3.6	15					1795	1795	252	0.14		330	0.18	0.18
↱	A	1	3.6		10				1840	1840	178	0.10		288	0.16	
Tai Wai Road NB																
↰	B	1,2	4.0	15					1830	1830	461	0.25	0.25	515	0.28	
↑	C	2	4.0						2155	2155	166	0.08		190	0.09	0.09
Pedestrian Crossing																
	Dp	3	MIN GREEN + FLASH =			5	+	9	=	14			*			*
	Ep	2,3	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:

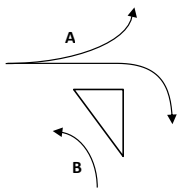
Flow: (pcu/hr)



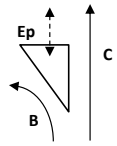
Group		B,Dp	Group		A,C,Dp
Sum of Critical *y*		0.25	Sum of Critical *y*		0.27
Lost Time ***L*** (sec)		42	Lost Time ***L*** (sec)		47
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.57	Practical *Y* ***Ypr***		0.52
Reserve Capacity		>100%	Reserve Capacity		92%

Stage / Phase Diagrams

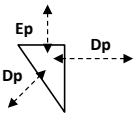
1.



2.



3.



4.

5.

I/G= 2		I/G=		I/G= 27	14	I/G=		I/G=	
I/G= 2		I/G= 6		I/G= 27	14	I/G=		I/G=	

wsp

Junction: Tai Wai Road / Chik Fai Street

Junction No.: J07

TRAFFIC SIGNALS CALCULATION SHEET

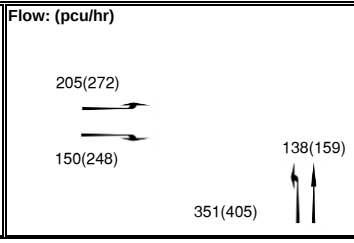
Junction: Tai Wai Road / Chik Fai Street Junction No.: J07

Scenario: Observe (With Illegal Parking Impact) Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Chik Fai Street EB																
←	A	1	3.6	15	10		58% / 42%	52% / 48%	1760	1755	355	0.20	0.20	520	0.30	0.30
Tai Wai Road NB																
←	B	1,2	4.0	15					1100	1100	351	0.32		405	0.37	
↑	C	2	4.0						1400	1400	138	0.10	0.10	159	0.11	0.11
Pedestrian Crossing																
	Dp	3	MIN GREEN + FLASH =			5	+	9	=	14			*			*
	Ep	2,3	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:
It is assumed that Chik Fai Street E/B is limited to 1 traffic lane due to illegal parking.
Tai Wai Road N/B is applied with site factors to account for busy kerbside activities.

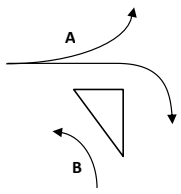
Flow: (pcu/hr)



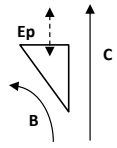
Group		A,C,Dp	Group		A,C,Dp
Sum of Critical *y*		0.30	Sum of Critical *y*		0.41
Lost Time ***L*** (sec)		47	Lost Time ***L*** (sec)		47
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.54	Practical *Y* ***Ypr***		0.52
Reserve Capacity		78%	Reserve Capacity		27%

Stage / Phase Diagrams

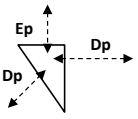
1.



2.



3.



4.

5.

I/G= 2		I/G= 6		I/G= 27	14	I/G=		I/G=	
I/G= 2		I/G= 6		I/G= 27	14	I/G=		I/G=	

wsp

Junction: Tai Wai Road / Chik Fai Street

Junction No.: J07

TRAFFIC SIGNALS CALCULATION SHEET

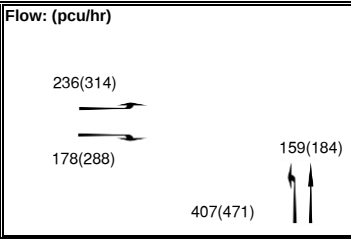
Junction: Tai Wai Road / Chik Fai Street Junction No.: J07

Scenario: Reference (Sensitivity for Illegal Parking Impact) Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Chik Fai Street EB																
↑↓	A	1	3.6	15	10		57% / 43%	52% / 48%	1760	1755	414	0.24	0.24	602	0.34	0.34
Tai Wai Road NB																
↑	B	1,2	4.0	15					1100	1100	407	0.37		471	0.43	
↑	C	2	4.0						1400	1400	159	0.11	0.11	184	0.13	0.13
Pedestrian Crossing																
	Dp	3	MIN GREEN + FLASH =			5	+	9	=	14			*			*
	Ep	2,3	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:
It is assumed that Chik Fai Street E/B is limited to 1 traffic lane due to illegal parking.
Tai Wai Road N/B is applied with site factors to account for moderate kerbside activities.

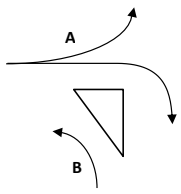
Flow: (pcu/hr)



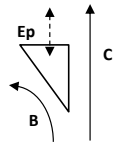
Group		A,C,Dp	Group		A,C,Dp
Sum of Critical *y*		0.35	Sum of Critical *y*		0.47
Lost Time ***L*** (sec)		47	Lost Time ***L*** (sec)		47
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.54	Practical *Y* ***Ypr***		0.52
Reserve Capacity		53%	Reserve Capacity		10%

Stage / Phase Diagrams

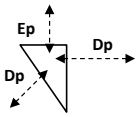
1.



2.



3.



4.

5.

I/G= 2		I/G= 6		I/G= 27	14	I/G=		I/G=	
I/G= 2		I/G= 6		I/G= 27	14	I/G=		I/G=	

wsp

Junction: Tai Wai Road / Chik Fai Street

Junction No.: J07

TRAFFIC SIGNALS CALCULATION SHEET

Junction: Tai Wai Road / Chik Fai Street Junction No.: J07

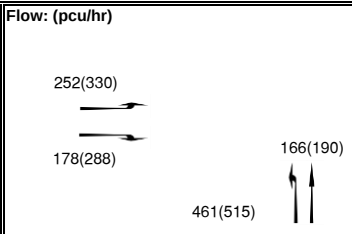
Scenario: Design (Sensitivity for Illegal Parking Impact) Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Chik Fai Street EB																
←	A	1	3.6	15	10		59% / 41%	53% / 47%	1940	1935	430	0.22		618	0.32	0.32
Tai Wai Road NB																
←	B	1,2	4.0	15					1100	1100	461	0.42	0.42	515	0.47	
↑	C	2	4.0						1400	1400	166	0.12		190	0.14	0.14
Pedestrian Crossing																
	Dp	3	MIN GREEN + FLASH =			5	+	9	=	14			*			*
	Ep	2,3	MIN GREEN + FLASH =			5	+	9	=	14						

NOTES:
It is assumed that Chik Fai Street E/B is limited to 1 traffic lane due to illegal parking- though the situation will be further away from intersection point resulting in higher saturation flow of the remaining E/B lane.

Tai Wai Road N/B is applied with site factors to account for moderate kerbside activities.

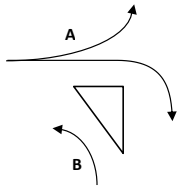
Flow: (pcu/hr)



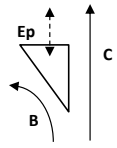
Group		B,Dp	Group		A,C,Dp
Sum of Critical *y*		0.42	Sum of Critical *y*		0.46
Lost Time ***L*** (sec)		42	Lost Time ***L*** (sec)		47
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.57	Practical *Y* ***Ypr***		0.52
Reserve Capacity		37%	Reserve Capacity		15%

Stage / Phase Diagrams

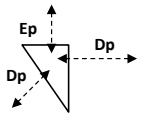
1.



2.



3.



4.

5.

I/G= 2		I/G=		I/G= 27	14	I/G=		I/G=	
I/G= 2		I/G= 6		I/G= 27	14	I/G=		I/G=	

wsp

Junction: Tai Wai Road / Chik Fai Street

Junction No.: J07

TRAFFIC SIGNALS CALCULATION SHEET

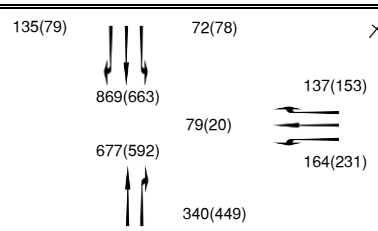
Junction: Mei Tin Road / Chik Fai Street Junction No.: J08

Scenario: Observe Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road NB																
	B	2	3.6						2115	2115	226	0.11		197	0.09	
	B	2	3.6						2115	2115	225	0.11		198	0.09	
	B	2	3.6						2115	2115	226	0.11		197	0.09	
	B	2	3.6		15				1925	1925	340	0.18	0.18	449	0.23	0.23
Chik Fai Street WB																
	C	3	3.5	14					1595	1595	164	0.10		231	0.14	0.14
	C	3	3.5		20		63%	88%	1810	1775	216	0.12	0.12	173	0.10	
Mei Tin Road SB																
	A	1	3.2	11					1705	1705	72	0.04		78	0.05	
	A	1	3.2						2075	2075	290	0.14	0.14	221	0.11	0.11
	A	1	3.2						2075	2075	289	0.14		221	0.11	
	A	1	3.2		18		0%	0%	2075	2075	290	0.14		221	0.11	
	A	1	3.2		16				1895	1895	135	0.07		79	0.04	
Pedestrian Crossing																
	Dp	1,2	MIN GREEN + FLASH =			5	+	7	=	12						
	Ep	3	MIN GREEN + FLASH =			5	+	7	=	12						

NOTES:

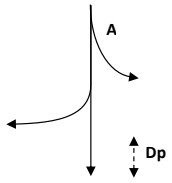
Flow: (pcu/hr)



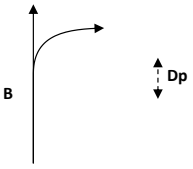
Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.44	Sum of Critical *y*		0.48
Lost Time ***L*** (sec)		14	Lost Time ***L*** (sec)		14
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.79	Practical *Y* ***Ypr***		0.79
Reserve Capacity		82%	Reserve Capacity		63%

Stage / Phase Diagrams

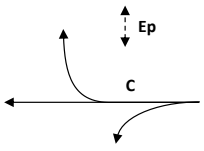
1.



2.



3.



4.

5.

I/G= 6		I/G= 6		I/G= 5		I/G=		I/G=	
I/G= 6		I/G= 6		I/G= 5		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Chik Fai Street

Junction No.: J08

TRAFFIC SIGNALS CALCULATION SHEET

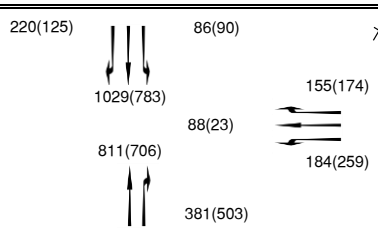
Junction: Mei Tin Road / Chik Fai Street Junction No.: J08

Scenario: Reference Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road NB																
↑	B	2	3.6						2115	2115	270	0.13		235	0.11	
↑	B	2	3.6						2115	2115	271	0.13		236	0.11	
↑	B	2	3.6						2115	2115	270	0.13		235	0.11	
↱	B	2	3.6		15				1925	1925	381	0.20	0.20	503	0.26	0.26
Chik Fai Street WB																
←	C	3	3.5	14					1595	1595	184	0.12		259	0.16	0.16
↱	C	3	3.5		20		64%	88%	1810	1775	243	0.13	0.13	197	0.11	
Mei Tin Road SB																
←	A	1	3.2	11					1705	1705	86	0.05		90	0.05	
↑	A	1	3.2						2075	2075	343	0.17	0.17	261	0.13	0.13
↑	A	1	3.2						2075	2075	343	0.17		261	0.13	
↱	A	1	3.2		18		0%	0%	2075	2075	343	0.17		261	0.13	
↱	A	1	3.2		16				1895	1895	220	0.12		125	0.07	
Pedestrian Crossing																
	Dp	1,2	MIN GREEN + FLASH =			5	+	7	=	12						
	Ep	3	MIN GREEN + FLASH =			5	+	7	=	12						

NOTES:

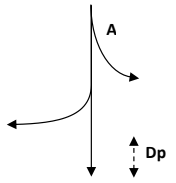
Flow: (pcu/hr)



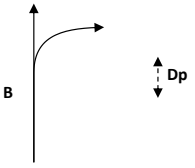
Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.50	Sum of Critical *y*		0.55
Lost Time ***L*** (sec)		14	Lost Time ***L*** (sec)		14
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.79	Practical *Y* ***Ypr***		0.79
Reserve Capacity		59%	Reserve Capacity		43%

Stage / Phase Diagrams

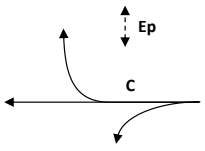
1.



2.



3.



4.

5.

I/G= 6		I/G= 6		I/G= 5		I/G=		I/G=	
I/G= 6		I/G= 6		I/G= 5		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Chik Fai Street

Junction No.: J08

TRAFFIC SIGNALS CALCULATION SHEET

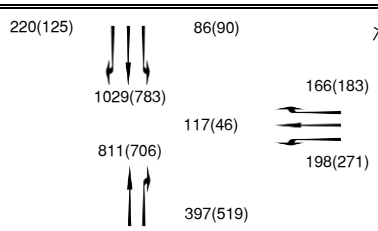
Junction: Mei Tin Road / Chik Fai Street Junction No.: J08

Scenario: Design Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road NB																
↑	B	2	3.6						2115	2115	270	0.13		235	0.11	
↑	B	2	3.6						2115	2115	271	0.13		236	0.11	
↑	B	2	3.6						2115	2115	270	0.13		235	0.11	
↱	B	2	3.6		15				1925	1925	397	0.21	0.21	519	0.27	0.27
Chik Fai Street WB																
↰	C	3	3.5	14					1595	1595	198	0.12		271	0.17	0.17
↱	C	3	3.5		20		59%	80%	1815	1785	283	0.16	0.16	229	0.13	
Mei Tin Road SB																
↰	A	1	3.2	11					1705	1705	86	0.05		90	0.05	
↑	A	1	3.2						2075	2075	343	0.17	0.17	261	0.13	0.13
↑	A	1	3.2						2075	2075	343	0.17		261	0.13	
↱	A	1	3.2		18		0%	0%	2075	2075	343	0.17		261	0.13	
↱	A	1	3.2		16				1895	1895	220	0.12		125	0.07	
Pedestrian Crossing																
	Dp	1,2	MIN GREEN + FLASH =			5	+	7	=	12						
	Ep	3	MIN GREEN + FLASH =			5	+	7	=	12						

NOTES:

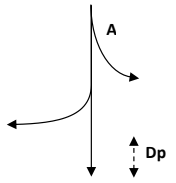
Flow: (pcu/hr)



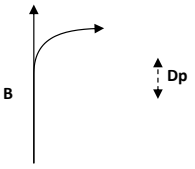
Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.53	Sum of Critical *y*		0.57
Lost Time ***L*** (sec)		14	Lost Time ***L*** (sec)		14
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.79	Practical *Y* ***Ypr***		0.79
Reserve Capacity		50%	Reserve Capacity		39%

Stage / Phase Diagrams

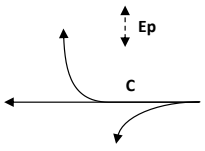
1.



2.



3.



4.

5.

I/G= 6		I/G= 6		I/G= 5		I/G=		I/G=	
I/G= 6		I/G= 6		I/G= 5		I/G=		I/G=	

TRAFFIC SIGNALS CALCULATION SHEET

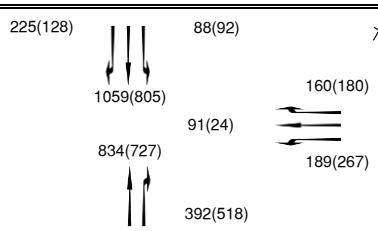
Junction: Mei Tin Road / Chik Fai Street Junction No.: J08

Scenario: Reference Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road NB																
↑	B	2	3.6						2115	2115	278	0.13		242	0.11	
↑	B	2	3.6						2115	2115	278	0.13		243	0.11	
↑	B	2	3.6						2115	2115	278	0.13		242	0.11	
↱	B	2	3.6		15				1925	1925	392	0.20	0.20	518	0.27	0.27
Chik Fai Street WB																
←	C	3	3.5	14					1595	1595	189	0.12		267	0.17	0.17
↱	C	3	3.5		20		64%	88%	1810	1775	251	0.14	0.14	204	0.11	
Mei Tin Road SB																
←	A	1	3.2	11					1705	1705	88	0.05		92	0.05	
↑	A	1	3.2						2075	2075	353	0.17	0.17	268	0.13	
↑	A	1	3.2						2075	2075	353	0.17		268	0.13	
↱	A	1	3.2		18		0%	0%	2075	2075	353	0.17		269	0.13	0.13
↱	A	1	3.2		16				1895	1895	225	0.12		128	0.07	
Pedestrian Crossing																
	Dp	1,2	MIN GREEN + FLASH =			5	+	7	=	12						
	Ep	3	MIN GREEN + FLASH =			5	+	7	=	12						

NOTES:

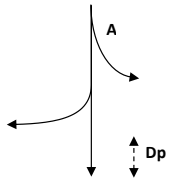
Flow: (pcu/hr)



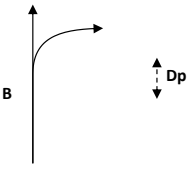
Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.51	Sum of Critical *y*		0.57
Lost Time ***L*** (sec)		14	Lost Time ***L*** (sec)		14
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.79	Practical *Y* ***Ypr***		0.79
Reserve Capacity		54%	Reserve Capacity		39%

Stage / Phase Diagrams

1.



2.



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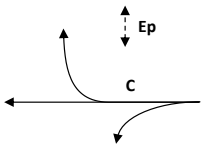


4.

5.

I/G= 6		I/G= 6		I/G= 5		I/G=		I/G=	
I/G= 6		I/G= 6		I/G= 5		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Chik Fai Street

Junction No.: J08

TRAFFIC SIGNALS CALCULATION SHEET

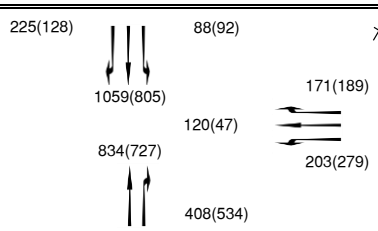
Junction: Mei Tin Road / Chik Fai Street Junction No.: J08

Scenario: Design Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road NB																
↑	B	2	3.6						2115	2115	278	0.13		242	0.11	
↑	B	2	3.6						2115	2115	278	0.13		243	0.11	
↑	B	2	3.6						2115	2115	278	0.13		242	0.11	
↱	B	2	3.6		15				1925	1925	408	0.21	0.21	534	0.28	0.28
Chik Fai Street WB																
↰	C	3	3.5	14					1595	1595	203	0.13		279	0.17	0.17
↱	C	3	3.5		20		59%	80%	1815	1785	291	0.16	0.16	236	0.13	
Mei Tin Road SB																
↰	A	1	3.2	11					1705	1705	88	0.05		92	0.05	
↑	A	1	3.2						2075	2075	353	0.17	0.17	268	0.13	
↑	A	1	3.2						2075	2075	353	0.17		268	0.13	
↱	A	1	3.2		18		0%	0%	2075	2075	353	0.17		269	0.13	0.13
↱	A	1	3.2		16				1895	1895	225	0.12		128	0.07	
Pedestrian Crossing																
	Dp	1,2	MIN GREEN + FLASH =			5	+	7	=	12						
	Ep	3	MIN GREEN + FLASH =			5	+	7	=	12						

NOTES:

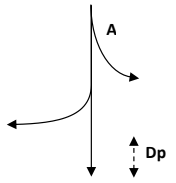
Flow: (pcu/hr)



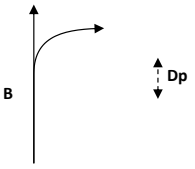
Group		A,B,C	Group		A,B,C
Sum of Critical *y*		0.54	Sum of Critical *y*		0.58
Lost Time ***L*** (sec)		14	Lost Time ***L*** (sec)		14
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.79	Practical *Y* ***Ypr***		0.79
Reserve Capacity		46%	Reserve Capacity		35%

Stage / Phase Diagrams

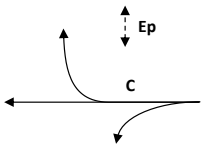
1.



2.



3.



4.

5.

I/G= 6		I/G= 6		I/G= 5		I/G=		I/G=	
I/G= 6		I/G= 6		I/G= 5		I/G=		I/G=	

TRAFFIC SIGNALS CALCULATION SHEET

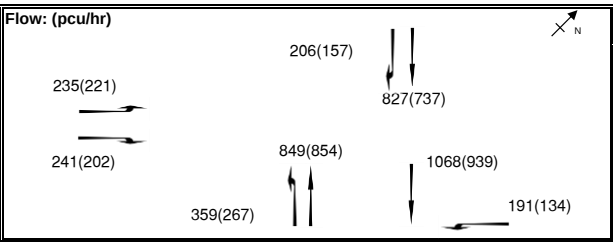
Junction: Mei Tin Road / Chik Wan Street Junction No.: J09

Scenario: Observe Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road SB																
↑	B	1,3	3.3						2085	2085	276	0.13		246	0.12	
↑	B	1,3	3.3						2085	2085	275	0.13		245	0.12	
↑	B	1,3	3.3						2085	2085	276	0.13		246	0.12	
↱	C	3	3.3		15				1895	1895	206	0.11	0.11	157	0.08	0.08
Chik Wan Street EB																
↰	E	2,3	3.3	10					1815	1815	235	0.13		221	0.12	
↱	D	2	3.3		20				1360	1360	101	0.07	0.07	84	0.06	
↱	D	2	3.3		15				1895	1895	140	0.07		118	0.06	0.06
Mei Tin Road NB																
↰	A	1	3.6	15			100%	79%	1795	1830	360	0.20	0.20	339	0.19	0.19
↑	A	1	3.6						2115	2115	424	0.20		391	0.18	
↑	A	1	3.6						2115	2115	424	0.20		391	0.18	
PTI Egress WB																
↰	G	2	3.7	20					1975	1975	95	0.05		66	0.03	
↰	G	2	3.7	25					2005	2005	96	0.05		68	0.03	
Mei Tin Road (outside PTI) SB																
↑	F	1,3	3.4						1955	1955	340	0.17		299	0.15	
↑	F	1,3	3.4						2095	2095	364	0.17		320	0.15	
↑	F	1,3	3.4						2095	2095	364	0.17		320	0.15	
Pedestrian Crossing																
	Hp	1,3	MIN GREEN + FLASH =			5	+	10	=	15						

NOTES:

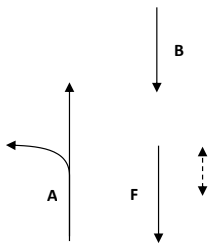
Flow: (pcu/hr)



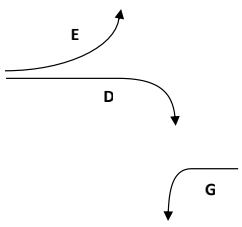
Group		A,D,C	Group		A,D,C
Sum of Critical *y*		0.38	Sum of Critical *y*		0.33
Lost Time ***L*** (sec)		17	Lost Time ***L*** (sec)		17
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.77	Practical *Y* ***Ypr***		0.76
Reserve Capacity		>100%	Reserve Capacity		>100%

Stage / Phase Diagrams

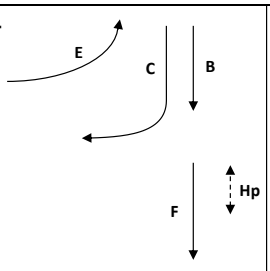
1.



2.



3.



4.

5.

I/G= 7		I/G= 7		I/G= 6		I/G=		I/G=	
I/G= 7		I/G= 7		I/G= 6		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Chik Wan Street

Junction No.: J09

TRAFFIC SIGNALS CALCULATION SHEET

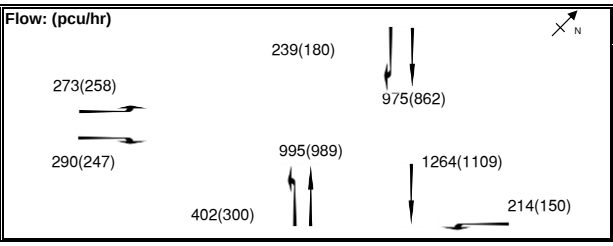
Junction: Mei Tin Road / Chik Wan Street Junction No.: J09

Scenario: Reference Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road SB																
↑	B	1,3	3.3						2085	2085	325	0.16		287	0.14	
↑	B	1,3	3.3						2085	2085	325	0.16		288	0.14	
↑	B	1,3	3.3						2085	2085	325	0.16		287	0.14	
↱	C	3	3.3		15				1895	1895	239	0.13	0.13	180	0.09	0.09
Chik Wan Street EB																
↰	E	2,3	3.3	10					1815	1815	273	0.15		258	0.14	
↱	D	2	3.3		20				1360	1360	121	0.09		103	0.08	
↱	D	2	3.3		15				1895	1895	169	0.09	0.09	144	0.08	0.08
Mei Tin Road NB																
←	A	1	3.6	15			96%	77%	1800	1835	417	0.23		390	0.21	
↑	A	1	3.6						2115	2115	490	0.23	0.23	450	0.21	0.21
↑	A	1	3.6						2115	2115	490	0.23		449	0.21	
PTI Egress WB																
↰	G	2	3.7	20					1975	1975	106	0.05		74	0.04	
↰	G	2	3.7	25					2005	2005	108	0.05		76	0.04	
Mei Tin Road (outside PTI) SB																
↑	F	1,3	3.4						1955	1955	402	0.21		353	0.18	
↑	F	1,3	3.4						2095	2095	431	0.21		378	0.18	
↑	F	1,3	3.4						2095	2095	431	0.21		378	0.18	
Pedestrian Crossing																
	Hp	1,3	MIN GREEN + FLASH =			5	+	10	=	15						

NOTES:

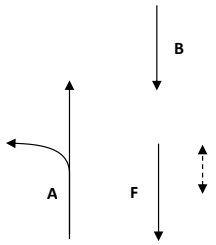
Flow: (pcu/hr)



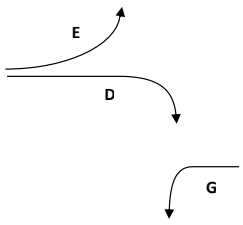
Group		A,D,C	Group		A,D,C
Sum of Critical *y*		0.45	Sum of Critical *y*		0.38
Lost Time ***L*** (sec)		17	Lost Time ***L*** (sec)		17
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.77	Practical *Y* ***Ypr***		0.76
Reserve Capacity		72%	Reserve Capacity		99%

Stage / Phase Diagrams

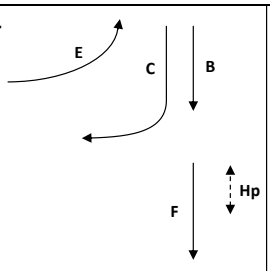
1.



2.



3.



4.

5.

I/G= 7		I/G= 7		I/G= 6		I/G=		I/G=	
I/G= 7		I/G= 7		I/G= 6		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Chik Wan Street

Junction No.: J09

TRAFFIC SIGNALS CALCULATION SHEET

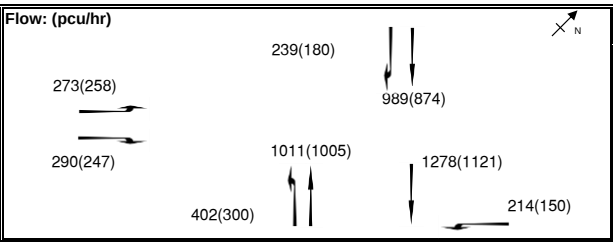
Junction: Mei Tin Road / Chik Wan Street Junction No.: J09

Scenario: Design Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road SB																
↑	B	1,3	3.3						2085	2085	330	0.16		291	0.14	
↑	B	1,3	3.3						2085	2085	329	0.16		292	0.14	
↑	B	1,3	3.3						2085	2085	330	0.16		291	0.14	
↱	C	3	3.3		15				1895	1895	239	0.13	0.13	180	0.09	0.09
Chik Wan Street EB																
↰	E	2,3	3.3	10					1815	1815	273	0.15		258	0.14	
↱	D	2	3.3		20				1360	1360	121	0.09		103	0.08	
↱	D	2	3.3		15				1895	1895	169	0.09	0.09	144	0.08	0.08
Mei Tin Road NB																
↰	A	1	3.6	15			95%	76%	1805	1835	422	0.23		395	0.22	0.22
↑	A	1	3.6						2115	2115	496	0.23	0.23	455	0.22	
↑	A	1	3.6						2115	2115	495	0.23		455	0.22	
PTI Egress WB																
↰	G	2	3.7	20					1975	1975	106	0.05		74	0.04	
↰	G	2	3.7	25					2005	2005	108	0.05		76	0.04	
Mei Tin Road (outside PTI) SB																
↑	F	1,3	3.4						1955	1955	407	0.21		357	0.18	
↑	F	1,3	3.4						2095	2095	435	0.21		382	0.18	
↑	F	1,3	3.4						2095	2095	436	0.21		382	0.18	
Pedestrian Crossing																
Hp	Hp	1,3	MIN GREEN + FLASH =			5	+	10	=	15						

NOTES:

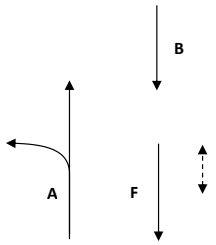
Flow: (pcu/hr)



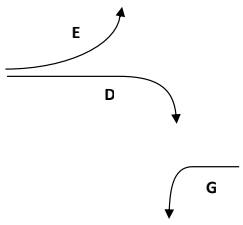
Group		A,D,C	Group		A,D,C
Sum of Critical *y*		0.45	Sum of Critical *y*		0.39
Lost Time ***L*** (sec)		17	Lost Time ***L*** (sec)		17
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.77	Practical *Y* ***Ypr***		0.76
Reserve Capacity		71%	Reserve Capacity		98%

Stage / Phase Diagrams

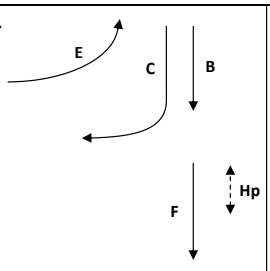
1.



2.



3.



4.

5.

I/G= 7		I/G= 7		I/G= 6		I/G=		I/G=	
I/G= 7		I/G= 7		I/G= 6		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Chik Wan Street

Junction No.: J09

TRAFFIC SIGNALS CALCULATION SHEET

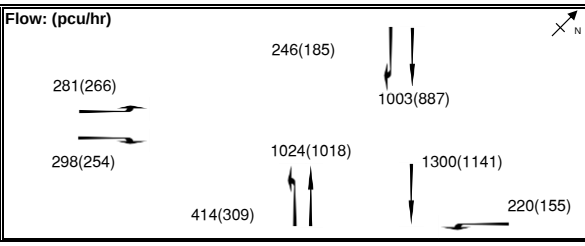
Junction: Mei Tin Road / Chik Wan Street Junction No.: J09

Scenario: Reference Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road SB																
↑	B	1,3	3.3						2085	2085	334	0.16		296	0.14	
↑	B	1,3	3.3						2085	2085	335	0.16		295	0.14	
↑	B	1,3	3.3						2085	2085	334	0.16		296	0.14	
↱	C	3	3.3		15				1895	1895	246	0.13	0.13	185	0.10	0.10
Chik Wan Street EB																
↰	E	2,3	3.3	10					1815	1815	281	0.15		266	0.15	
↱	D	2	3.3		20				1360	1360	125	0.09	0.09	106	0.08	
↱	D	2	3.3		15				1895	1895	173	0.09		148	0.08	0.08
Mei Tin Road NB																
↰	A	1	3.6	15			97%	77%	1800	1835	429	0.24		401	0.22	
↑	A	1	3.6						2115	2115	505	0.24	0.24	463	0.22	0.22
↑	A	1	3.6						2115	2115	504	0.24		463	0.22	
PTI Egress WB																
↰	G	2	3.7	20					1975	1975	109	0.06		77	0.04	
↰	G	2	3.7	25					2005	2005	111	0.06		78	0.04	
Mei Tin Road (outside PTI) SB																
↑	F	1,3	3.4						1955	1955	414	0.21		363	0.19	
↑	F	1,3	3.4						2095	2095	443	0.21		389	0.19	
↑	F	1,3	3.4						2095	2095	443	0.21		389	0.19	
Pedestrian Crossing																
	Hp	1,3	MIN GREEN + FLASH =			5	+	10	=	15						

NOTES:

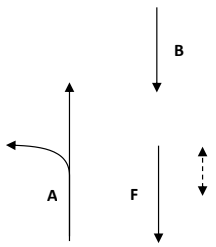
Flow: (pcu/hr)



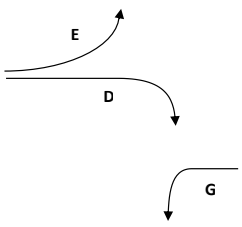
Group		A,D,C	Group		A,D,C
Sum of Critical *y*		0.46	Sum of Critical *y*		0.39
Lost Time ***L*** (sec)		17	Lost Time ***L*** (sec)		17
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.77	Practical *Y* ***Ypr***		0.76
Reserve Capacity		67%	Reserve Capacity		93%

Stage / Phase Diagrams

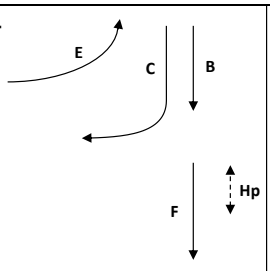
1.



2.



3.



4.

5.

I/G= 7		I/G= 7		I/G= 6		I/G=		I/G=	
I/G= 7		I/G= 7		I/G= 6		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Chik Wan Street

Junction No.: J09

TRAFFIC SIGNALS CALCULATION SHEET

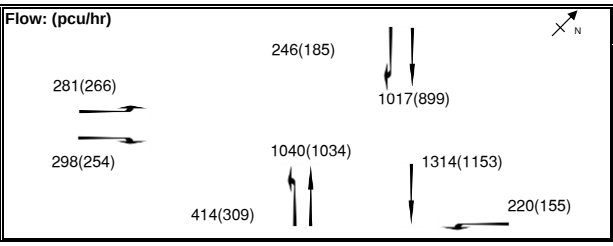
Junction: Mei Tin Road / Chik Wan Street Junction No.: J09

Scenario: Design Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road SB																
↑	B	1,3	3.3						2085	2085	339	0.16		300	0.14	
↑	B	1,3	3.3						2085	2085	339	0.16		299	0.14	
↑	B	1,3	3.3						2085	2085	339	0.16		300	0.14	
↱	C	3	3.3		15				1895	1895	246	0.13	0.13	185	0.10	0.10
Chik Wan Street EB																
↰	E	2,3	3.3	10					1815	1815	281	0.15		266	0.15	
↱	D	2	3.3		20				1360	1360	125	0.09	0.09	106	0.08	
↱	D	2	3.3		15				1895	1895	173	0.09		148	0.08	0.08
Mei Tin Road NB																
↰	A	1	3.6	15			95%	76%	1805	1835	435	0.24		406	0.22	
↑	A	1	3.6						2115	2115	510	0.24	0.24	469	0.22	0.22
↑	A	1	3.6						2115	2115	509	0.24		468	0.22	
PTI Egress WB																
↰	G	2	3.7	20					1975	1975	109	0.06		77	0.04	
↰	G	2	3.7	25					2005	2005	111	0.06		78	0.04	
Mei Tin Road (outside PTI) SB																
↑	F	1,3	3.4						1955	1955	418	0.21		367	0.19	
↑	F	1,3	3.4						2095	2095	448	0.21		393	0.19	
↑	F	1,3	3.4						2095	2095	448	0.21		393	0.19	
Pedestrian Crossing																
	Hp	1,3	MIN GREEN + FLASH =			5	+	10	=	15						

NOTES:

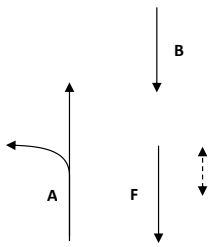
Flow: (pcu/hr)



Group		A,D,C	Group		A,D,C
Sum of Critical *y*		0.46	Sum of Critical *y*		0.40
Lost Time ***L*** (sec)		17	Lost Time ***L*** (sec)		17
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.77	Practical *Y* ***Ypr***		0.76
Reserve Capacity		66%	Reserve Capacity		92%

Stage / Phase Diagrams

1.



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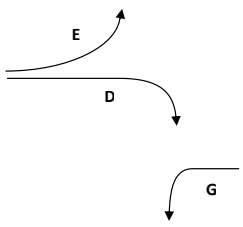

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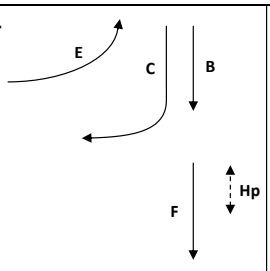


4.

5.

I/G= 7		I/G= 7		I/G= 6		I/G=		I/G=	
I/G= 7		I/G= 7		I/G= 6		I/G=		I/G=	

wsp

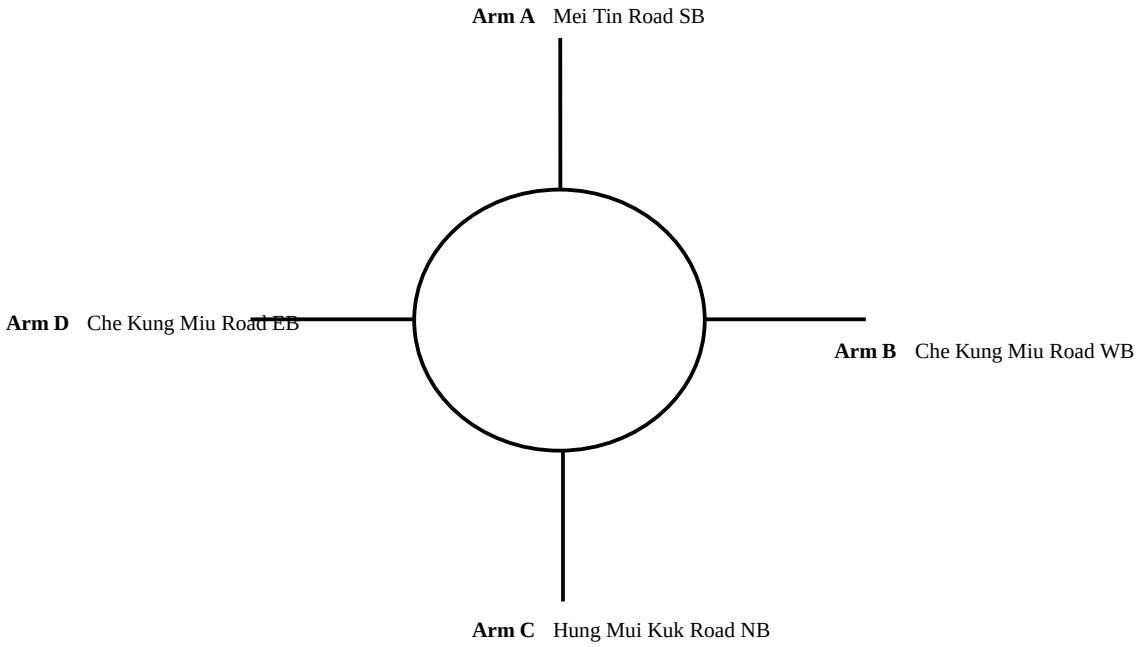
Junction: Mei Tin Road / Chik Wan Street

Junction No.: J09

Roundabout Junction Capacity Calculation

Junction : Che Kung Miu Road / Hung Mui Kuk Road / Mei Tin Road Junction No. : J10

Scenario : Observe Design Year : 2023



Geometry								Calculation				
	v	e	L	r	D	Phi	S		K	X_2	M	F
Arm A	10.0	13.0	16.0	30.0	76	22	0.30	Arm A	1.04	11.88	4.95	3598
Arm B	12.0	13.5	6.0	35.0	76	29	0.40	Arm B	1.02	12.83	4.95	3889
Arm C	10.5	13.5	8.0	50.0	76	20	0.60	Arm C	1.06	11.86	4.95	3595
Arm D	10.5	13.5	16.0	30.0	76	15	0.30	Arm D	1.07	12.38	4.95	3750

Flow						tD	fc	QE(AM)	QE(PM)
	Circ(AM)	Entry(AM)	Circ(PM)	Entry(PM)	Arm A	1.08	0.77	2668	2449
Arm A	1357	805	1630	549	Arm B	1.08	0.81	2446	2545
					Arm C	1.08	0.77	2506	2947
					Arm D	1.08	0.79	3016	3109

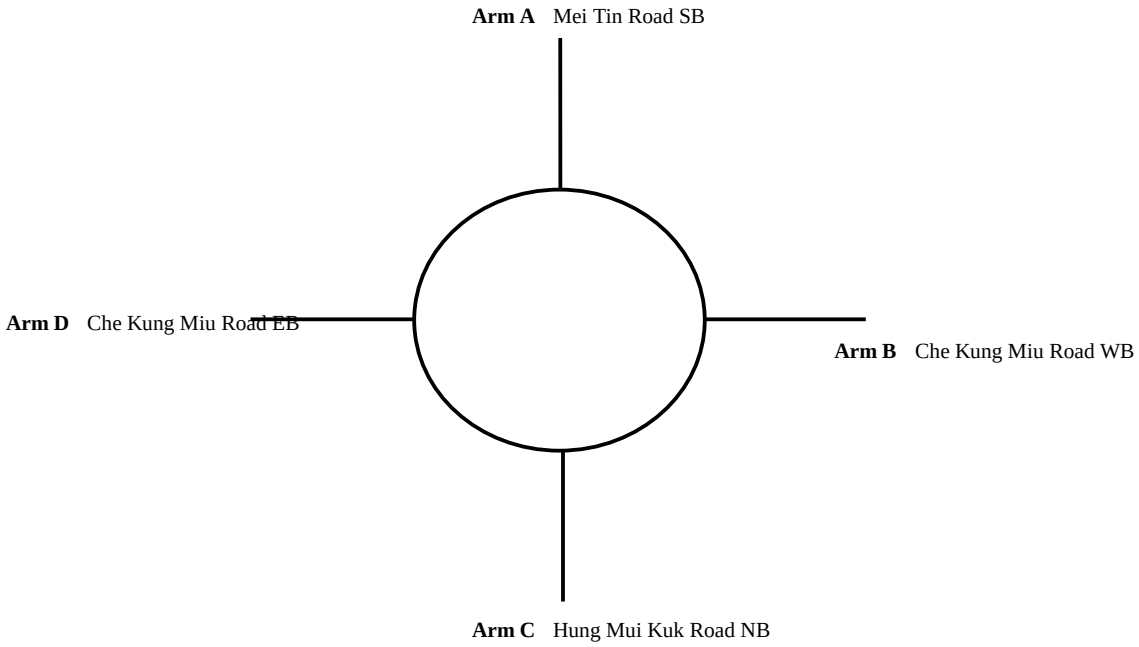
DFC		
	AM	PM
Arm A	0.30	0.22
Arm B	0.45	0.25
Arm C	0.56	0.38
Arm D	0.46	0.54
Crtical:	**Arm C**	**Arm D**
DFC:	**0.56**	**0.54**

Arm B	1849	1109	1730	645
Arm C	1614	1414	1075	1118
Arm D	1171	1395	1061	1691

Roundabout Junction Capacity Calculation

Junction : Che Kung Miu Road / Hung Mui Kuk Road / Mei Tin Road Junction No. : J10

Scenario : Reference Design Year : 2032



Geometry								Calculation				
	v	e	L	r	D	Phi	S		K	X_2	M	F
Arm A	7.0	9.0	16.0	65.0	76	20	0.20	Arm A	1.07	8.43	4.95	2554
Arm B	8.1	10.0	12.0	60.0	76	25	0.25	Arm B	1.05	9.36	4.95	2836
Arm C	6.8	9.3	15.0	60.0	76	20	0.27	Arm C	1.07	8.43	4.95	2554
Arm D	8.7	9.4	15.0	50.0	76	15	0.07	Arm D	1.08	9.31	4.95	2821

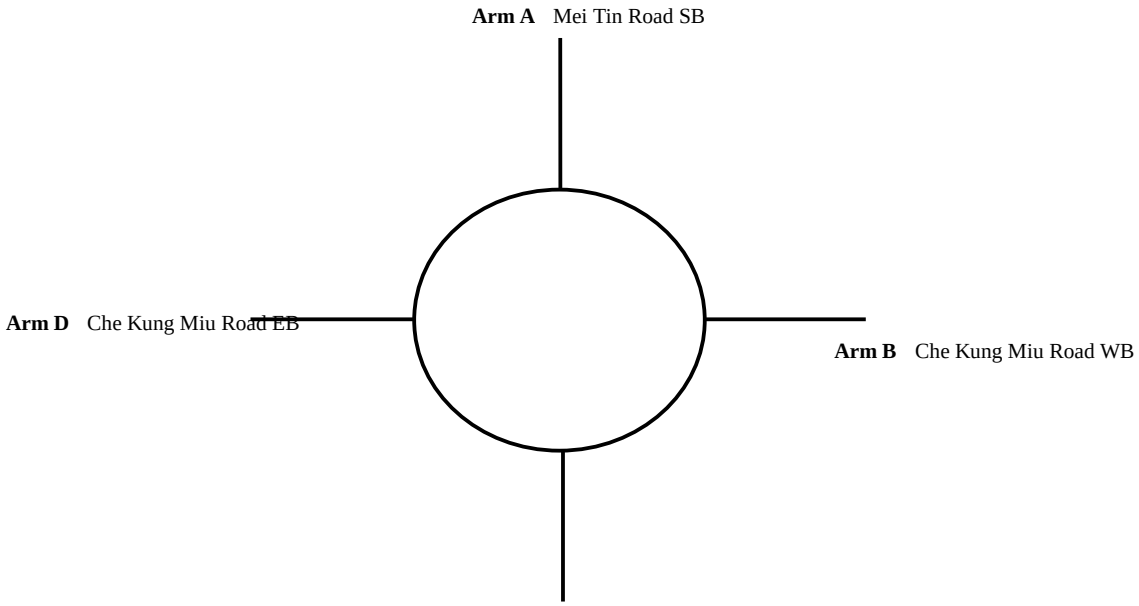
Flow						tD	fc	QE(AM)	QE(PM)
	Circ(AM)	Entry(AM)	Circ(PM)	Entry(PM)	Arm A	1.08	0.61	1565	1355
Arm A	1781	922	2103	626	Arm B	1.08	0.65	1542	1640
					Arm C	1.08	0.61	1380	1819
					Arm D	1.08	0.65	2046	2139

DFC		
	AM	PM
Arm A	0.59	0.46
Arm B	0.82	0.48
Arm C	0.81	0.49
Arm D	0.67	0.76
Crtical:	**Arm B**	**Arm D**
DFC:	**0.82**	**0.76**

Roundabout Junction Capacity Calculation

Junction : Che Kung Miu Road / Hung Mui Kuk Road / Mei Tin Road Junction No. : J10

Scenario : Design Design Year : 2032



Geometry							
	v	e	L	r	D	Phi	S
Arm A	7.0	9.0	16.0	65.0	76	20	0.20
Arm B	8.1	10.0	12.0	60.0	76	25	0.25
Arm C	6.8	9.3	15.0	60.0	76	20	0.27
Arm D	8.7	9.4	15.0	50.0	76	15	0.07

Calculation				
	K	X_2	M	F
Arm A	1.07	8.43	4.95	2554
Arm B	1.05	9.36	4.95	2836
Arm C	1.07	8.43	4.95	2554
Arm D	1.08	9.31	4.95	2821

Flow				
	Circ(AM)	Entry(AM)	Circ(PM)	Entry(PM)
Arm A	1781	936	2103	638
Arm B	2106	1269	1961	788
Arm C	2063	1128	1391	914
Arm D	1441	1362	1310	1623

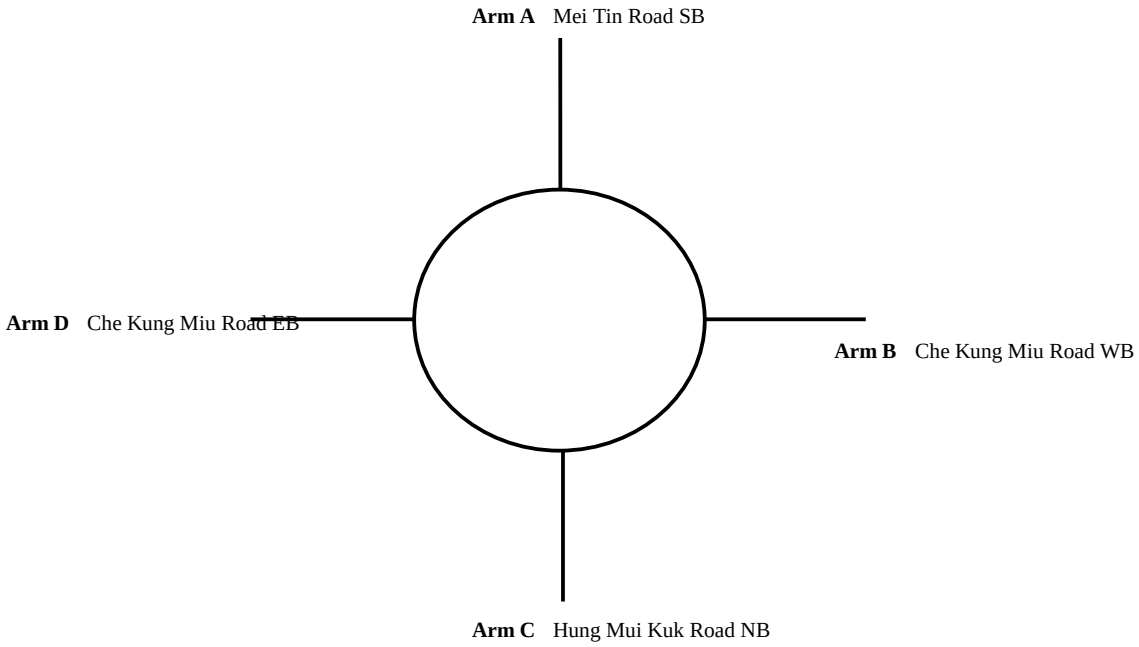
	tD	fc	QE(AM)	QE(PM)
Arm A	1.08	0.61	1565	1355
Arm B	1.08	0.65	1532	1632
Arm C	1.08	0.61	1380	1819
Arm D	1.08	0.65	2035	2127

DFC		
	AM	PM
Arm A	0.60	0.47
Arm B	0.83	0.48
Arm C	0.82	0.50
Arm D	0.67	0.76
Crtical:	**Arm B**	**Arm D**
DFC:	**0.83**	**0.76**

Roundabout Junction Capacity Calculation

Junction : Che Kung Miu Road / Hung Mui Kuk Road / Mei Tin Road Junction No. : J10

Scenario : Reference Design Year : 2035



Geometry								Calculation				
	v	e	L	r	D	Phi	S		K	X_2	M	F
Arm A	7.0	9.0	16.0	65.0	76	20	0.20	Arm A	1.07	8.43	4.95	2554
Arm B	8.1	10.0	12.0	60.0	76	25	0.25	Arm B	1.05	9.36	4.95	2836
Arm C	6.8	9.3	15.0	60.0	76	20	0.27	Arm C	1.07	8.43	4.95	2554
Arm D	8.7	9.4	15.0	50.0	76	15	0.07	Arm D	1.08	9.31	4.95	2821

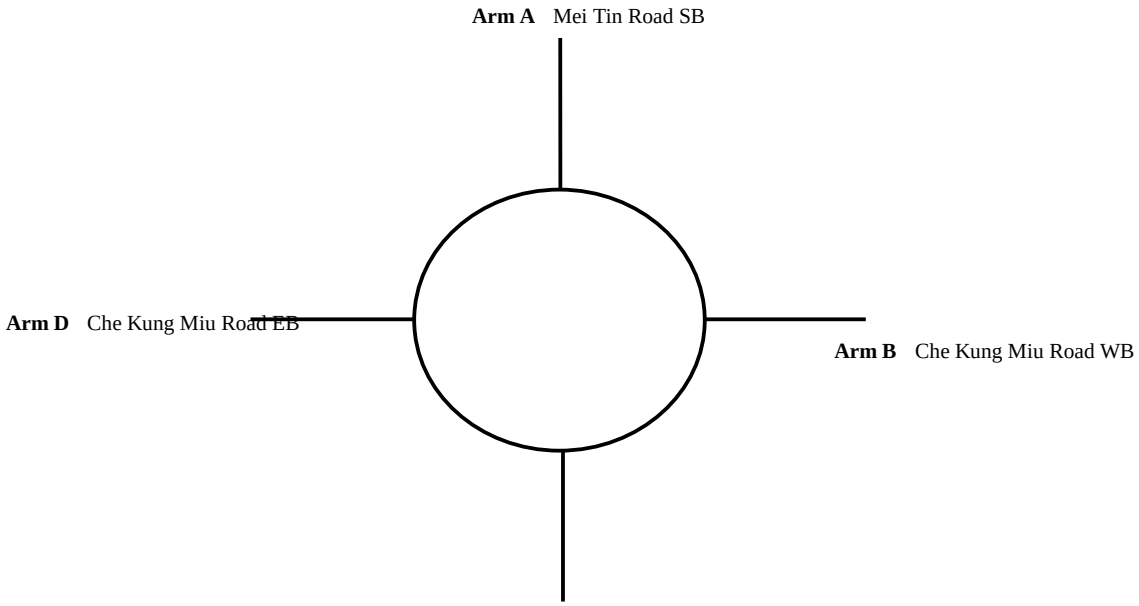
Flow						tD	fc	QE(AM)	QE(PM)
	Circ(AM)	Entry(AM)	Circ(PM)	Entry(PM)	Arm A	1.08	0.61	1535	1319
Arm A	1827	949	2158	644	Arm B	1.08	0.65	1499	1600
Arm B	2155	1297	2008	805	Arm C	1.08	0.61	1344	1795
Arm C	2118	1143	1427	923	Arm D	1.08	0.65	2019	2113
Arm D	1464	1398	1330	1666					

DFC		
	AM	PM
Arm A	0.62	0.49
Arm B	0.87	0.50
Arm C	0.85	0.51
Arm D	0.69	0.79
Crtical:	**Arm B**	**Arm D**
DFC:	**0.87**	**0.79**

Roundabout Junction Capacity Calculation

Junction : Che Kung Miu Road / Hung Mui Kuk Road / Mei Tin Road Junction No. : J10

Scenario : Design Design Year : 2035



Geometry							
	v	e	L	r	D	Phi	S
Arm A	7.0	9.0	16.0	65.0	76	20	0.20
Arm B	8.1	10.0	12.0	60.0	76	25	0.25
Arm C	6.8	9.3	15.0	60.0	76	20	0.27
Arm D	8.7	9.4	15.0	50.0	76	15	0.07

Calculation				
	K	X_2	M	F
Arm A	1.07	8.43	4.95	2554
Arm B	1.05	9.36	4.95	2836
Arm C	1.07	8.43	4.95	2554
Arm D	1.08	9.31	4.95	2821

Flow				
	Circ(AM)	Entry(AM)	Circ(PM)	Entry(PM)
Arm A	1827	963	2158	656
Arm B	2169	1297	2020	805
Arm C	2118	1159	1427	939
Arm D	1480	1398	1346	1666

	tD	fc	QE(AM)	QE(PM)
Arm A	1.08	0.61	1535	1319
Arm B	1.08	0.65	1489	1591
Arm C	1.08	0.61	1344	1795
Arm D	1.08	0.65	2008	2102

DFC

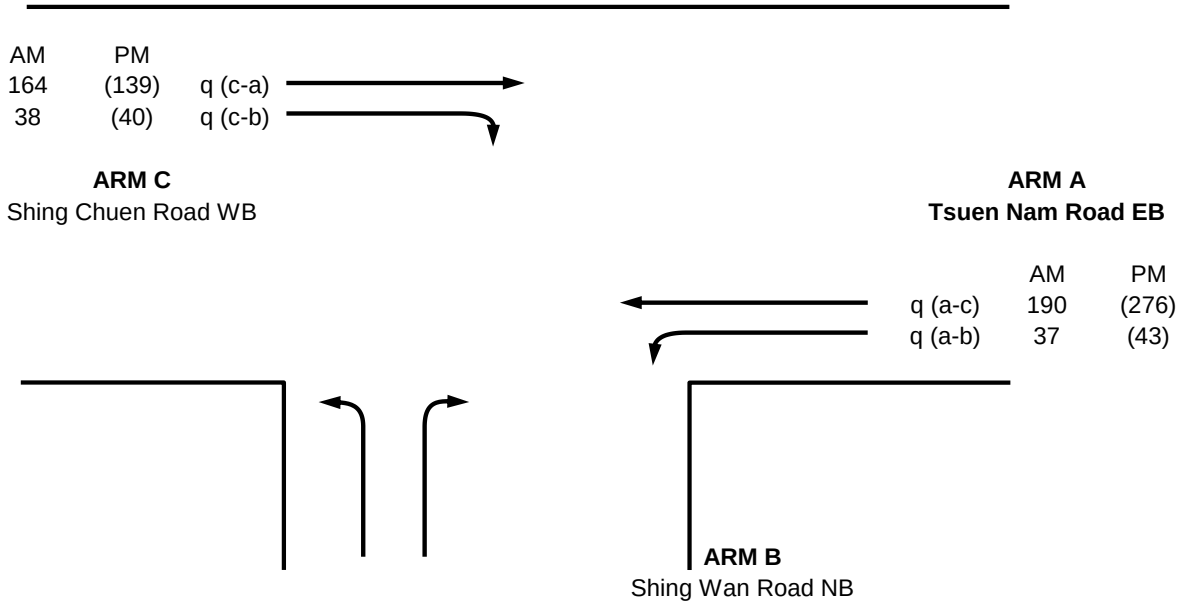
	AM	PM
Arm A	0.63	0.50
Arm B	0.87	0.51
Arm C	0.86	0.52
Arm D	0.70	0.79
Crtical:	**Arm B**	**Arm D**
DFC:	**0.87**	**0.79**

Priority Junction Capacity Calculation

Junction : Tsuen Nam Road / Shing Wan Road / Shing Chuen Road Junction No. : J11

Scenario : Observe Design Year : 2023

ARM A	Tsuen Nam Road EB
ARM B	Shing Wan Road NB
ARM C	Shing Chuen Road WB



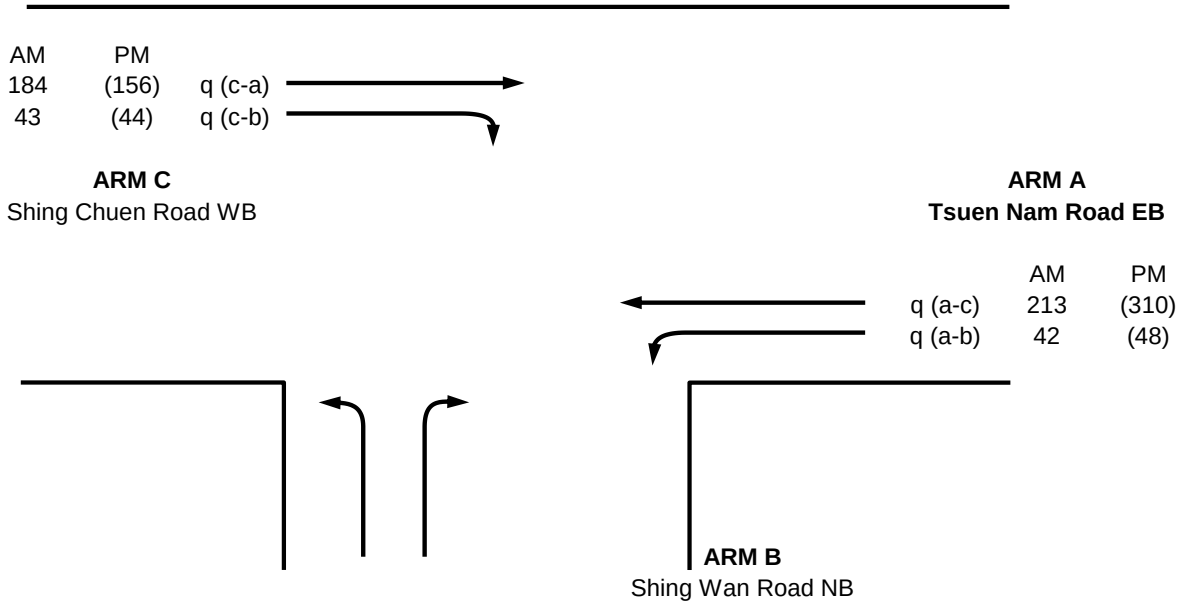
Geometry			Analysis						
Major Road Width	W	7.7	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			164		139
Residual Width	Wr(c-a)	2.1		q(c-b)			38		40
Lane Width	w(b-a)	0.0		q(a-b)			37		43
	w(b-c)	0.0		q(a-c)			190		276
	w(c-b)	3.0		q(b-a)			0		0
Visibilities				q(b-c)			0		0
	Vr(b-a)	0		f			0.00		0.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	0		Q(b-a)			283		272
	Vr(c-b)	150		Q(b-c)			404		391
Geometric Parameter				Q(c-b)			660		636
	D	0.533		Q(b-ac)			283		272
	E	0.586		Q(c-a)			1696		1687
	F	0.964	DFC's						
	Y	0.734		b-a			0.00		0.00
				b-ac			0.00		0.00
				c-b			0.06		0.06
				c-a			0.10		0.08
			Critical DFC				0.10		0.08

Priority Junction Capacity Calculation

Junction : Tsuen Nam Road / Shing Wan Road / Shing Chuen Road Junction No. : J11

Scenario : Reference Design Year : 2032

ARM A	Tsuen Nam Road EB
ARM B	Shing Wan Road NB
ARM C	Shing Chuen Road WB



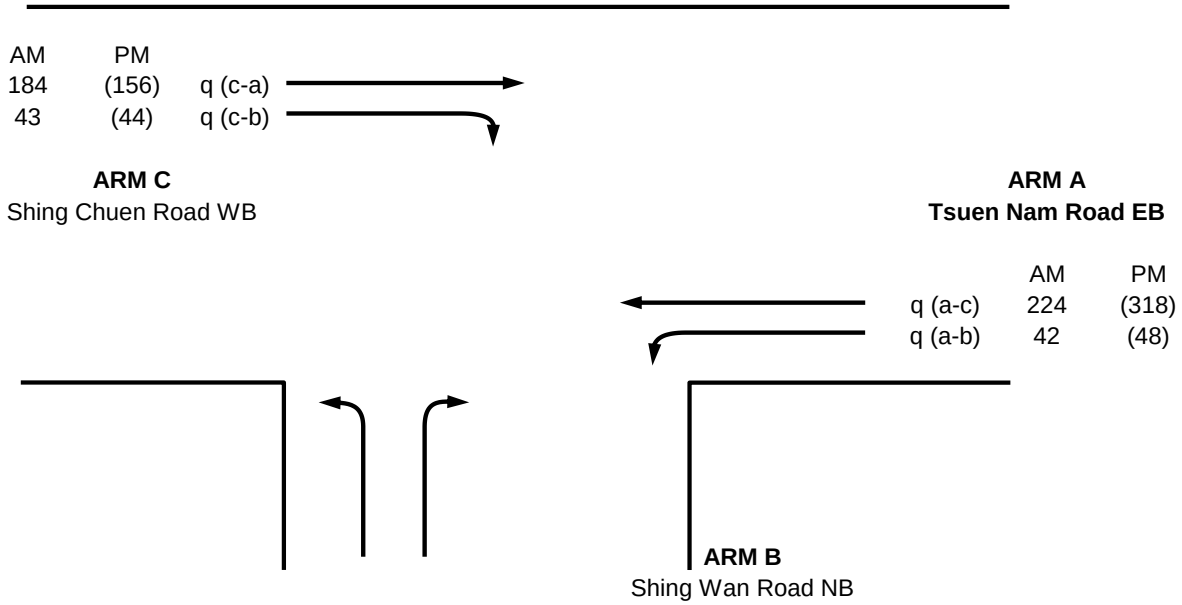
Geometry			Analysis						
Major Road Width	W	7.7	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			184		156
Residual Width	Wr(c-a)	2.1		q(c-b)			43		44
Lane Width	w(b-a)	0.0		q(a-b)			42		48
	w(b-c)	0.0		q(a-c)			213		310
	w(c-b)	3.0		q(b-a)			0		0
Visibilities				q(b-c)			0		0
	Vr(b-a)	0		f			0.00		0.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	0		Q(b-a)			276		264
	Vr(c-b)	150		Q(b-c)			401		385
Geometric Parameter				Q(c-b)			653		626
	D	0.533		Q(b-ac)			276		264
	E	0.586		Q(c-a)			1681		1674
	F	0.964	DFC's						
	Y	0.734		b-a			0.00		0.00
				b-ac			0.00		0.00
				c-b			0.07		0.07
				c-a			0.11		0.09
			Critical DFC				0.11		0.09

Priority Junction Capacity Calculation

Junction : Tsuen Nam Road / Shing Wan Road / Shing Chuen Road Junction No. : J11

Scenario : Design Design Year : 2032

ARM A	Tsuen Nam Road EB
ARM B	Shing Wan Road NB
ARM C	Shing Chuen Road WB



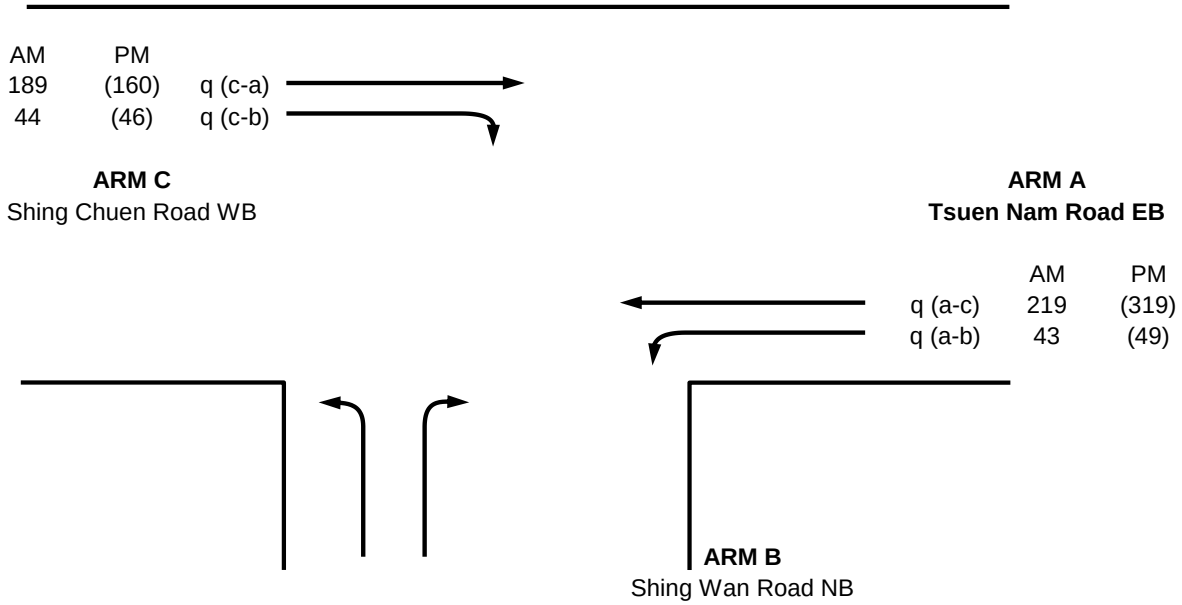
Geometry			Analysis						
Major Road Width	W	7.7	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			184		156
Residual Width	Wr(c-a)	2.1		q(c-b)			43		44
Lane Width	w(b-a)	0.0		q(a-b)			42		48
	w(b-c)	0.0		q(a-c)			224		318
	w(c-b)	3.0		q(b-a)			0		0
Visibilities				q(b-c)			0		0
	Vr(b-a)	0		f			0.00		0.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	0		Q(b-a)			275		263
	Vr(c-b)	150		Q(b-c)			399		384
Geometric Parameter				Q(c-b)			650		624
	D	0.533		Q(b-ac)			275		263
	E	0.586		Q(c-a)			1681		1673
	F	0.964	DFC's						
	Y	0.734		b-a			0.00		0.00
				b-ac			0.00		0.00
				c-b			0.07		0.07
				c-a			0.11		0.09
			Critical DFC				0.11		0.09

Priority Junction Capacity Calculation

Junction : Tsuen Nam Road / Shing Wan Road / Shing Chuen Road Junction No. : J11

Scenario : Reference Design Year : 2035

ARM A	Tsuen Nam Road EB
ARM B	Shing Wan Road NB
ARM C	Shing Chuen Road WB



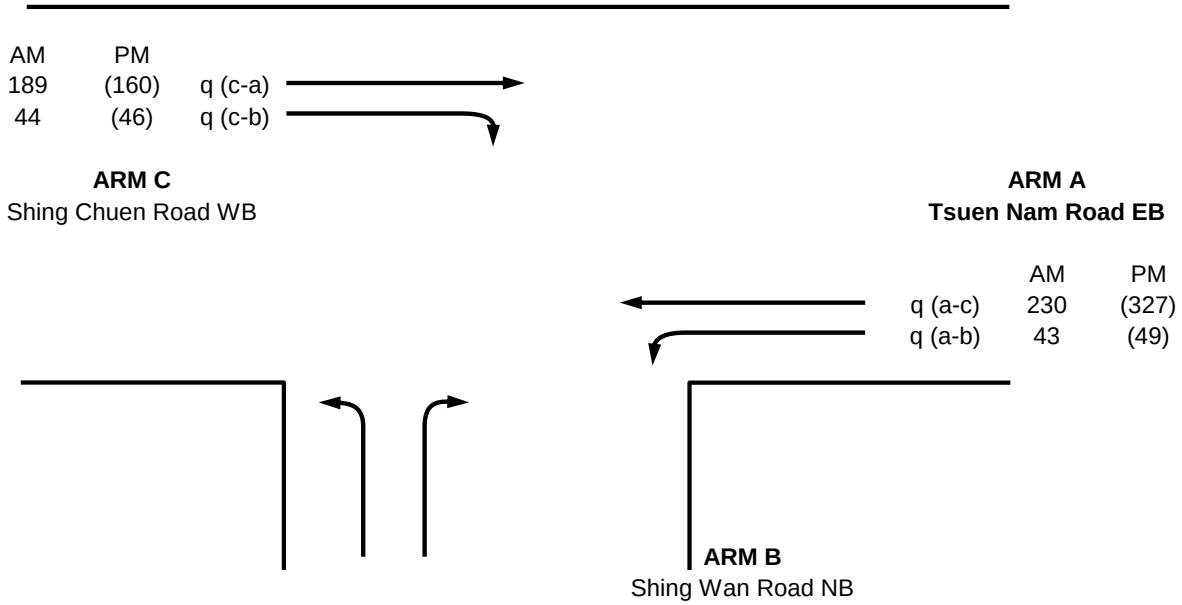
Geometry			Analysis					
Major Road Width	W	7.7	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		189		160
Residual Width	Wr(c-a)	2.1		q(c-b)		44		46
Lane Width	w(b-a)	0.0		q(a-b)		43		49
	w(b-c)	0.0		q(a-c)		219		319
	w(c-b)	3.0		q(b-a)		0		0
Visibilities				q(b-c)		0		0
	Vr(b-a)	0		f		0.00		0.00
	Vl(b-a)	0	Capacities					
	Vr(b-c)	0		Q(b-a)		275		262
	Vr(c-b)	150		Q(b-c)		400		384
Geometric Parameter				Q(c-b)		651		624
	D	0.533		Q(b-ac)		275		262
	E	0.586		Q(c-a)		1678		1667
	F	0.964	DFC's					
	Y	0.734		b-a		0.00		0.00
				b-ac		0.00		0.00
				c-b		0.07		0.07
				c-a		0.11		0.10
			Critical DFC			0.11		0.10

Priority Junction Capacity Calculation

Junction : Tsuen Nam Road / Shing Wan Road / Shing Chuen Road Junction No. : J11

Scenario : Design Design Year : 2035

ARM A	Tsuen Nam Road EB
ARM B	Shing Wan Road NB
ARM C	Shing Chuen Road WB



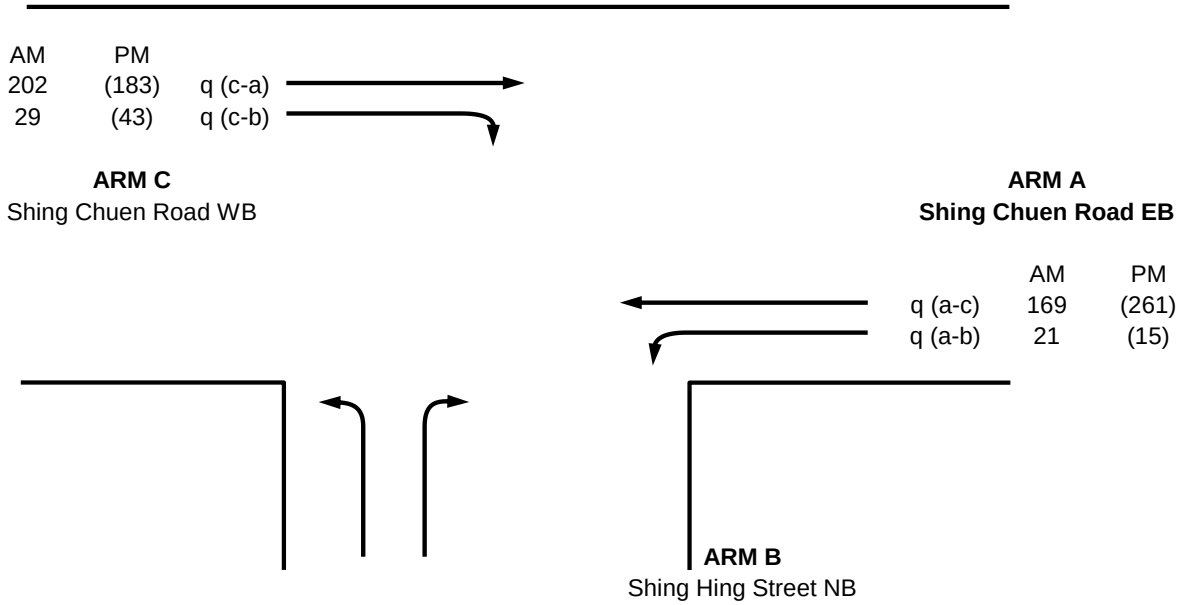
Geometry			Analysis						
Major Road Width	W	7.7	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			189		160
Residual Width	Wr(c-a)	2.1		q(c-b)			44		46
Lane Width	w(b-a)	0.0		q(a-b)			43		49
	w(b-c)	0.0		q(a-c)			230		327
	w(c-b)	3.0		q(b-a)			0		0
Visibilities				q(b-c)			0		0
	Vr(b-a)	0		f			0.00		0.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	0		Q(b-a)			273		261
	Vr(c-b)	150		Q(b-c)			398		382
Geometric Parameter				Q(c-b)			648		621
	D	0.533		Q(b-ac)			273		261
	E	0.586		Q(c-a)			1678		1667
	F	0.964	DFC's						
	Y	0.734		b-a			0.00		0.00
				b-ac			0.00		0.00
				c-b			0.07		0.07
				c-a			0.11		0.10
			Critical DFC				0.11		0.10

Priority Junction Capacity Calculation

Junction : Shing Chuen Road / Shing Hing Street Junction No. : J12

Scenario : Observe Design Year : 2023

ARM A	Shing Chuen Road EB
ARM B	Shing Hing Street NB
ARM C	Shing Chuen Road WB



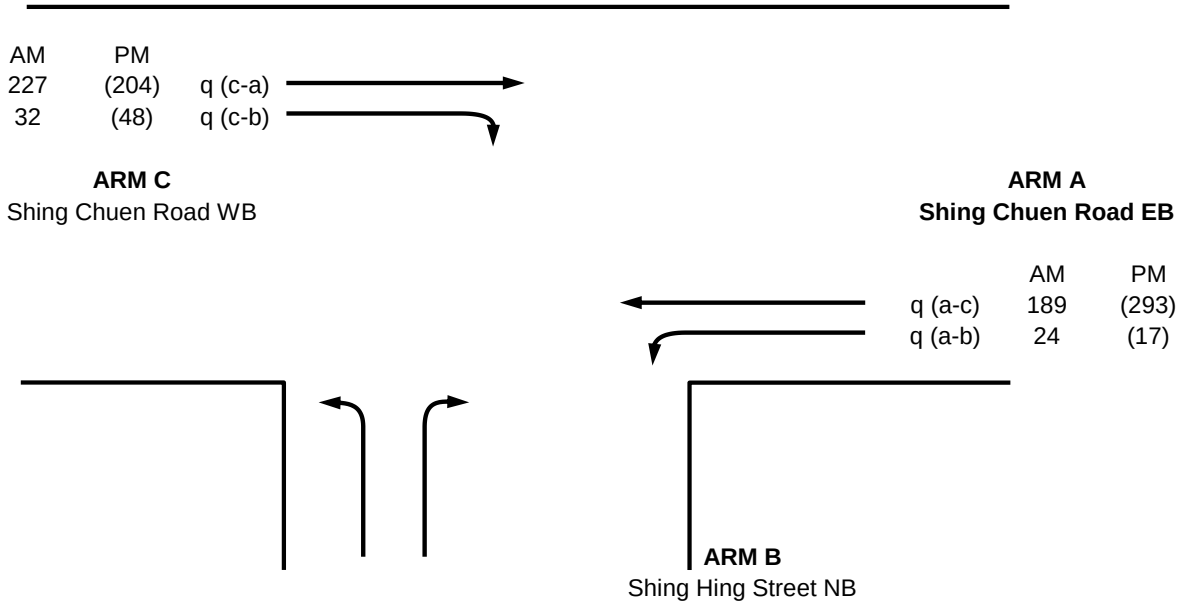
Geometry			Analysis						
Major Road Width	W	7.7	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			202		183
				q(c-b)			29		43
Lane Width	w(b-a)	0.0		q(a-b)			21		15
	w(b-c)	0.0		q(a-c)			169		261
	w(c-b)	3.5		q(b-a)			0		0
Visibilities				q(b-c)			0		0
	Vr(b-a)	0		f			0.00		0.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	0		Q(b-a)			285		271
	Vr(c-b)	250		Q(b-c)			409		395
Geometric Parameter				Q(c-b)			765		739
	D	0.533		Q(b-ac)			285		271
	E	0.586							
	F	1.101	DFC's						
	Y	0.734		b-a			0.00		0.00
				b-ac			0.00		0.00
				c-b			0.04		0.06
			Critical DFC				0.04		0.06

Priority Junction Capacity Calculation

Junction : Shing Chuen Road / Shing Hing Street Junction No. : J12

Scenario : Reference Design Year : 2032

ARM A	Shing Chuen Road EB
ARM B	Shing Hing Street NB
ARM C	Shing Chuen Road WB



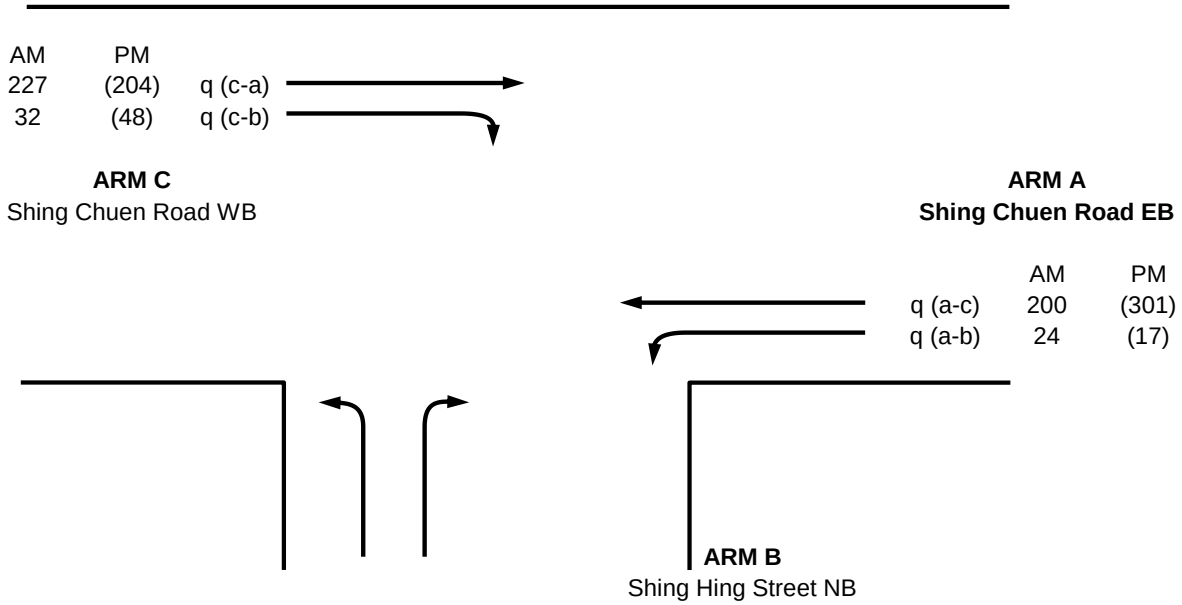
Geometry			Analysis						
Major Road Width	W	7.7	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			227		204
				q(c-b)			32		48
Lane Width	w(b-a)	0.0		q(a-b)			24		17
	w(b-c)	0.0		q(a-c)			189		293
	w(c-b)	3.5		q(b-a)			0		0
Visibilities				q(b-c)			0		0
	Vr(b-a)	0		f			0.00		0.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	0		Q(b-a)			279		264
	Vr(c-b)	250		Q(b-c)			405		390
Geometric Parameter				Q(c-b)			758		729
	D	0.533		Q(b-ac)			279		264
	E	0.586							
	F	1.101	DFC's						
	Y	0.734		b-a			0.00		0.00
				b-ac			0.00		0.00
				c-b			0.04		0.07
			Critical DFC				0.04		0.07

Priority Junction Capacity Calculation

Junction : Shing Chuen Road / Shing Hing Street Junction No. : J12

Scenario : Design Design Year : 2032

ARM A	Shing Chuen Road EB
ARM B	Shing Hing Street NB
ARM C	Shing Chuen Road WB



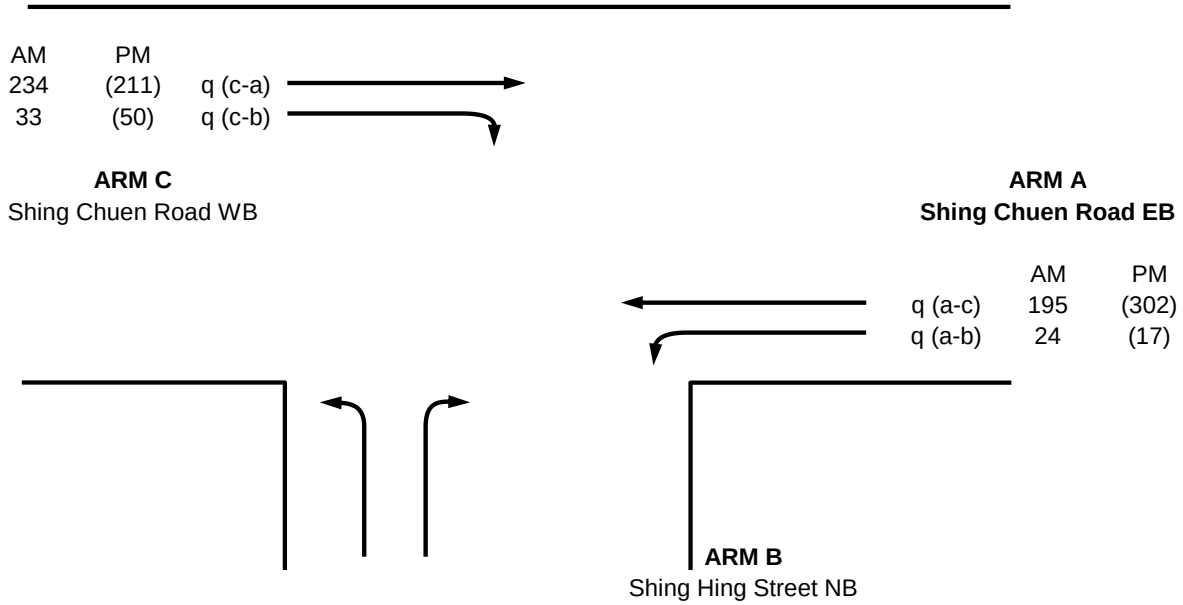
Geometry			Analysis						
Major Road Width	W	7.7	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			227		204
				q(c-b)			32		48
Lane Width	w(b-a)	0.0		q(a-b)			24		17
	w(b-c)	0.0		q(a-c)			200		301
	w(c-b)	3.5		q(b-a)			0		0
Visibilities				q(b-c)			0		0
	Vr(b-a)	0		f			0.00		0.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	0		Q(b-a)			278		262
	Vr(c-b)	250		Q(b-c)			404		388
Geometric Parameter				Q(c-b)			754		727
	D	0.533		Q(b-ac)			278		262
	E	0.586							
	F	1.101	DFC's						
	Y	0.734		b-a			0.00		0.00
				b-ac			0.00		0.00
				c-b			0.04		0.07
			Critical DFC				0.04		0.07

Priority Junction Capacity Calculation

Junction : Shing Chuen Road / Shing Hing Street Junction No. : J12

Scenario : Reference Design Year : 2035

ARM A	Shing Chuen Road EB
ARM B	Shing Hing Street NB
ARM C	Shing Chuen Road WB



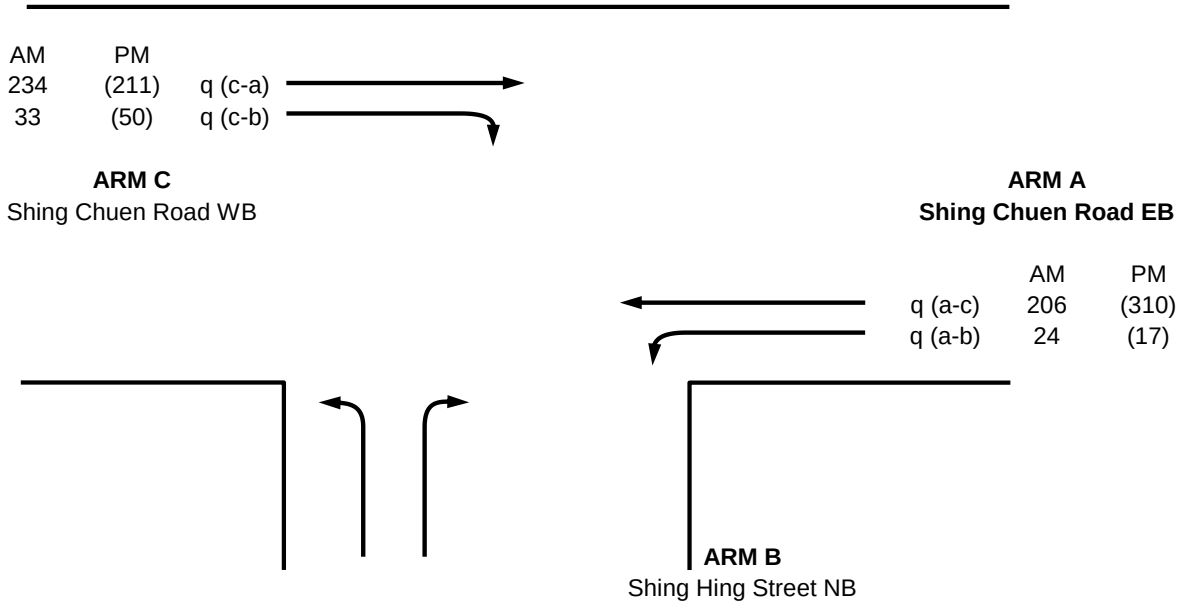
Geometry			Analysis						
Major Road Width	W	7.7	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			234		211
				q(c-b)			33		50
Lane Width	w(b-a)	0.0		q(a-b)			24		17
	w(b-c)	0.0		q(a-c)			195		302
	w(c-b)	3.5		q(b-a)			0		0
Visibilities				q(b-c)			0		0
	Vr(b-a)	0		f			0.00		0.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	0		Q(b-a)			277		261
	Vr(c-b)	250		Q(b-c)			405		388
Geometric Parameter				Q(c-b)			756		727
	D	0.533		Q(b-ac)			277		261
	E	0.586							
	F	1.101	DFC's						
	Y	0.734		b-a			0.00		0.00
				b-ac			0.00		0.00
				c-b			0.04		0.07
			Critical DFC				0.04		0.07

Priority Junction Capacity Calculation

Junction : Shing Chuen Road / Shing Hing Street Junction No. : J12

Scenario : Design Design Year : 2035

ARM A	Shing Chuen Road EB
ARM B	Shing Hing Street NB
ARM C	Shing Chuen Road WB



Geometry			Analysis						
Major Road Width	W	7.7	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			234		211
				q(c-b)			33		50
Lane Width	w(b-a)	0.0		q(a-b)			24		17
	w(b-c)	0.0		q(a-c)			206		310
	w(c-b)	3.5		q(b-a)			0		0
Visibilities				q(b-c)			0		0
	Vr(b-a)	0		f			0.00		0.00
	Vl(b-a)	0	Capacities						
	Vr(b-c)	0		Q(b-a)			276		260
	Vr(c-b)	250		Q(b-c)			403		387
Geometric Parameter				Q(c-b)			753		724
	D	0.533		Q(b-ac)			276		260
	E	0.586							
	F	1.101	DFC's						
	Y	0.734		b-a			0.00		0.00
				b-ac			0.00		0.00
				c-b			0.04		0.07
			Critical DFC				0.04		0.07

TRAFFIC SIGNALS CALCULATION SHEET

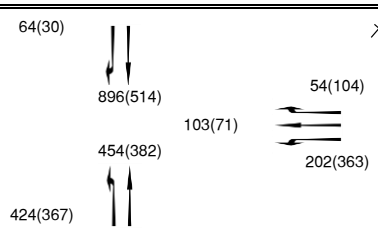
Junction: Mei Tin Road / Tsing Sha Highway Junction No.: J14

Scenario: Observe Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Mei Tin Road NB																
←	C	1	3.3	35					2000	2000	286	0.14		244	0.12	
↑	C	1	3.3	40			47%	49%	2050	2045	294	0.14		250	0.12	
↑	C	1	3.3						2085	2085	298	0.14		255	0.12	0.12
Tsing Sha Highway WB																
←	E	3	5.0	10					1765	1765	202	0.11	0.11	363	0.21	0.21
↑	D	3	3.5						1895	1895	76	0.04		71	0.04	
→	D	3	3.5		25		67%	100%	2025	1985	81	0.04		104	0.05	
Mei Tin Road SB																
↑	A	1,2	3.3						2085	2085	448	0.21	0.21	257	0.12	
↑	A	1,2	3.3						2085	2085	448	0.21		257	0.12	
→	B	2	3.3		10				1815	1815	64	0.04		30	0.02	

NOTES:

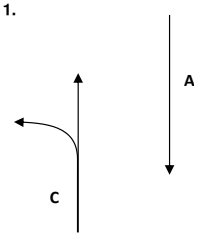
Flow: (pcu/hr)



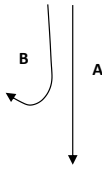
Group		A,E	Group		C,B,E
Sum of Critical *y*		0.33	Sum of Critical *y*		0.33
Lost Time ***L*** (sec)		11	Lost Time ***L*** (sec)		22
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.81	Practical *Y* ***Ypr***		0.72
Reserve Capacity		>100%	Reserve Capacity		>100%

Stage / Phase Diagrams

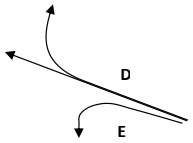
1.



2.



3.



4.

5.

I/G= 5		I/G=		I/G= 8		I/G=		I/G=	
I/G= 5		I/G= 6	5	I/G= 8		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Tsing Sha Highway

Junction No.: J14

TRAFFIC SIGNALS CALCULATION SHEET

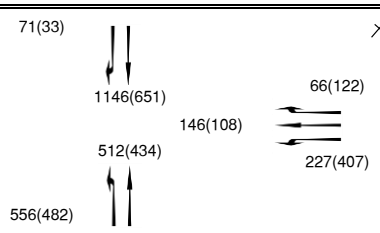
Junction: Mei Tin Road / Tsing Sha Highway Junction No.: J14

Scenario: Reference Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m)		Gradient in %	Proportion Turning (%)		Saturation Flow (pcu/hr)		AM Peak			PM Peak		
				Left	Right		AM	PM	AM	PM	Design Flow (pcu/hr)	Flow Factor y	Critical y	Design Flow (pcu/hr)	Flow Factor y	Critical y
Mei Tin Road NB																
↰	C	1	3.3	35					2000	2000	349	0.17		299	0.15	
↑	C	1	3.3	40			58%	60%	2040	2040	355	0.17		305	0.15	
↑	C	1	3.3						2085	2085	364	0.17		312	0.15	0.15
Tsing Sha Highway WB																
↰	E	3	5.0	10					1765	1765	227	0.13	0.13	407	0.23	0.23
↑	D	3	3.5						1895	1895	102	0.05		108	0.06	
↱	D	3	3.5		25		60%	100%	2030	1985	110	0.05		122	0.06	
Mei Tin Road SB																
↑	A	1,2	3.3						2085	2085	573	0.27	0.27	326	0.16	
↑	A	1,2	3.3						2085	2085	573	0.27		325	0.16	
↱	B	2	3.3		10				1815	1815	71	0.04		33	0.02	

NOTES:

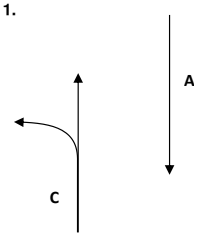
Flow: (pcu/hr)



Group		A,E	Group		C,B,E
Sum of Critical *y*		0.40	Sum of Critical *y*		0.38
Lost Time ***L*** (sec)		11	Lost Time ***L*** (sec)		22
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.81	Practical *Y* ***Ypr***		0.72
Reserve Capacity		>100%	Reserve Capacity		90%

Stage / Phase Diagrams

1.



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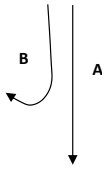
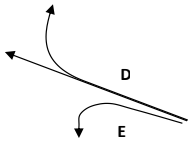


3.



4.

5.

I/G= 5		I/G=		I/G= 8		I/G=		I/G=	
I/G= 5		I/G= 6	5	I/G= 8		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Tsing Sha Highway

Junction No.: J14

TRAFFIC SIGNALS CALCULATION SHEET

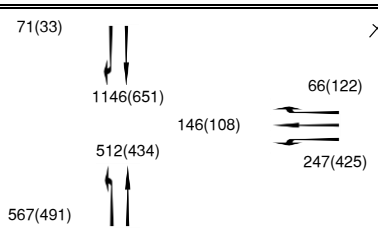
Junction: Mei Tin Road / Tsing Sha Highway Junction No.: J14

Scenario: Design Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m)		Gradient in %	Proportion Turning (%)		Saturation Flow (pcu/hr)		AM Peak			PM Peak		
				Left	Right		AM	PM	AM	PM	Design Flow (pcu/hr)	Flow Factor y	Critical y	Design Flow (pcu/hr)	Flow Factor y	Critical y
Mei Tin Road NB																
←	C	1	3.3	35					2000	2000	352	0.18		302	0.15	
↑	C	1	3.3	40			60%	61%	2040	2040	360	0.18		308	0.15	
↑	C	1	3.3						2085	2085	367	0.18		315	0.15	0.15
Tsing Sha Highway WB																
←	E	3	5.0	10					1765	1765	247	0.14	0.14	425	0.24	0.24
↑	D	3	3.5						1895	1895	102	0.05		108	0.06	
→	D	3	3.5		25		60%	100%	2030	1985	110	0.05		122	0.06	
Mei Tin Road SB																
↑	A	1,2	3.3						2085	2085	573	0.27	0.27	326	0.16	
↑	A	1,2	3.3						2085	2085	573	0.27		325	0.16	
→	B	2	3.3		10				1815	1815	71	0.04		33	0.02	

NOTES:

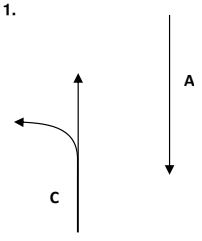
Flow: (pcu/hr)



Group		A,E	Group		C,B,E
Sum of Critical *y*		0.41	Sum of Critical *y*		0.39
Lost Time ***L*** (sec)		11	Lost Time ***L*** (sec)		22
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.81	Practical *Y* ***Ypr***		0.72
Reserve Capacity		96%	Reserve Capacity		85%

Stage / Phase Diagrams

1.



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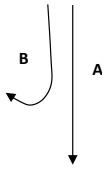

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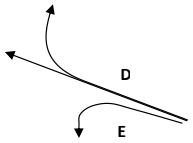


4.

5.

I/G= 5		I/G=		I/G= 8		I/G=		I/G=	
I/G= 5		I/G= 6	5	I/G= 8		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Tsing Sha Highway

Junction No.: J14

TRAFFIC SIGNALS CALCULATION SHEET

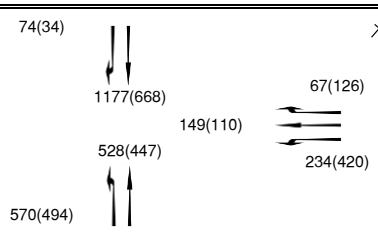
Junction: Mei Tin Road / Tsing Sha Highway Junction No.: J14

Scenario: Reference Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m)		Gradient in %	Proportion Turning (%)		Saturation Flow (pcu/hr)		AM Peak			PM Peak		
				Left	Right		AM	PM	AM	PM	Design Flow (pcu/hr)	Flow Factor y	Critical y	Design Flow (pcu/hr)	Flow Factor y	Critical y
Mei Tin Road NB																
←	C	1	3.3	35					2000	2000	358	0.18		307	0.15	
↑	C	1	3.3	40			58%	60%	2040	2040	366	0.18		314	0.15	0.15
↑	C	1	3.3						2085	2085	374	0.18		320	0.15	
Tsing Sha Highway WB																
←	E	3	5.0	10					1765	1765	234	0.13	0.13	420	0.24	0.24
↑	D	3	3.5						1895	1895	104	0.05		110	0.06	
→	D	3	3.5		25		60%	100%	2030	1985	112	0.06		126	0.06	
Mei Tin Road SB																
↑	A	1,2	3.3						2085	2085	589	0.28	0.28	334	0.16	
↑	A	1,2	3.3						2085	2085	588	0.28		334	0.16	
→	B	2	3.3		10				1815	1815	74	0.04		34	0.02	

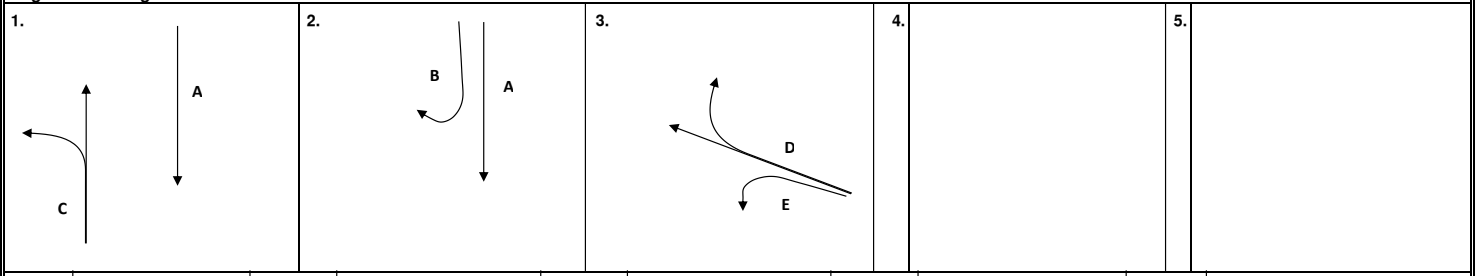
NOTES:

Flow: (pcu/hr)



Group		A,E	Group		C,B,E
Sum of Critical *y*		0.42	Sum of Critical *y*		0.39
Lost Time ***L*** (sec)		11	Lost Time ***L*** (sec)		22
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.81	Practical *Y* ***Ypr***		0.72
Reserve Capacity		96%	Reserve Capacity		85%

Stage / Phase Diagrams



I/G= 5		I/G=		I/G= 8		I/G=		I/G=	
I/G= 5		I/G= 6	5	I/G= 8		I/G=		I/G=	

wsp

Junction: Mei Tin Road / Tsing Sha Highway

Junction No.: J14

TRAFFIC SIGNALS CALCULATION SHEET

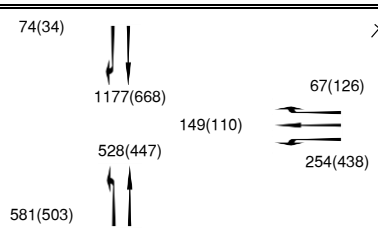
Junction: Mei Tin Road / Tsing Sha Highway Junction No.: J14

Scenario: Design Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m)		Gradient in %	Proportion Turning (%)		Saturation Flow (pcu/hr)		AM Peak			PM Peak		
				Left	Right		AM	PM	AM	PM	Design Flow (pcu/hr)	Flow Factor y	Critical y	Design Flow (pcu/hr)	Flow Factor y	Critical y
Mei Tin Road NB																
←	C	1	3.3	35					2000	2000	362	0.18		310	0.16	
↑	C	1	3.3	40			59%	61%	2040	2040	369	0.18		317	0.16	0.16
↑	C	1	3.3						2085	2085	378	0.18		323	0.15	
Tsing Sha Highway WB																
←	E	3	5.0	10					1765	1765	254	0.14	0.14	438	0.25	0.25
↑	D	3	3.5						1895	1895	104	0.05		110	0.06	
→	D	3	3.5		25		60%	100%	2030	1985	112	0.06		126	0.06	
Mei Tin Road SB																
↑	A	1,2	3.3						2085	2085	589	0.28	0.28	334	0.16	
↑	A	1,2	3.3						2085	2085	588	0.28		334	0.16	
→	B	2	3.3		10				1815	1815	74	0.04		34	0.02	

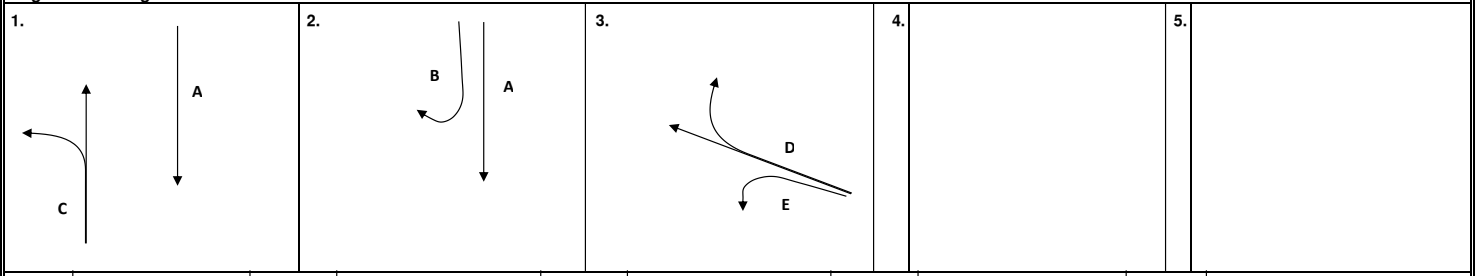
NOTES:

Flow: (pcu/hr)



Group		A,E	Group		C,B,E
Sum of Critical *y*		0.43	Sum of Critical *y*		0.40
Lost Time ***L*** (sec)		11	Lost Time ***L*** (sec)		22
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.81	Practical *Y* ***Ypr***		0.72
Reserve Capacity		91%	Reserve Capacity		79%

Stage / Phase Diagrams



I/G= 5		I/G=		I/G= 8		I/G=		I/G=	
I/G= 5		I/G= 6	5	I/G= 8		I/G=		I/G=	

TRAFFIC SIGNALS CALCULATION SHEET

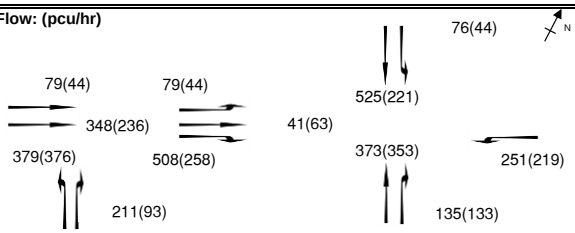
Junction: Mei Tin Road / Heung Fan Liu Street Junction No.: J15

Scenario: Observe Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Heung Fan Liu Street EB																
←	E	4	3.3	10					1690	1690	79	0.05		44	0.03	
↑	E	4	3.3						2085	2085	174	0.08	0.08	118	0.06	0.06
↑	E	4	3.3						2085	2085	174	0.08		118	0.06	
Mei Fai Street NB																
←	F	2,3	4.0	20					1875	1875	379	0.20	0.20	376	0.20	0.20
↱	F	2,3	4.0		15				1960	1960	108	0.06		48	0.02	
↱	F	2,3	4.0		10				1875	1875	103	0.05		45	0.02	
Heung Fan Liu Street EB																
←	D	3,4	5.0	10					1840	1840	79	0.04		44	0.02	
↱	D	3,4	4.0		15		85%	62%	1985	2030	282	0.14		167	0.08	
↱	D	3,4	4.0		10				1875	1875	267	0.14		154	0.08	
Mei Tin Road NB																
↑	B	1,2	3.5						1965	1965	180	0.09		170	0.09	
↑	B	1,2	3.5						2105	2105	193	0.09		183	0.09	
↱	C	2	3.5		15				1915	1915	135	0.07		133	0.07	
PTI access WB																
←	C	2	5.0	10					1840	1840	251	0.14		219	0.12	
Mei Tin Road SB																
←	A	1	3.3	10			42%	55%	1830	1795	183	0.10		80	0.04	
↑	A	1	3.3						2085	2085	209	0.10	0.10	93	0.04	0.04
↑	A	1	3.3						2085	2085	209	0.10		92	0.04	
Pedestrian Crossing																
	Gp	3,4,5	MIN GREEN + FLASH =			5	+	10	=	15						
	Hp	1,2,5	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	5	MIN GREEN + FLASH =			5	+	7	=	12			*			*
	Jp	1,5	MIN GREEN + FLASH =			5	+	12	=	17						
	Kp	1,4,5	MIN GREEN + FLASH =			5	+	10	=	15						

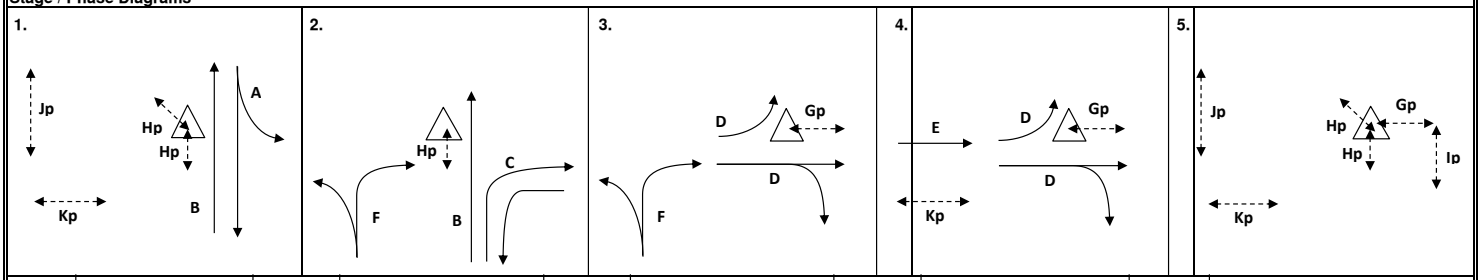
NOTES:

Flow: (pcu/hr)



Group		A,F,E,Ip	Group		A,F,E,Ip
Sum of Critical *y*		0.39	Sum of Critical *y*		0.30
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		73%	Reserve Capacity		>100%

Stage / Phase Diagrams



I/G= 2		I/G= 5		I/G=		I/G= 6		I/G= 8	12		
I/G= 2		I/G= 5		I/G=		I/G= 6		I/G= 8	12		

wsp

Junction: Mei Tin Road / Heung Fan Liu Street

Junction No.: J15

TRAFFIC SIGNALS CALCULATION SHEET

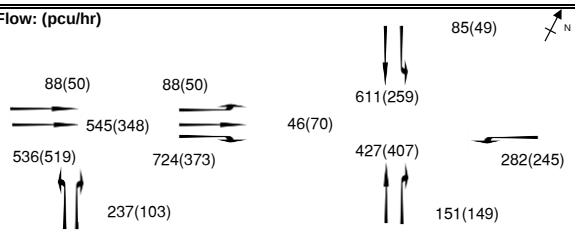
Junction: Mei Tin Road / Heung Fan Liu Street Junction No.: J15

Scenario: Reference Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Heung Fan Liu Street EB																
←	E	4	3.3	10					1690	1690	88	0.05		50	0.03	
↑	E	4	3.3						2085	2085	273	0.13	0.13	174	0.08	0.08
↑	E	4	3.3						2085	2085	272	0.13		174	0.08	
Mei Fai Street NB																
↰	F	2,3	4.0	20					1875	1875	536	0.29	0.29	519	0.28	0.28
↱	F	2,3	4.0		15				1960	1960	121	0.06		53	0.03	
↱	F	2,3	4.0		10				1875	1875	116	0.06		50	0.03	
Heung Fan Liu Street EB																
←	D	3,4	5.0	10					1840	1840	88	0.05		50	0.03	
↱	D	3,4	4.0		15		88%	69%	1980	2015	395	0.20		229	0.11	
↱	D	3,4	4.0		10				1875	1875	375	0.20		214	0.11	
Mei Tin Road NB																
↑	B	1,2	3.5						1965	1965	206	0.10		197	0.10	
↑	B	1,2	3.5						2105	2105	221	0.10		210	0.10	
↱	C	2	3.5		15				1915	1915	151	0.08		149	0.08	
PTI access WB																
↰	C	2	5.0	10					1840	1840	282	0.15		245	0.13	
Mei Tin Road SB																
←	A	1	3.3	10			40%	53%	1835	1805	213	0.12	0.12	93	0.05	
↑	A	1	3.3						2085	2085	242	0.12		108	0.05	0.05
↑	A	1	3.3						2085	2085	241	0.12		107	0.05	
Pedestrian Crossing																
	Gp	3,4,5	MIN GREEN + FLASH =			5	+	10	=	15						
	Hp	1,2,5	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	5	MIN GREEN + FLASH =			5	+	7	=	12			*			*
	Jp	1,5	MIN GREEN + FLASH =			5	+	12	=	17						
	Kp	1,4,5	MIN GREEN + FLASH =			5	+	10	=	15						

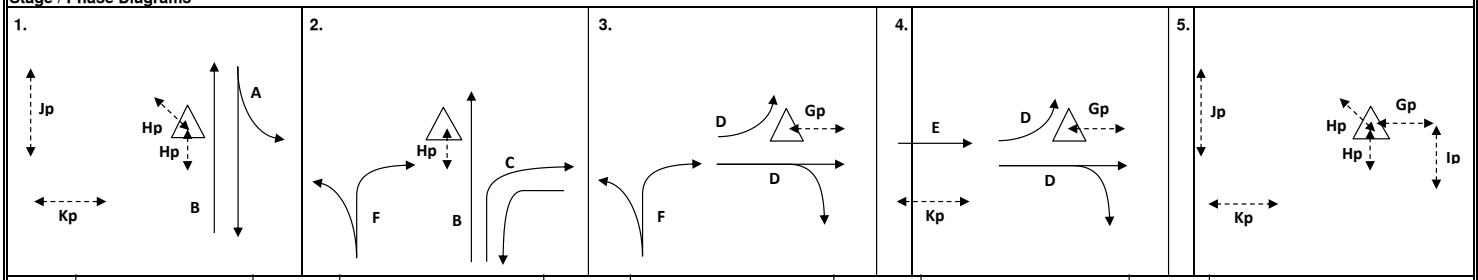
NOTES:

Flow: (pcu/hr)



Group		A,F,E,Ip	Group		A,F,E,Ip
Sum of Critical *y*		0.53	Sum of Critical *y*		0.41
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		25%	Reserve Capacity		60%

Stage / Phase Diagrams



I/G= 2		I/G= 5		I/G=		I/G= 6		I/G= 8	12		
I/G= 2		I/G= 5		I/G=		I/G= 6		I/G= 8	12		

wsp

Junction: Mei Tin Road / Heung Fan Liu Street

Junction No.: J15

TRAFFIC SIGNALS CALCULATION SHEET

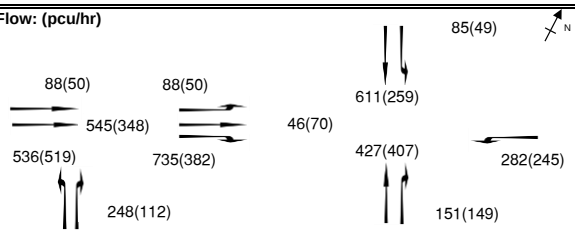
Junction: Mei Tin Road / Heung Fan Liu Street Junction No.: J15

Scenario: Design Design Year: 2032

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Heung Fan Liu Street EB																
←	E	4	3.3	10					1690	1690	88	0.05		50	0.03	
↑	E	4	3.3						2085	2085	273	0.13	0.13	174	0.08	0.08
↑	E	4	3.3						2085	2085	272	0.13		174	0.08	
Mei Fai Street NB																
↰	F	2,3	4.0	20					1875	1875	536	0.29	0.29	519	0.28	0.28
↱	F	2,3	4.0		15				1960	1960	127	0.06		57	0.03	
↱	F	2,3	4.0		10				1875	1875	121	0.06		55	0.03	
Heung Fan Liu Street EB																
←	D	3,4	5.0	10					1840	1840	88	0.05		50	0.03	
↱	D	3,4	4.0		15		89%	70%	1980	2015	401	0.20		234	0.12	
↱	D	3,4	4.0		10				1875	1875	380	0.20		218	0.12	
Mei Tin Road NB																
↑	B	1,2	3.5						1965	1965	206	0.10		197	0.10	
↑	B	1,2	3.5						2105	2105	221	0.10		210	0.10	
↱	C	2	3.5		15				1915	1915	151	0.08		149	0.08	
PTI access WB																
↰	C	2	5.0	10					1840	1840	282	0.15		245	0.13	
Mei Tin Road SB																
←	A	1	3.3	10			40%	53%	1835	1805	213	0.12	0.12	93	0.05	
↑	A	1	3.3						2085	2085	242	0.12		108	0.05	0.05
↑	A	1	3.3						2085	2085	241	0.12		107	0.05	
Pedestrian Crossing																
	Gp	3,4,5	MIN GREEN + FLASH =			5	+	10	=	15						
	Hp	1,2,5	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	5	MIN GREEN + FLASH =			5	+	7	=	12			*			*
	Jp	1,5	MIN GREEN + FLASH =			5	+	12	=	17						
	Kp	1,4,5	MIN GREEN + FLASH =			5	+	10	=	15						

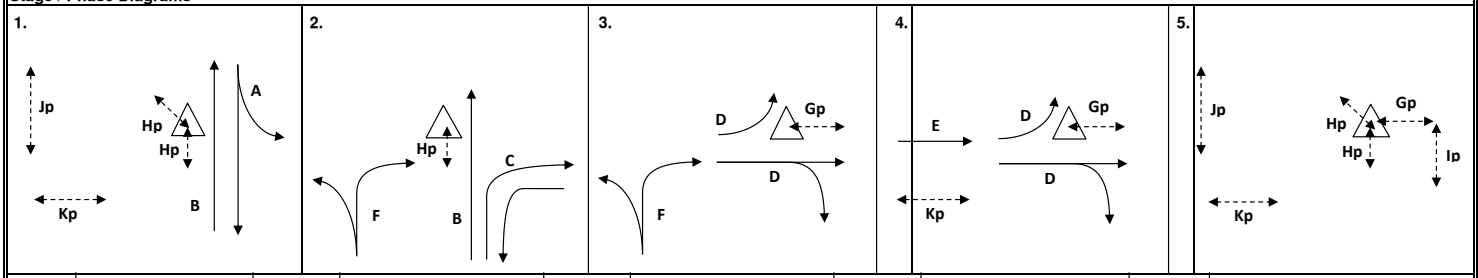
NOTES:

Flow: (pcu/hr)



Group		A,F,E,Ip	Group		A,F,E,Ip
Sum of Critical *y*		0.53	Sum of Critical *y*		0.41
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		25%	Reserve Capacity		60%

Stage / Phase Diagrams



I/G= 2		I/G= 5		I/G=		I/G= 6		I/G= 8	12		
I/G= 2		I/G= 5		I/G=		I/G= 6		I/G= 8	12		

wsp

Junction: Mei Tin Road / Heung Fan Liu Street

Junction No.: J15

TRAFFIC SIGNALS CALCULATION SHEET

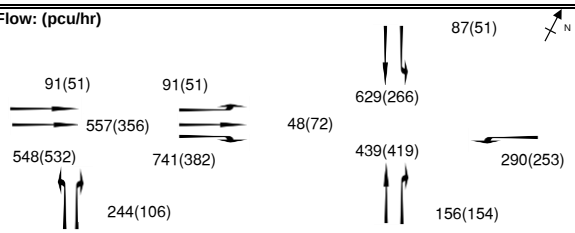
Junction: Mei Tin Road / Heung Fan Liu Street Junction No.: J15

Scenario: Reference Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Heung Fan Liu Street EB																
←	E	4	3.3	10					1690	1690	91	0.05		51	0.03	
↑	E	4	3.3						2085	2085	279	0.13	0.13	178	0.09	0.09
↑	E	4	3.3						2085	2085	278	0.13		178	0.09	
Mei Fai Street NB																
←	F	2,3	4.0	20					1875	1875	548	0.29	0.29	532	0.28	0.28
↱	F	2,3	4.0		15				1960	1960	125	0.06		54	0.03	
↱	F	2,3	4.0		10				1875	1875	119	0.06		52	0.03	
Heung Fan Liu Street EB																
←	D	3,4	5.0	10					1840	1840	91	0.05		51	0.03	
↱	D	3,4	4.0		15		88%	69%	1980	2015	405	0.20		235	0.12	
↱	D	3,4	4.0		10				1875	1875	384	0.20		219	0.12	
Mei Tin Road NB																
↑	B	1,2	3.5						1965	1965	212	0.11		202	0.10	
↑	B	1,2	3.5						2105	2105	227	0.11		217	0.10	
↱	C	2	3.5		15				1915	1915	156	0.08		154	0.08	
PTI access WB																
←	C	2	5.0	10					1840	1840	290	0.16		253	0.14	
Mei Tin Road SB																
←	A	1	3.3	10			40%	53%	1835	1800	219	0.12		96	0.05	0.05
↑	A	1	3.3						2085	2085	249	0.12	0.12	111	0.05	
↑	A	1	3.3						2085	2085	248	0.12		110	0.05	
Pedestrian Crossing																
	Gp	3,4,5	MIN GREEN + FLASH =			5	+	10	=	15						
	Hp	1,2,5	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	5	MIN GREEN + FLASH =			5	+	7	=	12			*			*
	Jp	1,5	MIN GREEN + FLASH =			5	+	12	=	17						
	Kp	1,4,5	MIN GREEN + FLASH =			5	+	10	=	15						

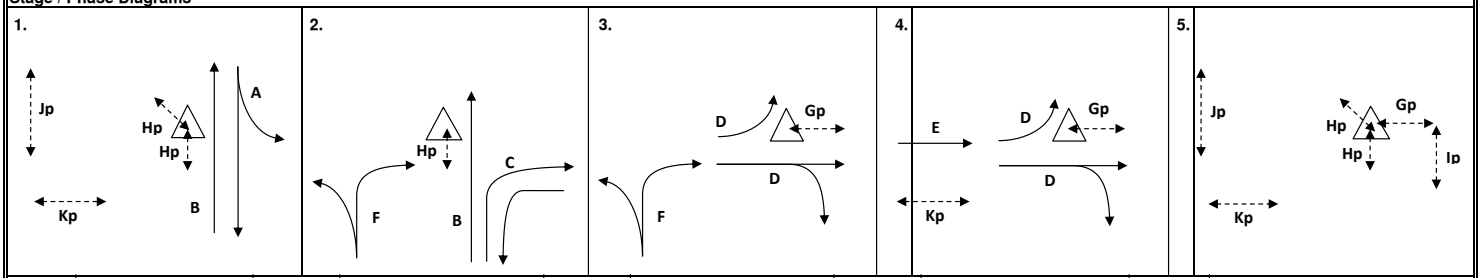
NOTES:

Flow: (pcu/hr)



Group		A,F,E,Ip	Group		A,F,E,Ip
Sum of Critical *y*		0.55	Sum of Critical *y*		0.42
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		22%	Reserve Capacity		56%

Stage / Phase Diagrams



I/G= 2		I/G= 5		I/G=		I/G= 6		I/G= 8	12		
I/G= 2		I/G= 5		I/G=		I/G= 6		I/G= 8	12		

wsp

Junction: Mei Tin Road / Heung Fan Liu Street

Junction No.: J15

TRAFFIC SIGNALS CALCULATION SHEET

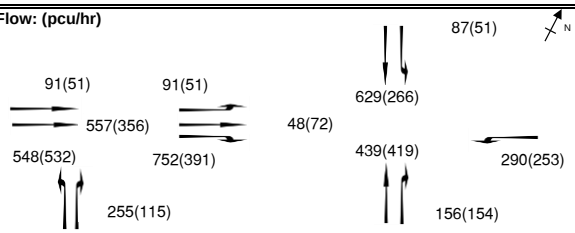
Junction: Mei Tin Road / Heung Fan Liu Street Junction No.: J15

Scenario: Design Design Year: 2035

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Heung Fan Liu Street EB																
←	E	4	3.3	10					1690	1690	91	0.05		51	0.03	
↑	E	4	3.3						2085	2085	279	0.13	0.13	178	0.09	0.09
↑	E	4	3.3						2085	2085	278	0.13		178	0.09	
Mei Fai Street NB																
←	F	2,3	4.0	20					1875	1875	548	0.29	0.29	532	0.28	0.28
↱	F	2,3	4.0		15				1960	1960	130	0.07		59	0.03	
↱	F	2,3	4.0		10				1875	1875	125	0.07		56	0.03	
Heung Fan Liu Street EB																
←	D	3,4	5.0	10					1840	1840	91	0.05		51	0.03	
↱	D	3,4	4.0		15		88%	70%	1980	2015	411	0.21		240	0.12	
↱	D	3,4	4.0		10				1875	1875	389	0.21		223	0.12	
Mei Tin Road NB																
↑	B	1,2	3.5						1965	1965	212	0.11		202	0.10	
↑	B	1,2	3.5						2105	2105	227	0.11		217	0.10	
↱	C	2	3.5		15				1915	1915	156	0.08		154	0.08	
PTI access WB																
←	C	2	5.0	10					1840	1840	290	0.16		253	0.14	
Mei Tin Road SB																
←	A	1	3.3	10			40%	53%	1835	1800	219	0.12		96	0.05	0.05
↑	A	1	3.3						2085	2085	249	0.12	0.12	111	0.05	
↑	A	1	3.3						2085	2085	248	0.12		110	0.05	
Pedestrian Crossing																
	Gp	3,4,5	MIN GREEN + FLASH =			5	+	10	=	15						
	Hp	1,2,5	MIN GREEN + FLASH =			5	+	9	=	14						
	Ip	5	MIN GREEN + FLASH =			5	+	7	=	12			*			*
	Jp	1,5	MIN GREEN + FLASH =			5	+	12	=	17						
	Kp	1,4,5	MIN GREEN + FLASH =			5	+	10	=	15						

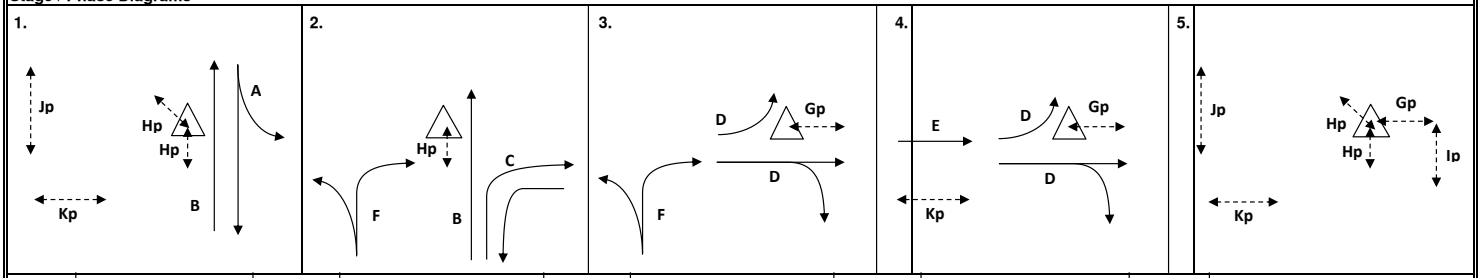
NOTES:

Flow: (pcu/hr)



Group		A,F,E,Ip	Group		A,F,E,Ip
Sum of Critical *y*		0.55	Sum of Critical *y*		0.42
Lost Time ***L*** (sec)		30	Lost Time ***L*** (sec)		30
Cycle Time ***c*** (sec)		116	Cycle Time ***c*** (sec)		112
Practical *Y* ***Ypr***		0.67	Practical *Y* ***Ypr***		0.66
Reserve Capacity		22%	Reserve Capacity		56%

Stage / Phase Diagrams



I/G= 2		I/G= 5		I/G=		I/G= 6		I/G= 8	12		
I/G= 2		I/G= 5		I/G=		I/G= 6		I/G= 8	12		

wsp

Junction: Mei Tin Road / Heung Fan Liu Street

Junction No.: J15

Priority Junction Capacity Calculation

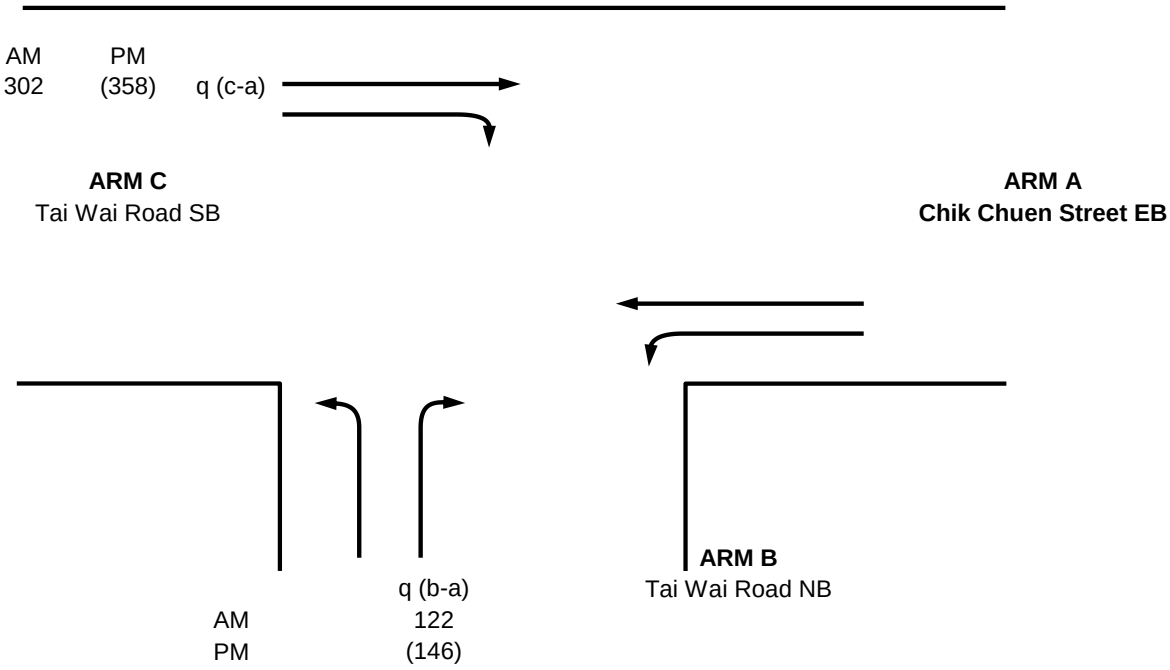
Junction : Tai Wai Road / Chik Chuen Street

Junction No. : J16

Scenario : Observe

Design Year : 2023

ARM A	Chik Chuen Street EB
ARM B	Tai Wai Road NB
ARM C	Tai Wai Road SB



Geometry			Analysis					
Major Road Width	W	6.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		302		358
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	3.5		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		122		146
Visibilities				q(b-c)		0		0
	Vr(b-a)	27		f		0.00		0.00
	Vl(b-a)	75	Capacities					
	Vr(b-c)	0		Q(b-a)		494		485
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	0.863		Q(b-ac)		494		485
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.793		b-a		0.25		0.30
				b-ac		0.25		0.30
				c-b		0.00		0.00
				c-a		0.17		0.20
			Critical DFC			0.25		0.30

Priority Junction Capacity Calculation

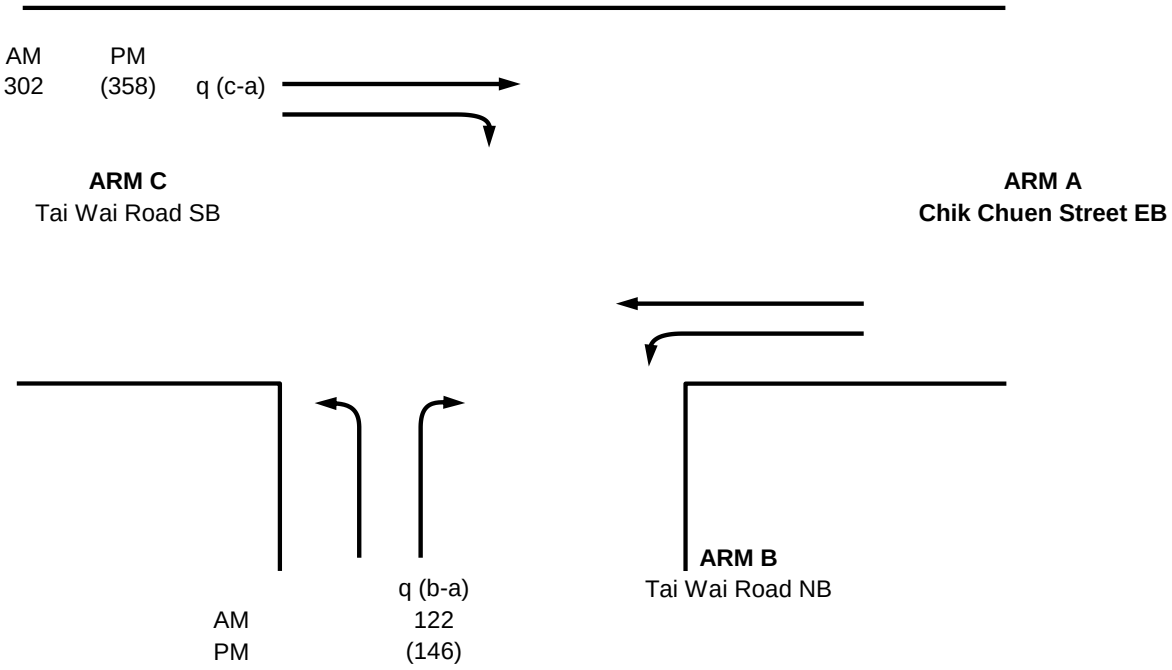
Junction : Tai Wai Road / Chik Chuen Street

Junction No. : J16

Scenario : Observe (With Illegal Parking Impact)

Design Year : 2023

ARM A	Chik Chuen Street EB
ARM B	Tai Wai Road NB
ARM C	Tai Wai Road SB



Geometry			Analysis					
Major Road Width	W	4.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		302		358
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	3.0		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		122		146
Visibilities				q(b-c)		0		0
	Vr(b-a)	20		f		0.00		0.00
	Vl(b-a)	75	Capacities					
	Vr(b-c)	0		Q(b-a)		463		454
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	0.816		Q(b-ac)		463		454
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.862		b-a		0.26		0.32
				b-ac		0.26		0.32
				c-b		0.00		0.00
				c-a		0.17		0.20
			Critical DFC			0.26		0.32

Priority Junction Capacity Calculation

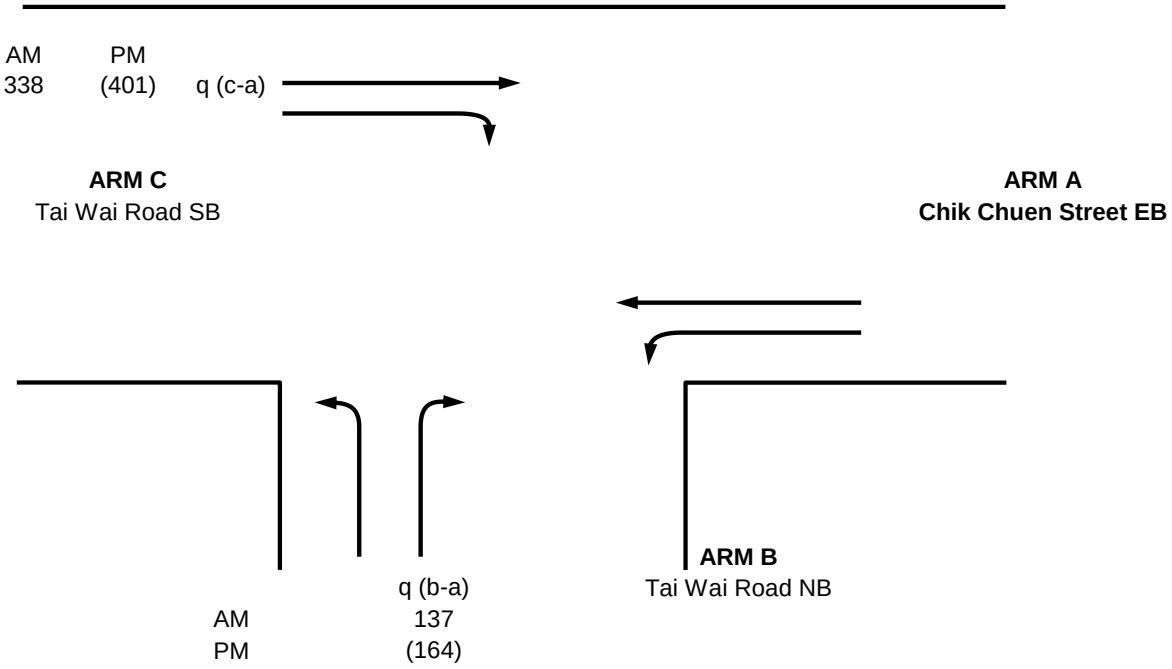
Junction : Tai Wai Road / Chik Chuen Street

Junction No. : J16

Scenario : Design (Sensitivity for Illegal Parking Impact)

Design Year : 2032

ARM A	Chik Chuen Street EB
ARM B	Tai Wai Road NB
ARM C	Tai Wai Road SB



Geometry			Analysis						
Major Road Width	W	6.0	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			338		401
Residual Width	Wr(c-a)	0.0		q(c-b)			0		0
Lane Width	w(b-a)	3.5		q(a-b)			0		0
	w(b-c)	0.0		q(a-c)			0		0
	w(c-b)	0.0		q(b-a)			137		164
Visibilities				q(b-c)			0		0
	Vr(b-a)	27		f			0.00		0.00
	Vl(b-a)	75	Capacities						
	Vr(b-c)	0		Q(b-a)			488		478
	Vr(c-b)	0		Q(b-c)			437		437
Geometric Parameter				Q(c-b)			437		437
	D	0.863		Q(b-ac)			488		478
	E	0.586		Q(c-a)			1800		1800
	F	0.586	DFC's						
	Y	0.793		b-a			0.28		0.34
				b-ac			0.28		0.34
				c-b			0.00		0.00
				c-a			0.19		0.22
			Critical DFC				0.28		0.34

Priority Junction Capacity Calculation

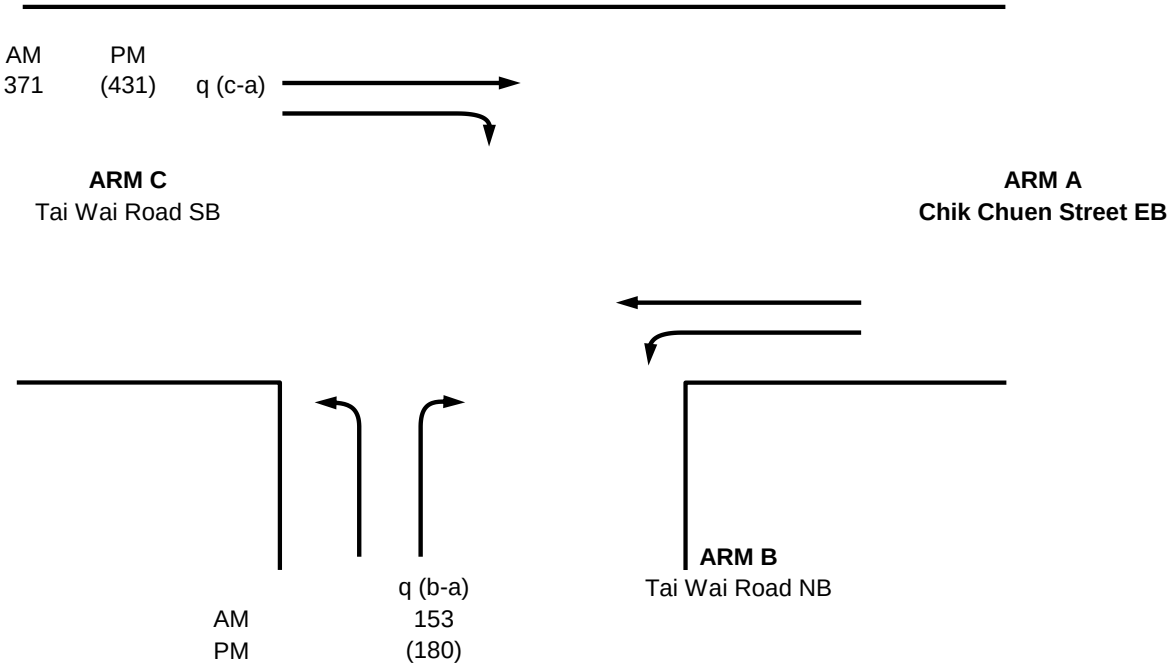
Junction : Tai Wai Road / Chik Chuen Street

Junction No. : J16

Scenario : Design (Sensitivity for Illegal Parking Impact)

Design Year : 2032

ARM A	Chik Chuen Street EB
ARM B	Tai Wai Road NB
ARM C	Tai Wai Road SB



Geometry			Analysis					
Major Road Width	W	6.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		371		431
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	3.5		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		153		180
Visibilities				q(b-c)		0		0
	Vr(b-a)	27		f		0.00		0.00
	Vl(b-a)	75	Capacities					
	Vr(b-c)	0		Q(b-a)		483		473
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	0.863		Q(b-ac)		483		473
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.793		b-a		0.32		0.38
				b-ac		0.32		0.38
				c-b		0.00		0.00
				c-a		0.21		0.24
			Critical DFC			0.32		0.38

Priority Junction Capacity Calculation

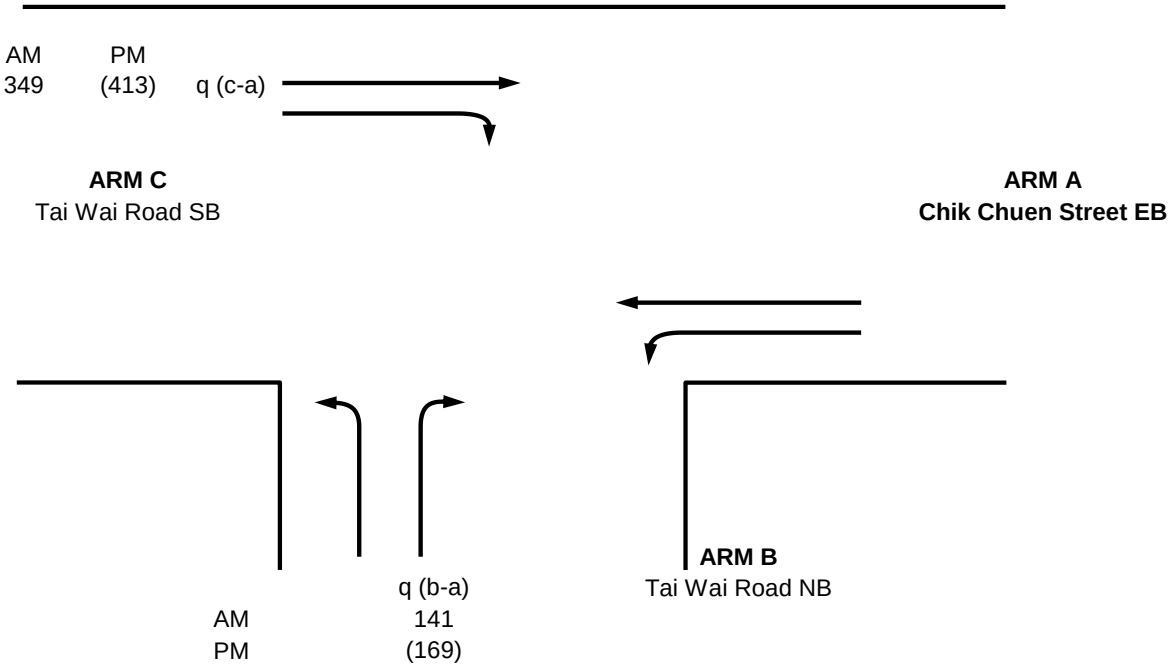
Junction : Tai Wai Road / Chik Chuen Street

Junction No. : J16

Scenario : Design (Sensitivity for Illegal Parking Impact)

Design Year : 2035

ARM A	Chik Chuen Street EB
ARM B	Tai Wai Road NB
ARM C	Tai Wai Road SB



Geometry			Analysis					
Major Road Width	W	6.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		349		413
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	3.5		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		141		169
Visibilities				q(b-c)		0		0
	Vr(b-a)	27		f		0.00		0.00
	Vl(b-a)	75	Capacities					
	Vr(b-c)	0		Q(b-a)		486		476
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	0.863		Q(b-ac)		486		476
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.793		b-a		0.29		0.35
				b-ac		0.29		0.35
				c-b		0.00		0.00
				c-a		0.19		0.23
			Critical DFC			0.29		0.35

Priority Junction Capacity Calculation

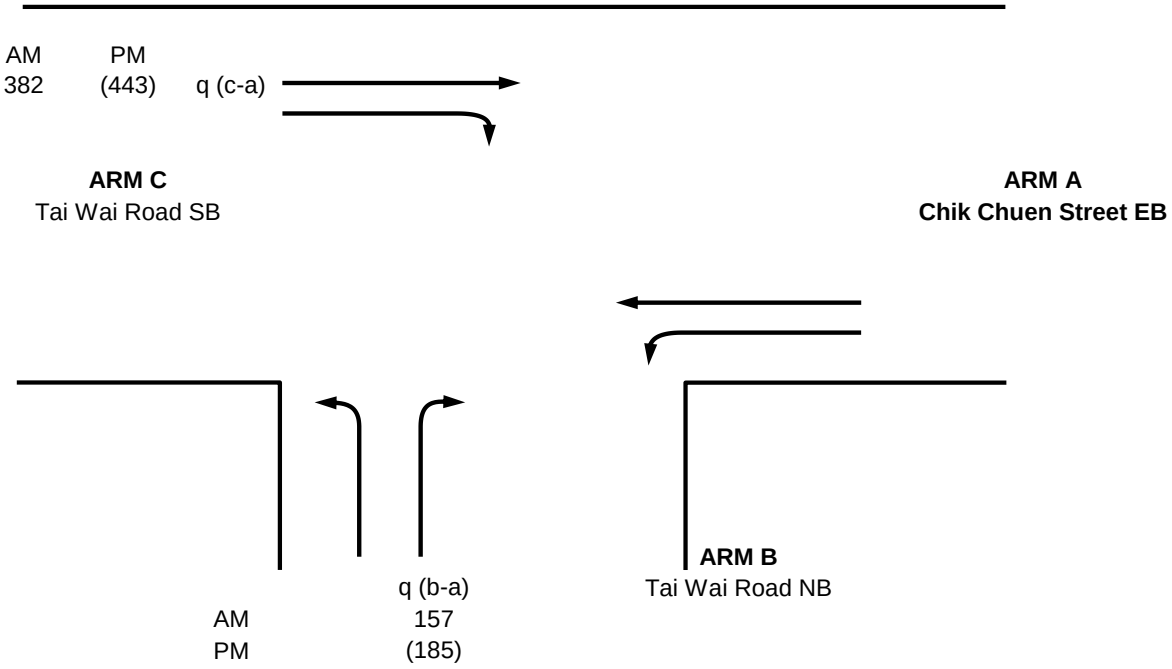
Junction : Tai Wai Road / Chik Chuen Street

Junction No. : J16

Scenario : Design (Sensitivity for Illegal Parking Impact)

Design Year : 2035

ARM A	Chik Chuen Street EB
ARM B	Tai Wai Road NB
ARM C	Tai Wai Road SB



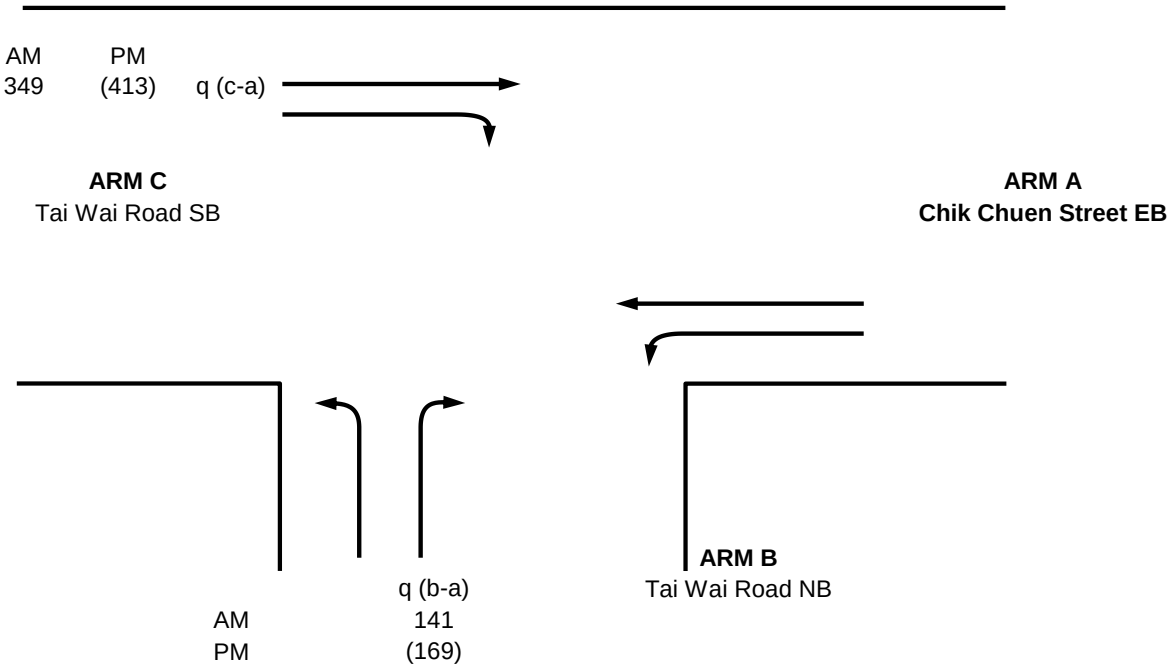
Geometry			Analysis					
Major Road Width	W	6.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		382		443
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	3.5		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		157		185
Visibilities				q(b-c)		0		0
	Vr(b-a)	27		f		0.00		0.00
	Vl(b-a)	75	Capacities					
	Vr(b-c)	0		Q(b-a)		481		472
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	0.863		Q(b-ac)		481		472
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.793		b-a		0.33		0.39
				b-ac		0.33		0.39
				c-b		0.00		0.00
				c-a		0.21		0.25
			Critical DFC			0.33		0.39

Priority Junction Capacity Calculation

Junction : Tai Wai Road / Chik Chuen Street Junction No. : J16

Scenario : Reference (Sensitivity for Illegal Parking Impact) Design Year : 2035

ARM A	Chik Chuen Street EB
ARM B	Tai Wai Road NB
ARM C	Tai Wai Road SB



Geometry			Analysis					
Major Road Width	W	4.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		349		413
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	3.0		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		141		169
Visibilities				q(b-c)		0		0
	Vr(b-a)	20		f		0.00		0.00
	Vl(b-a)	75	Capacities					
	Vr(b-c)	0		Q(b-a)		455		445
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	0.816		Q(b-ac)		455		445
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.862		b-a		0.31		0.38
				b-ac		0.31		0.38
				c-b		0.00		0.00
				c-a		0.19		0.23
			Critical DFC			0.31		0.38

Priority Junction Capacity Calculation

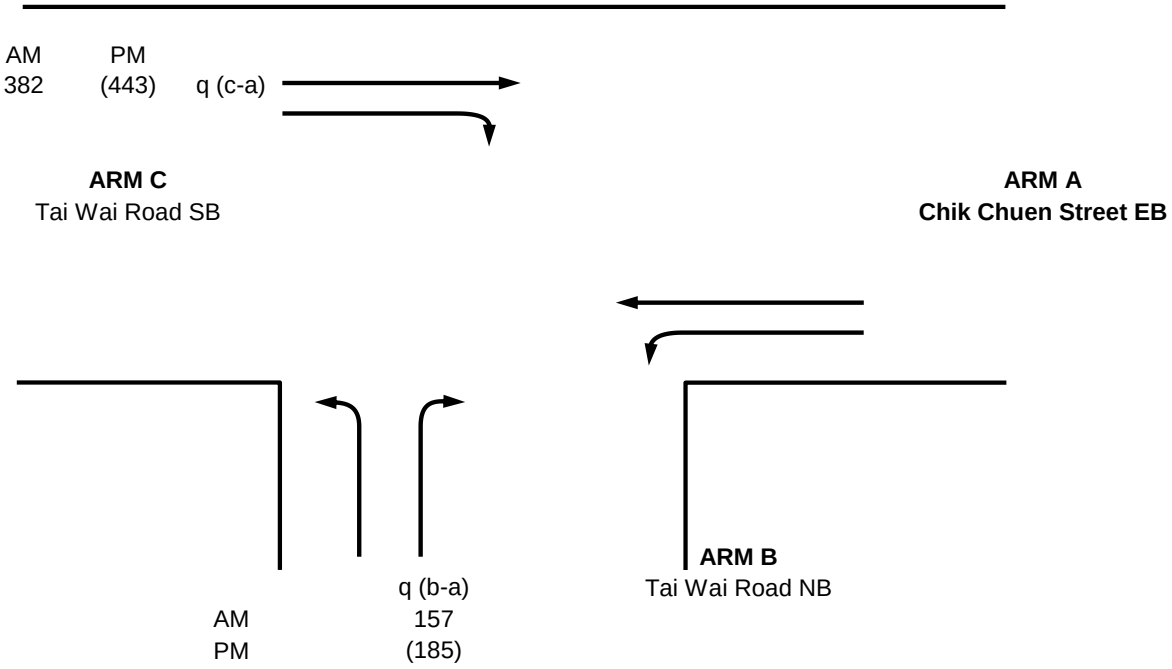
Junction : Tai Wai Road / Chik Chuen Street

Junction No. : J16

Scenario : Design (Sensitivity for Illegal Parking Impact)

Design Year : 2035

ARM A	Chik Chuen Street EB
ARM B	Tai Wai Road NB
ARM C	Tai Wai Road SB



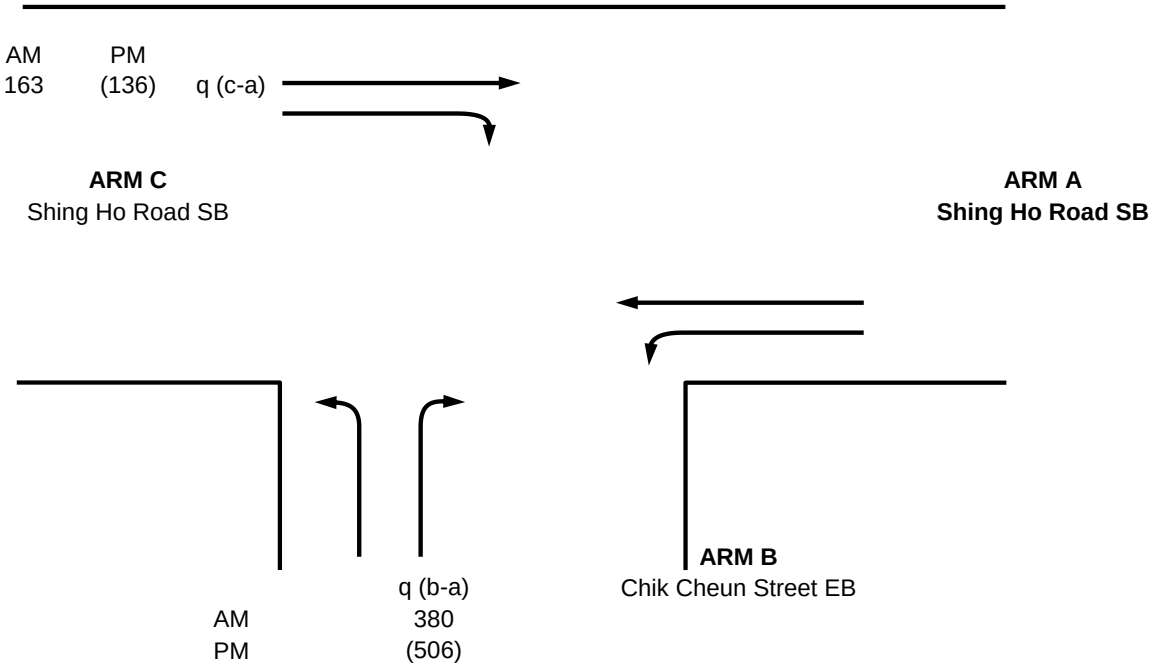
Geometry			Analysis					
Major Road Width	W	6.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		382		443
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	3.5		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		157		185
Visibilities				q(b-c)		0		0
	Vr(b-a)	27		f		0.00		0.00
	Vl(b-a)	75	Capacities					
	Vr(b-c)	0		Q(b-a)		481		472
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	0.863		Q(b-ac)		481		472
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.793		b-a		0.33		0.39
				b-ac		0.33		0.39
				c-b		0.00		0.00
				c-a		0.21		0.25
			Critical DFC			0.33		0.39

Priority Junction Capacity Calculation

Junction : Shing Ho Road / Chik Chuen Street Junction No. : J17

Scenario : Observe Design Year : 2023

ARM A	Shing Ho Road SB
ARM B	Chik Cheun Street EB
ARM C	Shing Ho Road SB



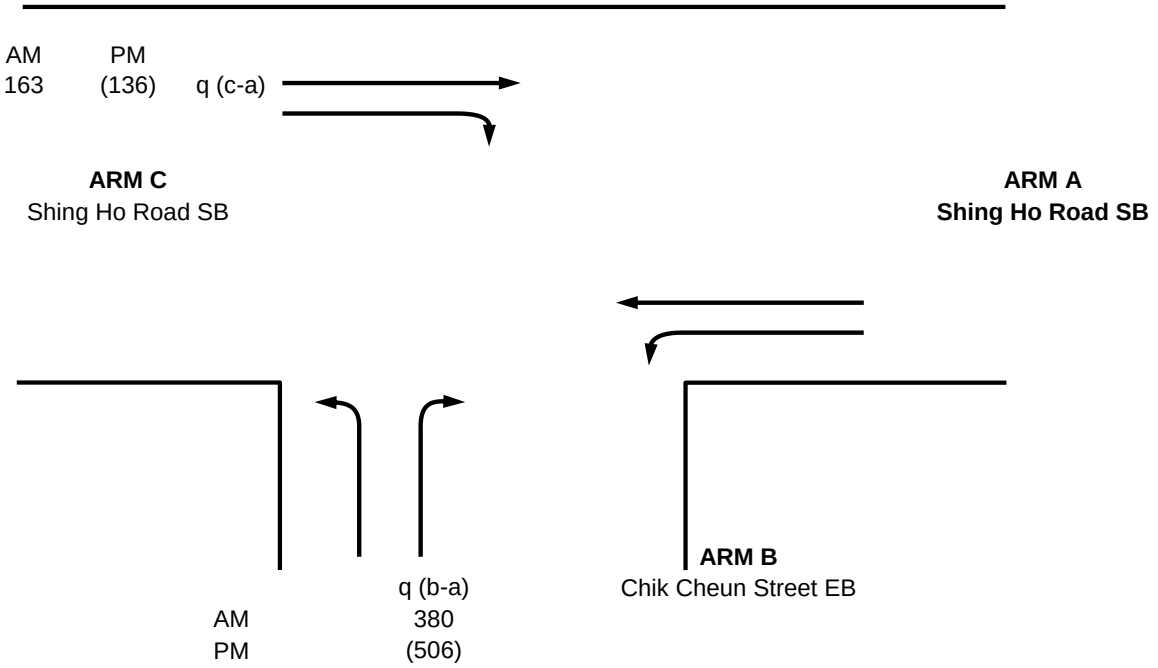
Geometry			Analysis					
Major Road Width	W	5.5	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		163		136
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	4.5		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		380		506
Visibilities				q(b-c)		0		0
	Vr(b-a)	120		f		0.00		0.00
	Vl(b-a)	60	Capacities					
	Vr(b-c)	0		Q(b-a)		610		615
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	1.022		Q(b-ac)		610		615
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.810		b-a		0.62		0.82
				b-ac		0.62		0.82
				c-b		0.00		0.00
				c-a		0.09		0.08
			Critical DFC			0.62		0.82

Priority Junction Capacity Calculation

Junction : Shing Ho Road / Chik Chuen Street Junction No. : J17

Scenario : Observe (With Illegal Parking Impact) Design Year : 2023

ARM A	Shing Ho Road SB
ARM B	Chik Cheun Street EB
ARM C	Shing Ho Road SB



Geometry			Analysis					
Major Road Width	W	5.5	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		163		136
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	4.0		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		380		506
Visibilities				q(b-c)		0		0
	Vr(b-a)	120		f		0.00		0.00
	Vl(b-a)	60	Capacities					
	Vr(b-c)	0		Q(b-a)		583		588
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	0.977		Q(b-ac)		583		588
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.810		b-a		0.65		0.86
				b-ac		0.65		0.86
				c-b		0.00		0.00
				c-a		0.09		0.08
			Critical DFC			0.65		0.86

Priority Junction Capacity Calculation

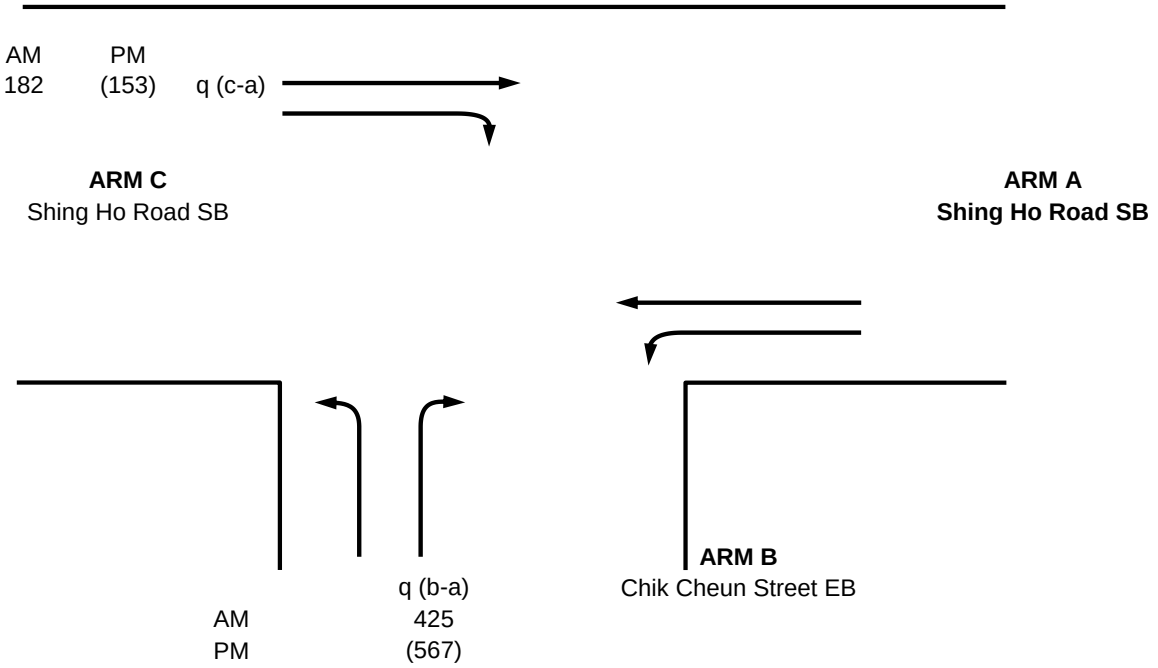
Junction : Shing Ho Road / Chik Chuen Street

Junction No. : J17

Scenario : Reference

Design Year : 2032

ARM A	Shing Ho Road SB
ARM B	Chik Cheun Street EB
ARM C	Shing Ho Road SB



Geometry			Analysis					
Major Road Width	W	5.5	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		182		153
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	4.5		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		425		567
Visibilities				q(b-c)		0		0
	Vr(b-a)	120		f		0.00		0.00
	Vl(b-a)	60	Capacities					
	Vr(b-c)	0		Q(b-a)		606		612
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	1.022		Q(b-ac)		606		612
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.810		b-a		0.70		0.93
				b-ac		0.70		0.93
				c-b		0.00		0.00
				c-a		0.10		0.09
			Critical DFC			0.70		0.93

Priority Junction Capacity Calculation

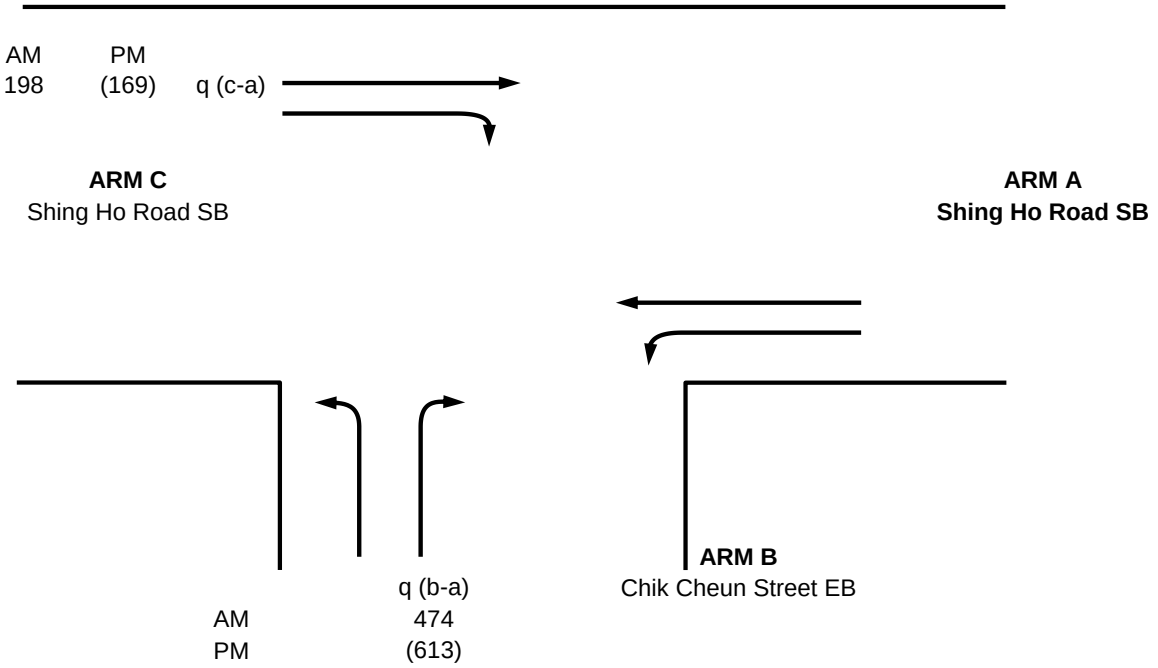
Junction : Shing Ho Road / Chik Chuen Street

Junction No. : J17

Scenario : Design

Design Year : 2032

ARM A	Shing Ho Road SB
ARM B	Chik Cheun Street EB
ARM C	Shing Ho Road SB



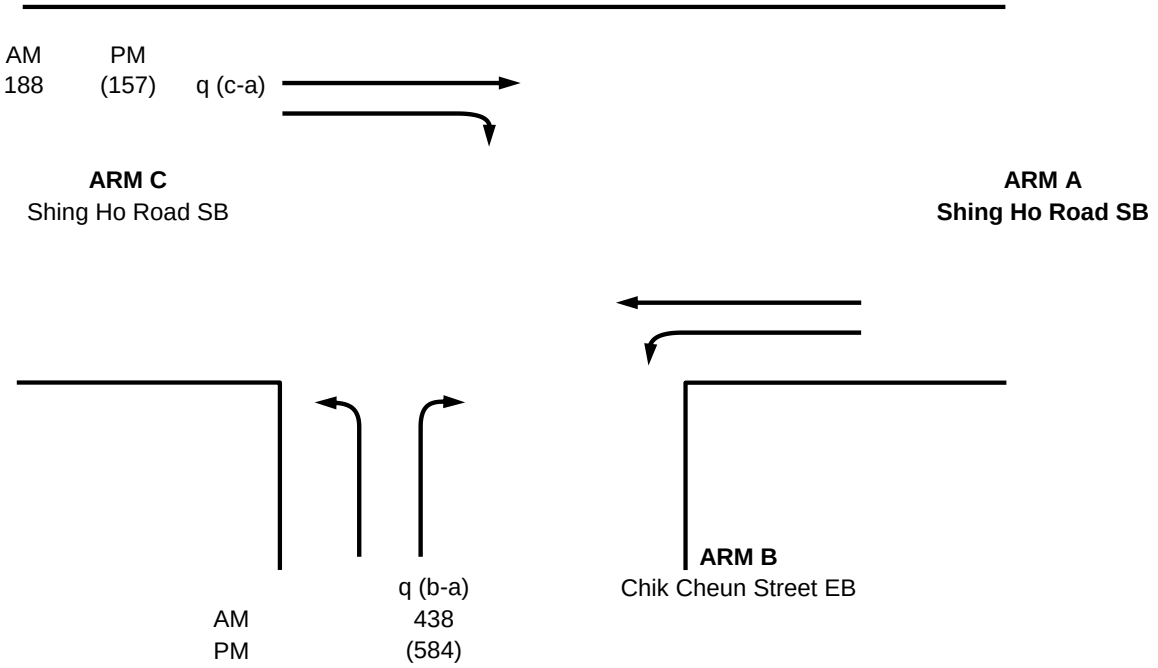
Geometry			Analysis						
Major Road Width	W	5.5	Traffic flows				AM		PM
Central Reserve Width	Wcr	0		q(c-a)			198		169
Residual Width	Wr(c-a)	0.0		q(c-b)			0		0
Lane Width	w(b-a)	4.5		q(a-b)			0		0
	w(b-c)	0.0		q(a-c)			0		0
	w(c-b)	0.0		q(b-a)			474		613
Visibilities				q(b-c)			0		0
	Vr(b-a)	120		f			0.00		0.00
	Vl(b-a)	60	Capacities						
	Vr(b-c)	0		Q(b-a)			603		608
	Vr(c-b)	0		Q(b-c)			437		437
Geometric Parameter				Q(c-b)			437		437
	D	1.022		Q(b-ac)			603		608
	E	0.586		Q(c-a)			1800		1800
	F	0.586	DFC's						
	Y	0.810		b-a			0.79		1.01
				b-ac			0.79		1.01
				c-b			0.00		0.00
				c-a			0.11		0.09
			Critical DFC				0.79		1.01

Priority Junction Capacity Calculation

Junction : Shing Ho Road / Chik Chuen Street Junction No. : J17

Scenario : Reference Design Year : 2035

ARM A	Shing Ho Road SB
ARM B	Chik Cheun Street EB
ARM C	Shing Ho Road SB



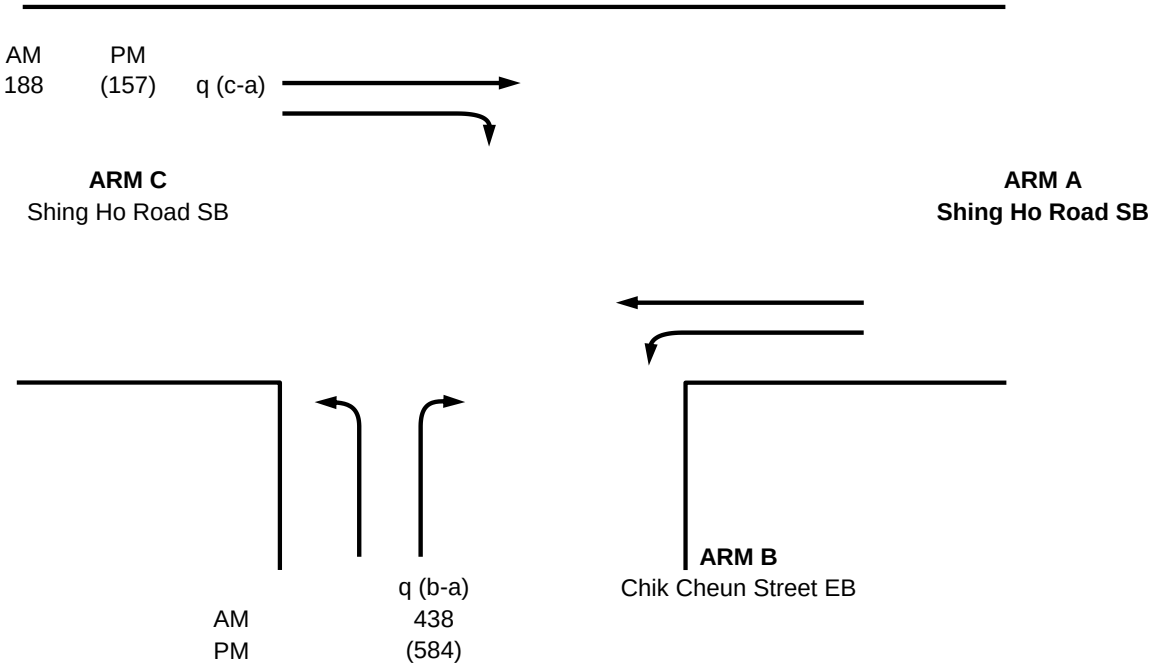
Geometry			Analysis					
Major Road Width	W	5.5	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		188		157
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	4.5		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		438		584
Visibilities				q(b-c)		0		0
	Vr(b-a)	120		f		0.00		0.00
	Vl(b-a)	60	Capacities					
	Vr(b-c)	0		Q(b-a)		605		611
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	1.022		Q(b-ac)		605		611
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.810		b-a		0.72		0.96
				b-ac		0.72		0.96
				c-b		0.00		0.00
				c-a		0.10		0.09
			Critical DFC			0.72		0.96

Priority Junction Capacity Calculation

Junction : Shing Ho Road / Chik Chuen Street Junction No. : J17

Scenario : Reference (Sensitivity for Illegal Parking Impact) Design Year : 2035

ARM A	Shing Ho Road SB
ARM B	Chik Cheun Street EB
ARM C	Shing Ho Road SB



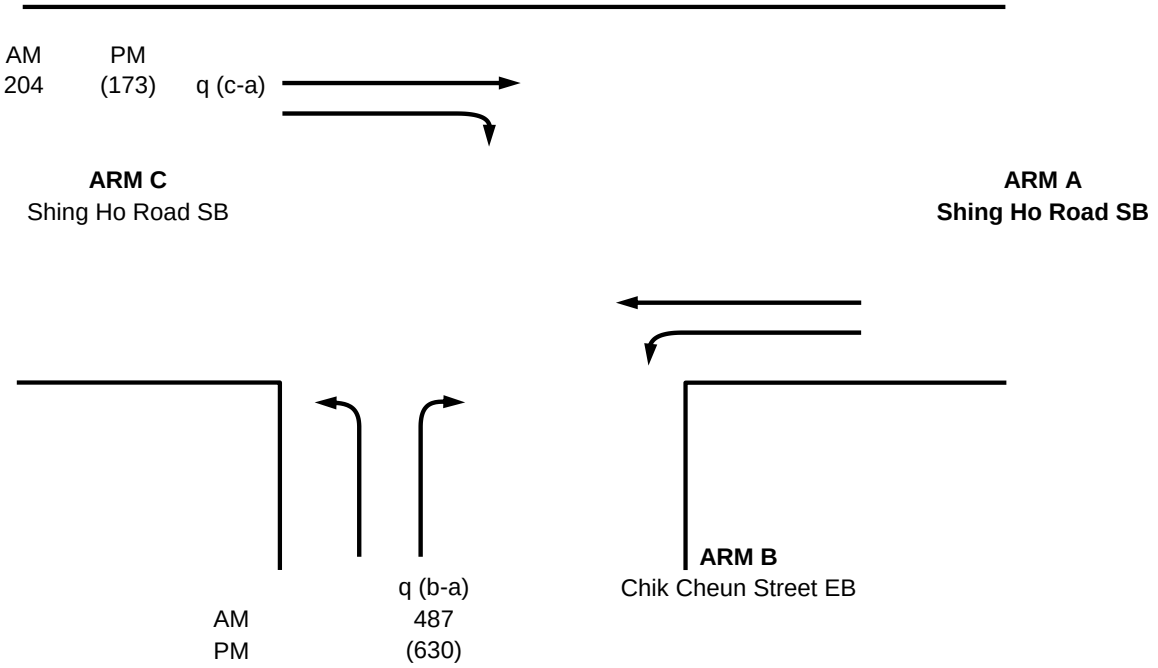
Geometry			Analysis					
Major Road Width	W	5.5	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		188		157
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	4.0		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		438		584
Visibilities				q(b-c)		0		0
	Vr(b-a)	120		f		0.00		0.00
	Vl(b-a)	60	Capacities					
	Vr(b-c)	0		Q(b-a)		579		584
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	0.977		Q(b-ac)		579		584
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.810		b-a		0.76		1.00
				b-ac		0.76		1.00
				c-b		0.00		0.00
				c-a		0.10		0.09
			Critical DFC			0.76		1.00

Priority Junction Capacity Calculation

Junction : Shing Ho Road / Chik Chuen Street Junction No. : J17

Scenario : Design Design Year : 2035

ARM A	Shing Ho Road SB
ARM B	Chik Cheun Street EB
ARM C	Shing Ho Road SB



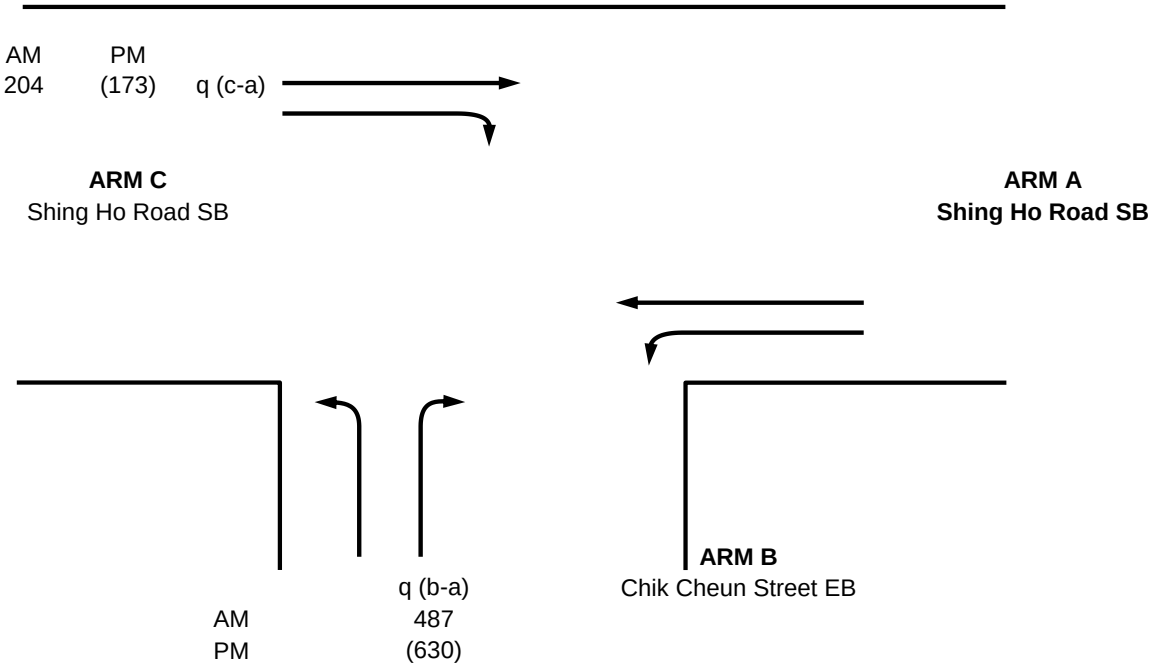
Geometry			Analysis					
Major Road Width	W	5.5	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		204		173
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	4.5		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		487		630
Visibilities				q(b-c)		0		0
	Vr(b-a)	120		f		0.00		0.00
	Vl(b-a)	60	Capacities					
	Vr(b-c)	0		Q(b-a)		602		608
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	1.022		Q(b-ac)		602		608
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.810		b-a		0.81		1.04
				b-ac		0.81		1.04
				c-b		0.00		0.00
				c-a		0.11		0.10
			Critical DFC			0.81		1.04

Priority Junction Capacity Calculation

Junction : Shing Ho Road / Chik Chuen Street Junction No. : J17

Scenario : Design (Sensitivity for Illegal Parking Impact) Design Year : 2035

ARM A	Shing Ho Road SB
ARM B	Chik Cheun Street EB
ARM C	Shing Ho Road SB



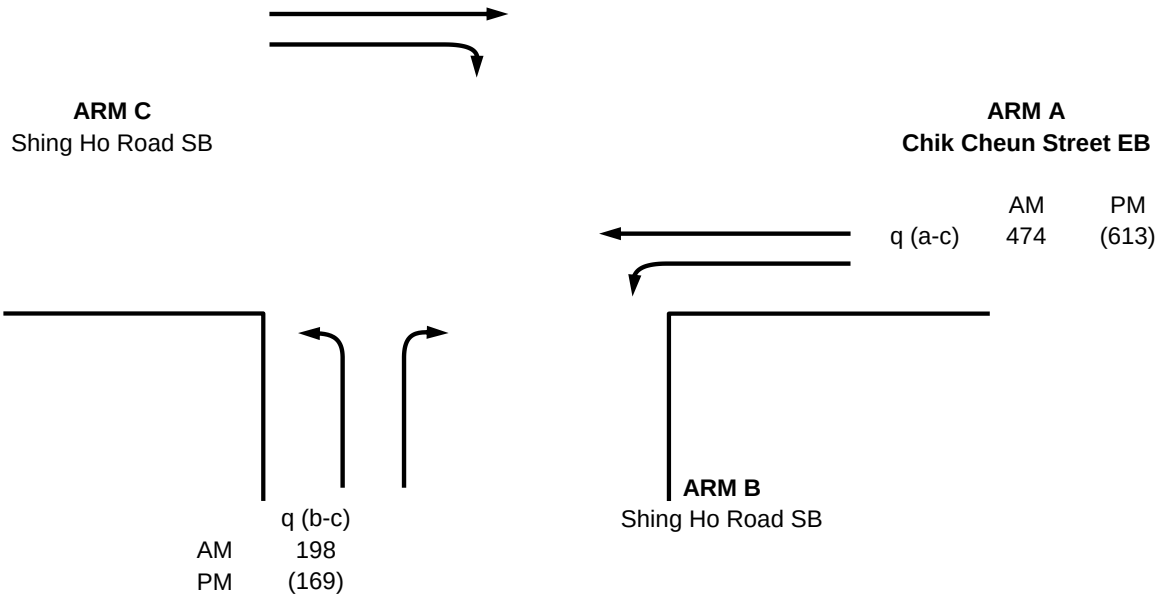
Geometry			Analysis					
Major Road Width	W	5.5	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		204		173
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	4.5		q(a-b)		0		0
	w(b-c)	0.0		q(a-c)		0		0
	w(c-b)	0.0		q(b-a)		487		630
Visibilities				q(b-c)		0		0
	Vr(b-a)	120		f		0.00		0.00
	Vl(b-a)	60	Capacities					
	Vr(b-c)	0		Q(b-a)		602		608
	Vr(c-b)	0		Q(b-c)		437		437
Geometric Parameter				Q(c-b)		437		437
	D	1.022		Q(b-ac)		602		608
	E	0.586		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.810		b-a		0.81		1.04
				b-ac		0.81		1.04
				c-b		0.00		0.00
				c-a		0.11		0.10
			Critical DFC			0.81		1.04

Priority Junction Capacity Calculation

Junction : Shing Ho Road / Chik Chuen Street Junction No. : J17

Scenario : With Proposed Improvement Scheme Design Year : 2032

ARM A	Chik Cheun Street EB
ARM B	Shing Ho Road SB
ARM C	Shing Ho Road SB



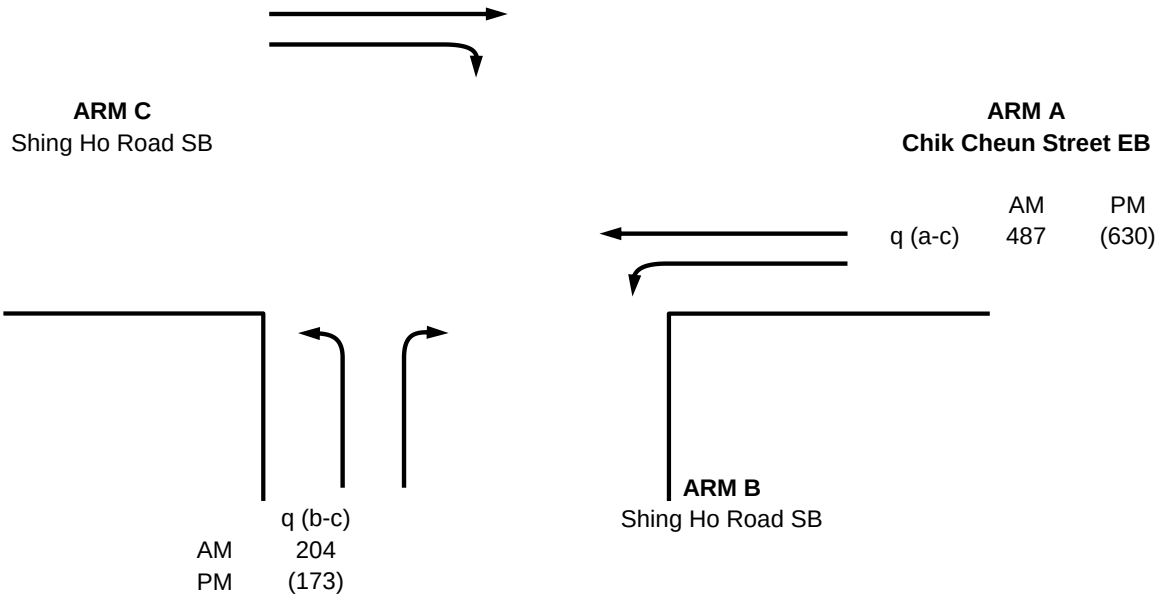
Geometry			Analysis						
Major Road Width	W	4.7	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		0		0
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	0.0		q(a-b)		0		0
	w(b-c)	5.5		q(a-c)		474		613
	w(c-b)	0.0		q(b-a)		0		0
Visibilities				q(b-c)		198		169
	Vr(b-a)	0		f		1.00		1.00
	Vl(b-a)	0	Capacities					
	Vr(b-c)	100		Q(b-a)		257		235
	Vr(c-b)	0		Q(b-c)		692		643
Geometric Parameter				Q(c-b)		352		327
	D	0.533		Q(b-ac)		692		643
	E	1.153		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.838		b-a		0.00		0.00
				b-ac		0.29		0.26
				c-b		0.00		0.00
				c-a		0.00		0.00
			Critical DFC			0.29		0.26

Priority Junction Capacity Calculation

Junction : Shing Ho Road / Chik Chuen Street Junction No. : J17

Scenario : With Proposed Improvement Scheme Design Year : 2035

ARM A	Chik Cheun Street EB
ARM B	Shing Ho Road SB
ARM C	Shing Ho Road SB

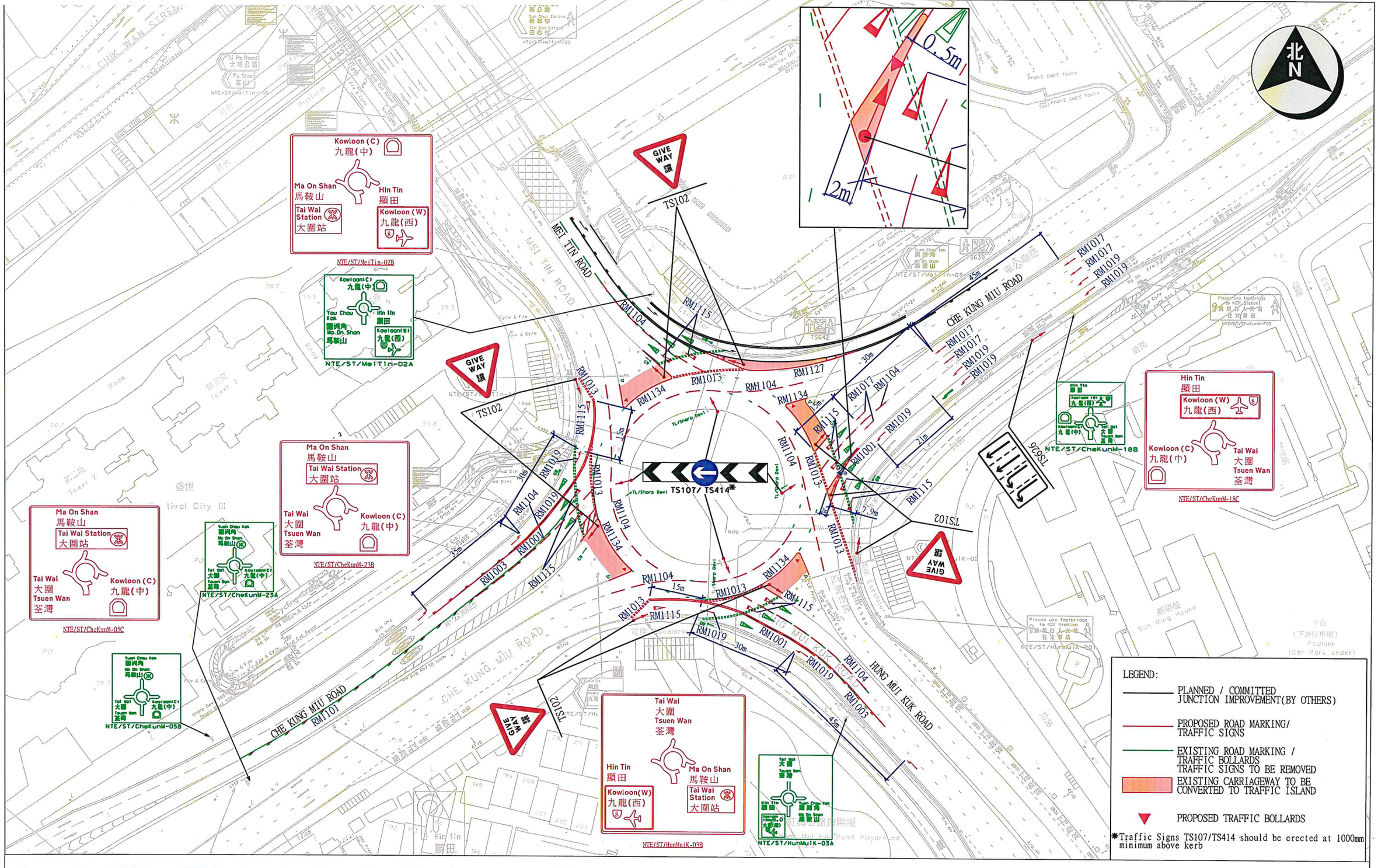


Geometry			Analysis						
Major Road Width	W	4.7	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		0		0
Residual Width	Wr(c-a)	0.0		q(c-b)		0		0
Lane Width	w(b-a)	0.0		q(a-b)		0		0
	w(b-c)	5.5		q(a-c)		487		630
	w(c-b)	0.0		q(b-a)		0		0
Visibilities				q(b-c)		204		173
	Vr(b-a)	0		f		1.00		1.00
	Vl(b-a)	0	Capacities					
	Vr(b-c)	100		Q(b-a)		255		232
	Vr(c-b)	0		Q(b-c)		688		637
Geometric Parameter				Q(c-b)		350		324
	D	0.533		Q(b-ac)		688		637
	E	1.153		Q(c-a)		1800		1800
	F	0.586	DFC's					
	Y	0.838		b-a		0.00		0.00
				b-ac		0.30		0.27
				c-b		0.00		0.00
				c-a		0.00		0.00
			Critical DFC			0.30		0.27

APPENDIX C

Planned Junction Improvement Scheme at J10 by Others

Appendix C - Planned Junction Improvement Scheme at J10 by Others



Important Note : This drawing is subject to changes and is provided for TIA purpose under the project "Joint-user Complex at Tsuen Nam Road" only. It should not be disclosed to any other parties or used for other purposes without the consent from the Transport Department.

APPENDIX D

Ground Floor Layout Plan of Subject Development

Appendix D - Ground Floor Layout Plan for Subject Development

SUBJECT TO DETAILED DESIGN

This typical layout is for illustrative purpose. Lift, E&M and other ancillary facilities, etc. are **NOT PART OF** the current application, and their location are subject to change in detailed design.

PRIMARY SCHOOL

CHIK FUK STREET

CUL

Ho Sze House

Lai Sing Mansion

CHIK LUK LANE

RAMP UP

RAMP UP

RAMP UP

UP

BUILDING LINE ABOVE

SPK

PLANTER

PLANTER

PLANTER

PLANTER

PLANTER

BUILDING LINE ABOVE

CANOPY LINE ABOVE

TAI WAI SOCCER PITCH

SHING MUN RIVER CHANNEL

N

To/from Shing Ho Road / Tai Po Road

To/from MTR Tai Wai Station / PTI

To/from Shing Mun River / Che Kung Miu Road

TSUEN NAM ROAD

FOR REFERENCE PURPOSES ONLY
SUBJECT TO DETAILED DESIGN

LEGEND:

- SITE BOUNDARY
- VERTICAL GREENERY
- PEDESTRIAN ROUTE
- VEHICULAR ROUTE
- AMBULANCE ROUTE

PROPOSED PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD

DRAWING TITLE

INDICATIVE G/F LAYOUT PLAN

SCALE 1:150 (A1) 1:300 (A3)

房 屋 署
HOUSING DEPARTMENT

DRAWING NO. ST52/BC/BL/A/LO-01

日期 DATE: FEB. 2024

FIGURES

LEGEND :

J3 KEY JUNCTION

W1 KEY FOOTPATH

SUBJECT SITE

J15 J14 J1 J2 J16 J3 J17 J4 J12 J11 J7 J13 J5 J8 J6 J9 J10

HEUNG FAN LIU STREET
MEI FAI STREET
TSING SHA HIGHWAY
TAI WAI ROAD
CHIK CHUEN STREET
CHIK SHUN STREET
CHIK TAK LANE
TAI PO ROAD - TAI WAI
SHING HO ROAD
CHIK FUK STREET
SHING WAN ROAD
SHING HING STREET
SHING CHUEN ROAD
MEI TIN ROAD
CHIK FAI STREET
CHIK EU STREET
CHIK LUK LANE
TSUEN NAM ROAD
SUBJECT SITE
W1
W2
W3
W4
W5
W6
W7
MTR TAI WAI STATION
CHIK WAN STREET
CHE KUNG MIU ROAD
HUNG MUI KUK ROAD

B	GENERAL REVISION	JY	JUN 24
A	TD'S COMMENTS INCORPORATED	IY	MAY 23
-	FIRST ISSUANCE	JL	MAR 23
Rev	Description	By	Date

Consultant

wsp

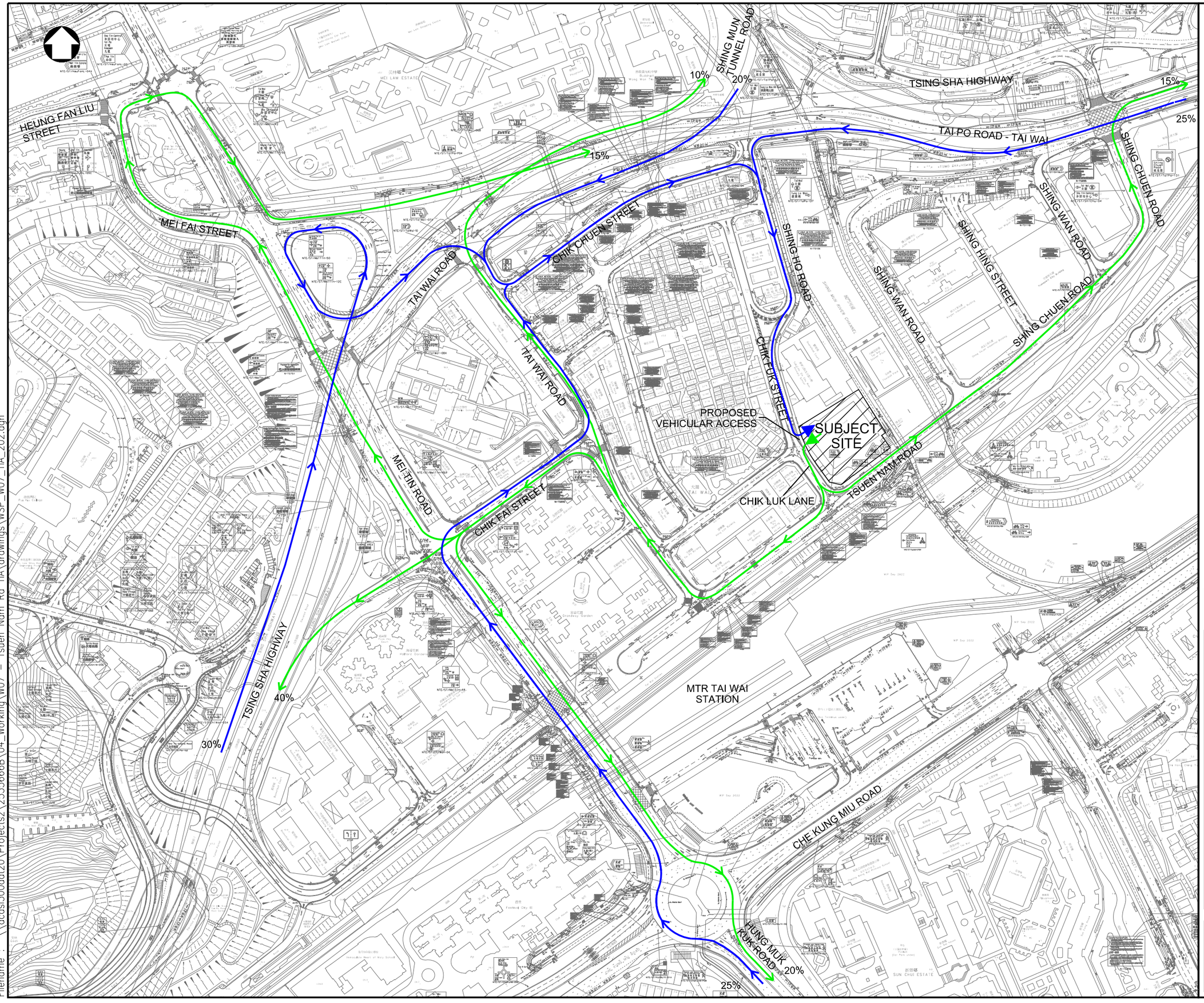
Project title
AGREEMENT NO. CB202104 24 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title
LOCATION PLAN, KEY JUNCTIONS AND FOOTPATHS

Drawing no.			Rev.
W07/TIA/201			B
Drawn	Date	Checked	Approved
JL	MAR 2023	AP	AP
Scale		Status	
NTS		-	

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 6/6/2024
Filename : \\dcasi300dat20\Projects2\253566B\04_Working\W07 - Tsuen Nam Rd TIA\drawings\WSP_W07_TIA_201.dgn



LEGEND :

- SUBJECT SITE
- VEHICULAR ACCESS
- INGRESS ROUTING
- EGRESS ROUTING
- 25% TRIPS DISTRIBUTION

Rev	Description	By	Date
A	GENERAL REVISION	JY	JUN 24
–	FIRST ISSUANCE	JL	MAR 23

Consultant

wsp

Project title

AGREEMENT NO. CB20210424 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

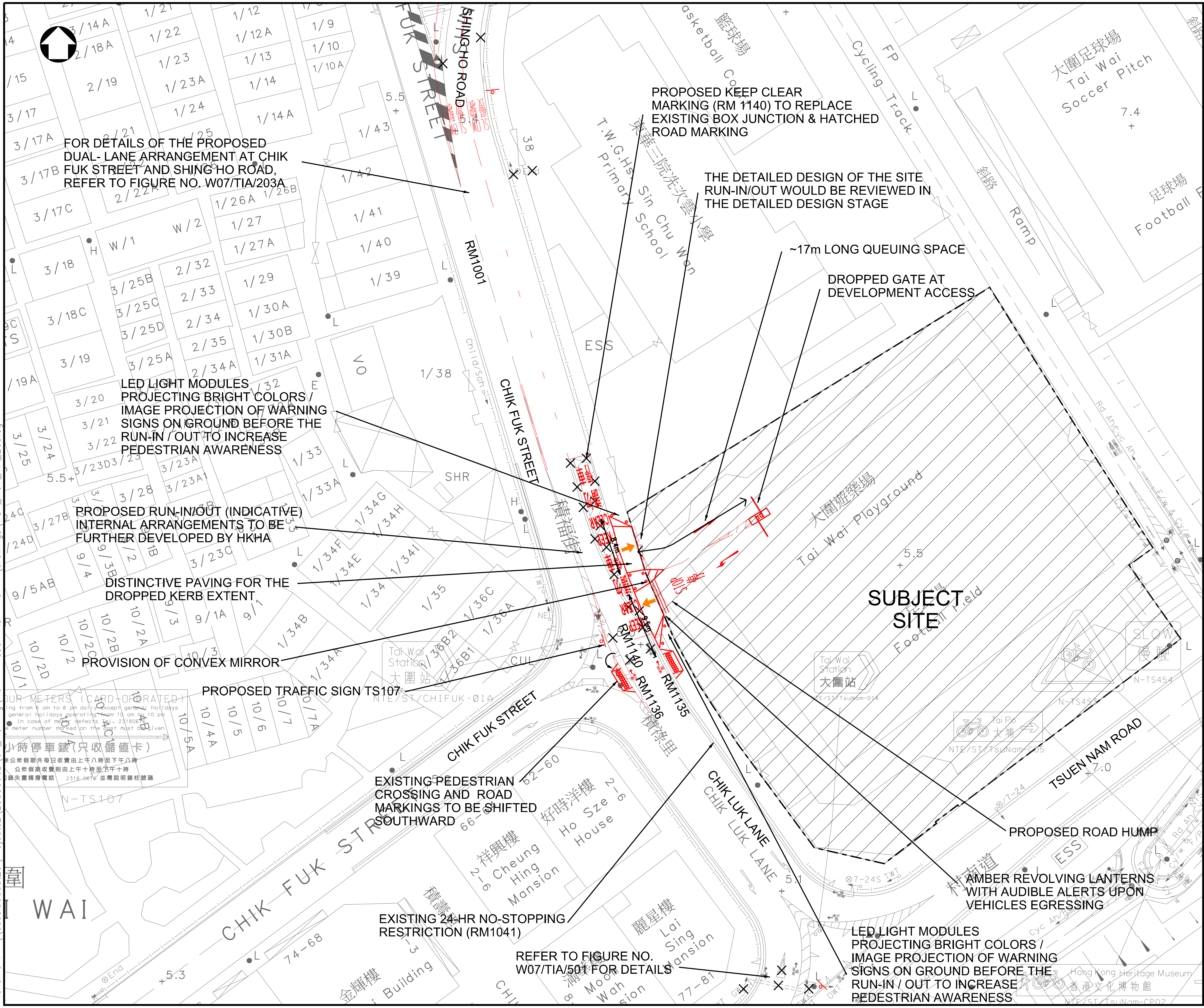
Drawing title

DEVELOPMENT TRAFFIC ROUTINGS

Drawing no.			Rev.
W07/TIA/202			A
Drawn: JL	Date: MAR 2023	Checked: AP	Approved: AP
Scale: NTS		Status: –	

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 6/6/2024
Filename : \\dcas300dat20\Projects2\253566B\04_Working\W07 - Tsuen Nam Rd TIA\drawings\WSP_W07_TIA_202.dgn



FOR DETAILS OF THE PROPOSED DUAL- LANE ARRANGEMENT AT CHIK FUK STREET AND SHING HO ROAD, REFER TO FIGURE NO. W07/TIA/203A
PROPOSED KEEP CLEAR MARKING (RM 1140) TO REPLACE EXISTING BOX JUNCTION & HATCHED ROAD MARKING
THE DETAILED DESIGN OF THE SITE RUN-IN/OUT WOULD BE REVIEWED IN THE DETAILED DESIGN STAGE
~17m LONG QUEUING SPACE
DROPPED GATE AT DEVELOPMENT ACCESS
LED LIGHT MODULES PROJECTING BRIGHT COLORS / IMAGE PROJECTION OF WARNING SIGNS ON GROUND BEFORE THE RUN-IN / OUT TO INCREASE PEDESTRIAN AWARENESS
PROPOSED RUN-IN/OUT (INDICATIVE) INTERNAL ARRANGEMENTS TO BE FURTHER DEVELOPED BY HKHA
DISTINCTIVE PAVING FOR THE DROPPED KERB EXTENT
PROVISION OF CONVEX MIRROR
PROPOSED TRAFFIC SIGN TS107
EXISTING PEDESTRIAN CROSSING AND ROAD MARKINGS TO BE SHIFTED SOUTHWARD
EXISTING 24-HR NO-STOPPING RESTRICTION (RM1041)
REFER TO FIGURE NO. W07/TIA/501 FOR DETAILS
PROPOSED ROAD HUMP
AMBER REVOLVING LANTERNS WITH AUDIBLE ALERTS UPON VEHICLES EGRESSING
LED LIGHT MODULES PROJECTING BRIGHT COLORS / IMAGE PROJECTION OF WARNING SIGNS ON GROUND BEFORE THE RUN-IN / OUT TO INCREASE PEDESTRIAN AWARENESS
SUBJECT SITE
SHING HO ROAD
CHIK FUK STREET
CHIK LUK LANE
TSUEN NAM ROAD
RM1001
RM1140
RM1136
RM1135
大圍遊樂場
Tai Wai Playground
大圍足球場
Tai Wai Soccer Pitch
足球場
Football
T.W.G.Hs Sin Chu Wan Primary School
Cycling Track
Ramp
Basketball Court
ESS
SHR

LEGEND :

- SUBJECT SITE
- PROPOSED DEVELOPMENT RUN-IN/OUT
- PROPOSED ROAD MARKINGS
- PROPOSED TRAFFIC SIGNS
- PROPOSED G.I. BOLLARDS (INDICATIVE)

Rev	Description	By	Date
B	GENERAL REVISION	JY	JUN 24
A	GENERAL REVISION	JY	MAY 24

Consultant

wsp

Project title

AGREEMENT NO. CB20210424 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title

PROPOSED VEHICULAR ACCESS ARRANGEMENT AND ASSOCIATED TRAFFIC DESIGNS

Drawing no.	Rev.
W07/TIA/203	B

Drawn	Date	Checked	Approved
JY	MAR 2024	AP	AP

Scale	Status
1 : 500 (A3)	-

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 7/6/2024
Filename : \\dcasi300dat20\Projects2\2535666B\04_Working\W07 - Tsuen Nam Rd TIA\drawings\WSP_W07_TIA_203.dgn

PROPOSED END OF NO-STOPPING RESTRICTION (TS2139)

EXISTING NO-STOPPING RESTRICTION (RM1041) TO BE REMOVED

PROPOSED SETTING BACK OF KERB AT EXISTING TRAFFIC ISLAND

"CHILDREN AHEAD", "SCHOOL" TRAFFIC SIGNS (TS 463 AND 740), AND "SLOW" ROAD MARKING (RM 1141) ARE PROVIDED TO ALERT THE DRIVERS THAT CHILDREN ARE GOING TO AND FROM SCHOOL AHEAD

EXISTING TRAFFIC SIGN TO BE REMOVED

~80m ADDITIONAL ON-STREET QUEUING ZONE FOR PVP OF SUBJECT SITE

EXISTING ROAD MARKING TO BE MODIFIED

PROPOSED KEEP CLEAR MARKING (RM 1140) TO REPLACE EXISTING BOX JUNCTION

FOR DETAILS OF SUBJECT SITE'S VEHICULAR ACCESS ARRANGEMENT, REFER TO FIGURE NO. W07/TIA/203

THE DETAILED DESIGN OF THE SITE RUN-IN/OUT WOULD BE REVIEWED IN THE DETAILED DESIGN STAGE

REFER TO FIGURE NO. W07/TIA/501 FOR DETAILS

J5 JUNCTION

SUBJECT SITE

LEGEND :

- SUBJECT SITE
- PROPOSED DEVELOPMENT RUN-IN/OUT
- PROPOSED ROAD MARKINGS
- PROPOSED TRAFFIC SIGNS

Rev	Description	By	Date
A	GENERAL REVISION	JY	JUN 24

Consultant

wsp

Project title

AGREEMENT NO. CB202104424 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021–2024 FOR NEW TERRITORIES EAST REGION – INSTRUCTION NO. W07 – PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI – TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title

PROPOSED TRAFFIC ENHANCEMENT ON CHIK FUK STREET SOUTHBOUND FOR PVP AT SUBJECT SITE

Drawing no.	Rev.
W07/TIA/203A	A

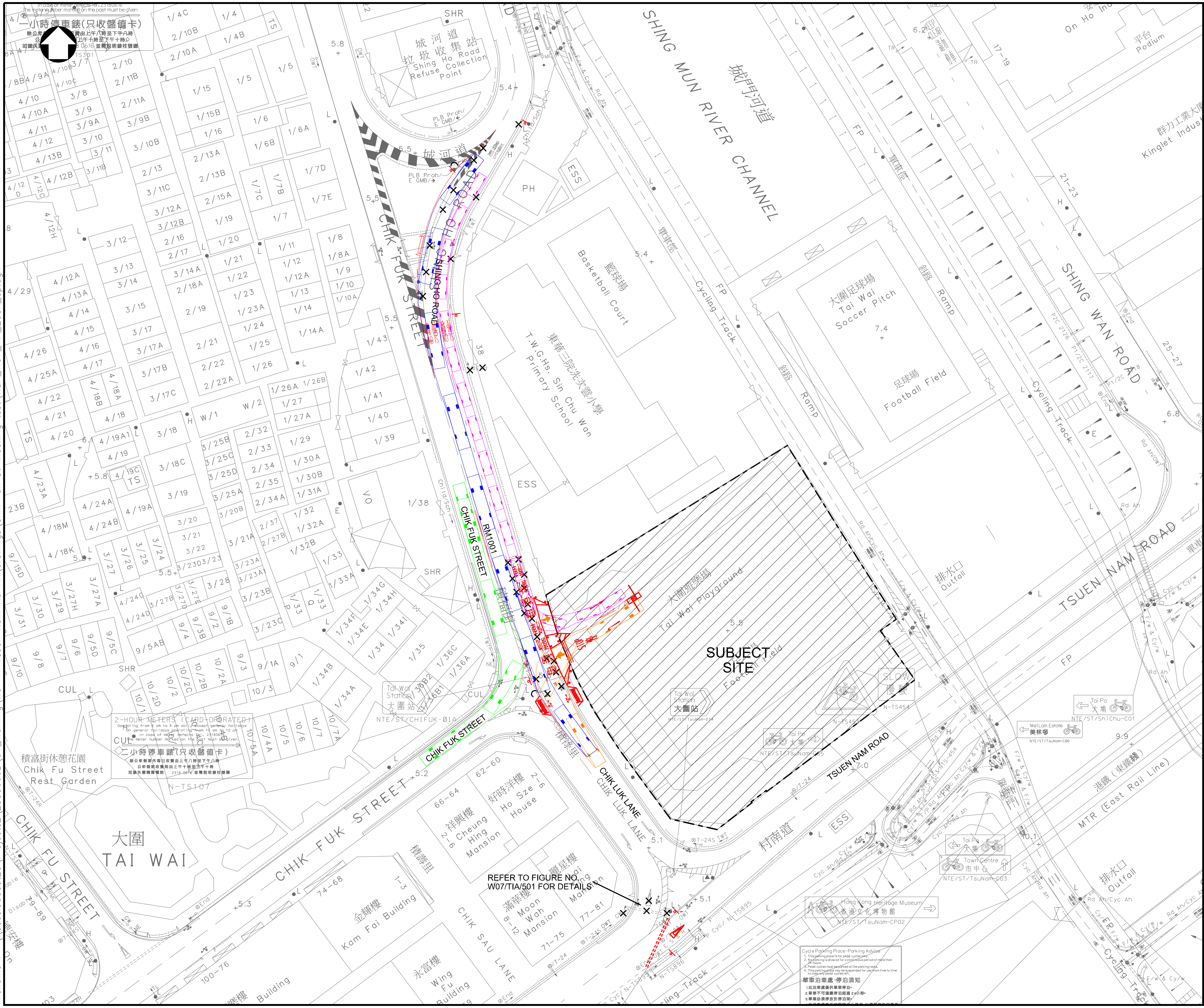
Drawn	Date	Checked	Approved
JY	MAR 2024	AP	AP

Scale: 1 : 750 (A3)

Status: –

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 6/6/2024
Filename : \\dcasi300dat20\Projects2\253566B\04_Working\W07 – Tsuen Nam Rd TIA\drawings\Chik Fuk St widening test\WSP_W07_TIA_203A.dgn



LEGEND :

SUBJECT SITE

PROPOSED DEVELOPMENT RUN-IN/OUT

PROPOSED ROAD MARKINGS

PROPOSED TRAFFIC SIGNS

SWEPT PATH ANALYSIS OF 12m COACH

SWEPT PATH ANALYSIS OF 12m COACH

SWEPT PATH ANALYSIS OF 12m COACH

SWEPT PATH ANALYSIS OF PRIVATE CAR

Rev	Description	By	Date
A	GENERAL REVISION	JY	JUN 24

Consultant

wsp

Project title

AGREEMENT NO. CB20210424 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title

SWEPT PATH ANALYSES FOR SUBJECT SITE'S VEHICULAR ACCESS AND TRAFFIC ENHANCEMENT ON CHIK FUK STREET

Drawing no.	Rev.
W07/TIA/203A-SP	A

Drawn	Date	Checked	Approved
JY	MAR 2024	AP	AP

Scale	Status
1 : 750 (A3)	-

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 6/6/2024
Filename : \\dcasi300dat20\Projects2\2535666B\04_Working\W07 - Tsuen Nam Rd TIA\drawings\Chik Fuk St widening test\WSP_W07_TIA_203A_sp.dgn

80, 80A, 81S, 82K, 283, 286P, 286X, 288C, 798P, 985, 985A, 989, A46, NA41, R283

72, 72A, 80K, 81, 85, 88, 88K, 283, 288C, 989, A46

81, 283

481B

72, 72A, 80K, 81, 85, 88, 88K, 989, A46

72A, 80K, 81, 85, 88, 88K, 283, 288C, 798P, 989, A46, R283

80K, 85, 88, 88K, 798P, 989, A46

46P, 46S, 46X, E42, E42C, N42, N283, NA41

81, 283, 286X, 798P, 989, A46, NA41, R283

403X, 481B, 482

63A, 63B, 63K, 64K

46P, 46S, 46X, E42, E42C, E42P, N42, R40

403X, 481B, 482

63A, 63B, 63K, 64A, 64K

80

72A, 80K, 81, 286X, 288C

63S, 403X, 481B

63S

46S, 46X, 72A, 80, 80A, 80K, 81S, 82B, 82K, 85, 88, 88K, 286P, 286X, 288C, 798P, 985, 985A, 989, A41, E42, E42C, E42P, N42, NA41, R40, R283

46R, 46S, 46X, 72A, 80K, 82B, 82D, 88, 88K, 249X, 281, 798P, B8, R42

64A, 64K

63S, 403X, 481B

63A, 63B, 63K, 64A, 64K

MTR TAI WAI STATION

46S, 46X, 72A, 80, 80K, 82K, 85, 88, 88K, 286X, 288C, 798P, 985, 989, A41, E42, E42C, N42, NA41

68K, 803, 804, 812

61M, 68K, 403X, 481B, 803K

72, 81

88K, 286X, 288C, A41, E42, E42C, N42, NA41

81C, 82K, 85B, 86A, 87B, 89B, 170, 182, 182X, 249X, 281M, 286A, 287R, 287X, 982X, 986, A41, E42, E42C, E42P, N42, N170, N182, N281, NA41, R40, X47

68K, 803, 804, 812

64A, 64K

82K, 85B, 86A, 87B, 249X, 281, 281M, 286A, 287P, 287X, 982X, 986, A41, E42, E42C, N42, N281, NA41, R42

46S, 46X, 80, 81C, 85, 87B, 88K, 89B, 170, 182, 281B, 286X, 985, 986, N170, N182, R283

SUBJECT SITE

HEUNG FAN LIU STREET
MEI FAI STREET
MEI LAM ESTATE
TSING SHA HIGHWAY
TAI PO ROAD - TAI WAI
CHIK CHUEN STREET
CHIK SHUN STREET
CHIK TAK LANE
TAI WAI ROAD
SHING HO ROAD
CHIK FUK STREET
CHIK FU STREET
SHING WAN ROAD
SHING HING STREET
SHING CHUEN ROAD
SHING MUN RIVER CHANNEL
MEI TIN ROAD
CHIK FAI STREET
CHIK FUK STREET
CHIK LUK LANE
TSUEN NAM ROAD
TAI WAI NEW VILLAGE ROAD
CHIK WAN STREET
CHE KUNG MIU ROAD
CHUI TIN STREET
HUNG MUI KUK ROAD

LEGEND :

- FRANCHISED BUS STOP / TERMINUS
- GMB STOP / TERMINUS
- MTR STATION
- SUBJECT SITE
- KEY PEDESTRIAN ROUTINGS TO PUBLIC TRANSPORT FACILITIES

Rev	Description	By	Date
A	GENERAL REVISION	JY	JUN 24

Consultant

wsp

Project title
AGREEMENT NO. CB20210424 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title
EXISTING PUBLIC TRANSPORT SERVICING POINTS

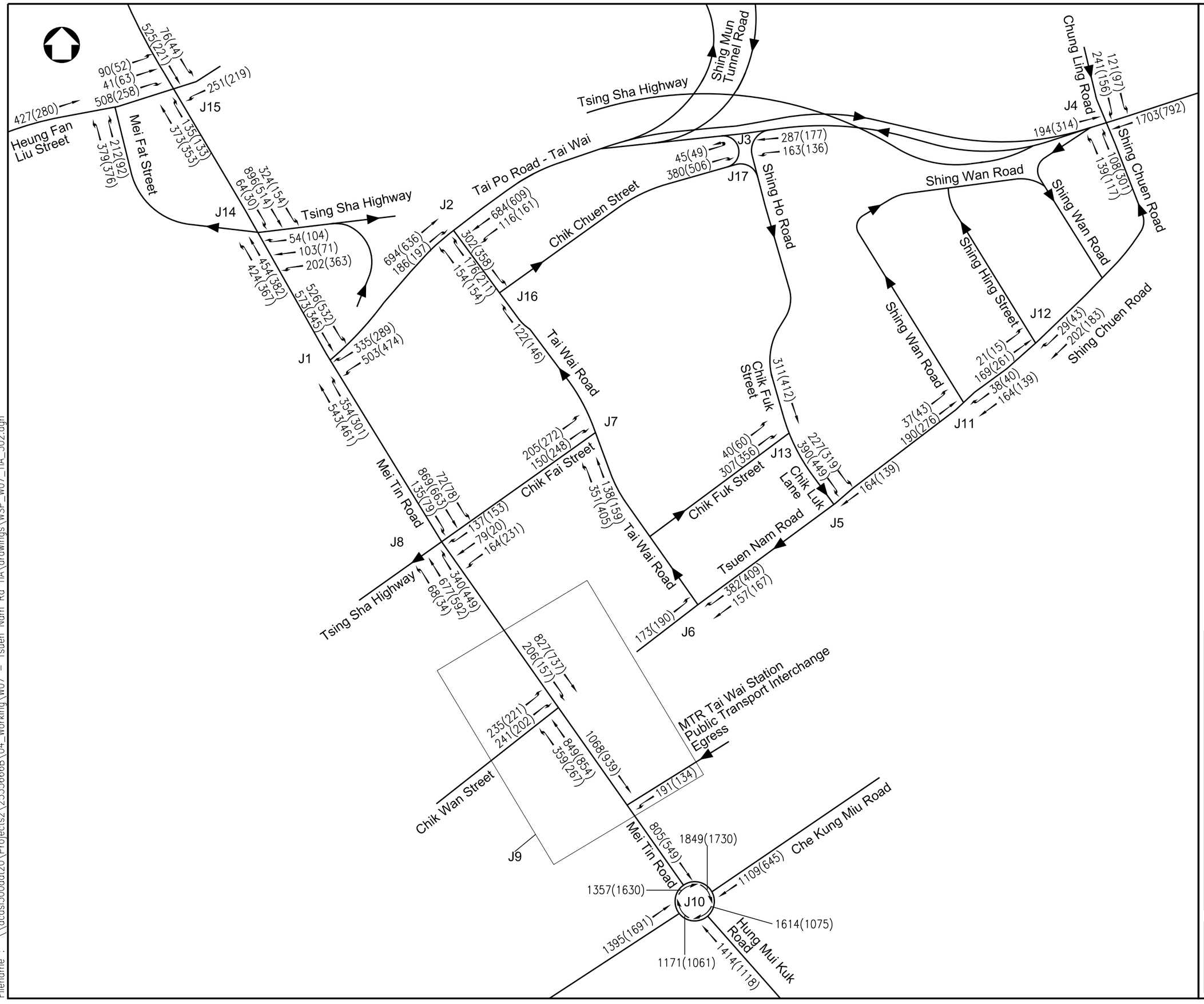
Drawing no.	Rev.
W07/TIA/301	A

Drawn	Date	Checked	Approved
JY	MAR 2023	BL	AP

Scale: NTS
Status: -

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 6/6/2024
Filename : \\dcasi300dat20\Projects2\253566B\04_Working\W07 - Tsuen Nam Rd TIA drawings\WSP_W07_TIA_301.dgn



LEGEND :

J4 KEY JUNCTION

395(335) AM(PM) PEAK HOUR FLOW (PCU/hr)

TRAFFIC MOVEMENT

ONE-WAY ROAD

Rev	Description	By	Date
–	FIRST ISSUANCE	JL	MAR 23

Consultant

wsp

Project title

AGREEMENT NO. CB20210424 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title

YEAR 2023 OBSERVED TRAFFIC FLOWS

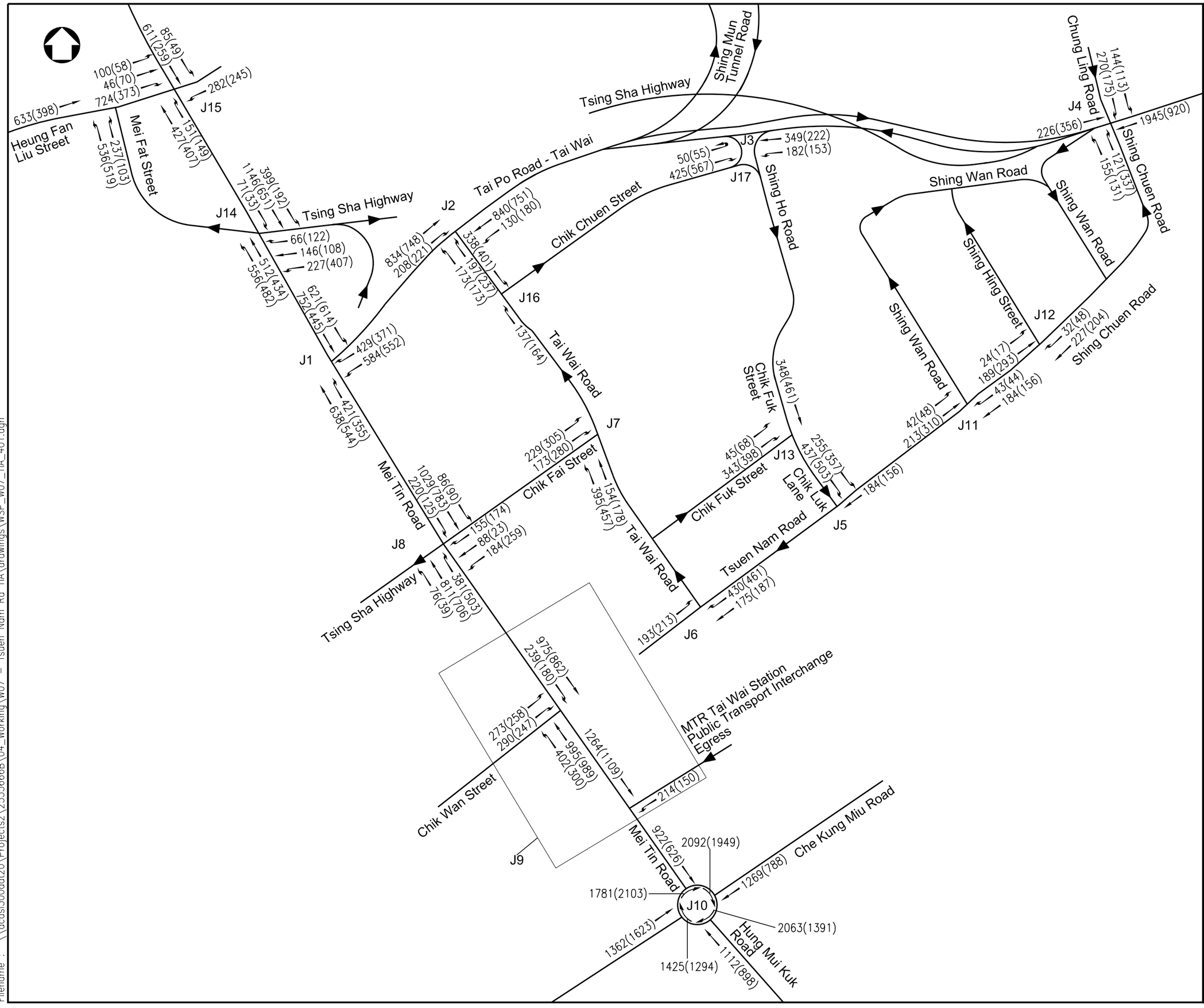
Drawing no.	Rev.
W07/TIA/302	–

Drawn	Date	Checked	Approved
JL	MAR 2023	AP	JF

Scale	Status
NTS	–

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 13/11/2023
Filename : \\dcasi300dat20\Projects2\2535666B\04_Working\W07 - Tsuen Nam Rd TIA\drawings\WSP_W07_TIA_302.dgn



LEGEND :

J4 KEY JUNCTION

395(335) AM(PM) PEAK HOUR FLOW (PCU/hr)

TRAFFIC MOVEMENT

ONE-WAY ROAD

Rev	Description	By	Date
C	GENERAL REVISION	JY	FEB 24
B	GENERAL REVISION	JY	JAN 24
A	TD'S COMMENTS INCORPORATED	JL	MAR 23
-	FIRST ISSUANCE	JL	MAR 23

Consultant

wsp

Project title

AGREEMENT NO. CB20210424 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title

YEAR 2032 REFERENCE TRAFFIC FLOWS

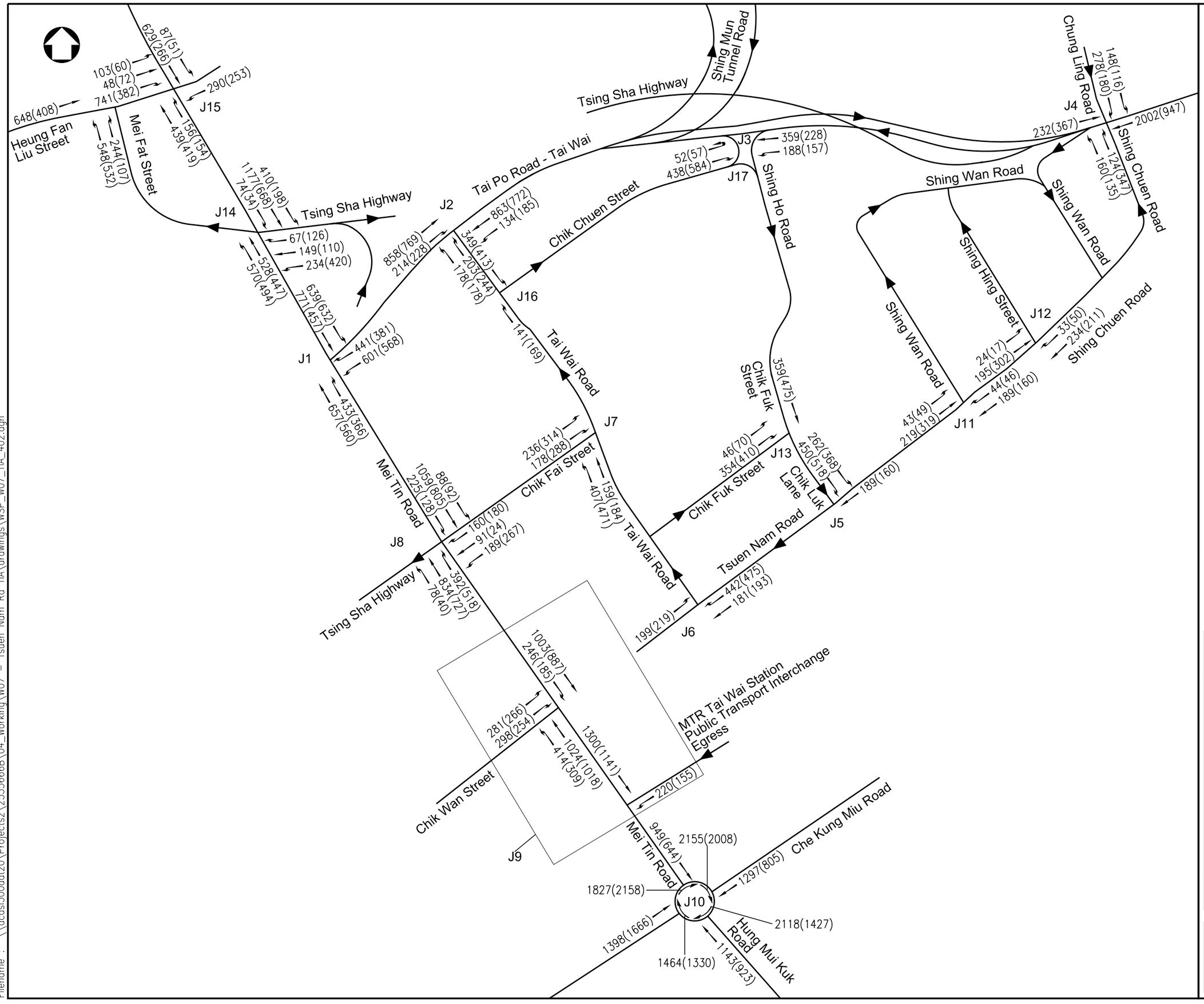
Drawing no.	Rev.
W07/TIA/401	C

Drawn	Date	Checked	Approved
JL	MAR 2023	AP	AP

Scale	Status
NTS	

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 28/2/2024
Filename : \\dcasi300dat20\Projects2\2535666B\04_Working\W07 - Tsuen Nam Rd TIA\drawings\WSP_W07_TIA_401.dgn



Rev	Description	By	Date
C	GENERAL REVISION	JY	FEB 24
B	GENERAL REVISION	JY	JAN 24
A	TD'S COMMENTS INCORPORATED	JL	MAR 23
-	FIRST ISSUANCE	JL	MAR 23

Consultant

wsp

Project title

AGREEMENT NO. CB20210424 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title

YEAR 2035 REFERENCE TRAFFIC FLOWS

Drawing no.	Rev.
W07/TIA/402	C

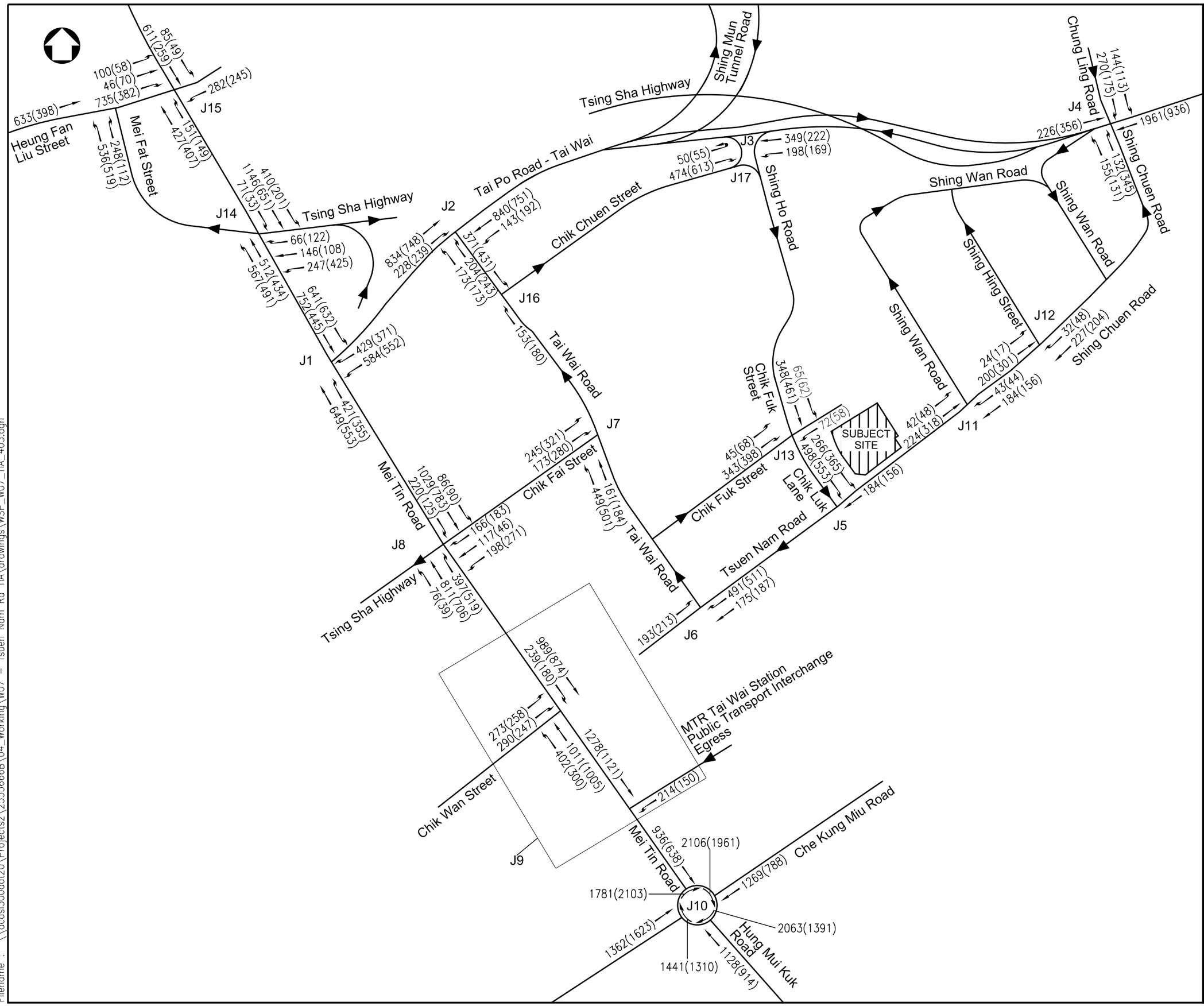
Drawn	Date	Checked	Approved
JL	MAR 2023	AP	AP

Scale: NTS

Status:

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 28/2/2024
Filename : \\dcasi300dat20\Projects2\253566B\04_Working\W07 - Tsuen Nam Rd TIA\drawings\WSP_W07_TIA_402.dgn



LEGEND :

- J4 KEY JUNCTION
- 395(335) AM(PM) PEAK HOUR FLOW (PCU/hr)
- TRAFFIC MOVEMENT
- ONE-WAY ROAD
- SUBJECT SITE

Rev	Description	By	Date
C	GENERAL REVISION	JY	FEB 24
B	GENERAL REVISION	JY	JAN 24
A	TD'S COMMENTS INCORPORATED	JL	MAR 23
-	FIRST ISSUANCE	JL	MAR 23

Consultant: wsp

Project title: AGREEMENT NO. CB20210424 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title: YEAR 2032 DESIGN TRAFFIC FLOWS

Drawing no.	Rev.
W07/TIA/403	C

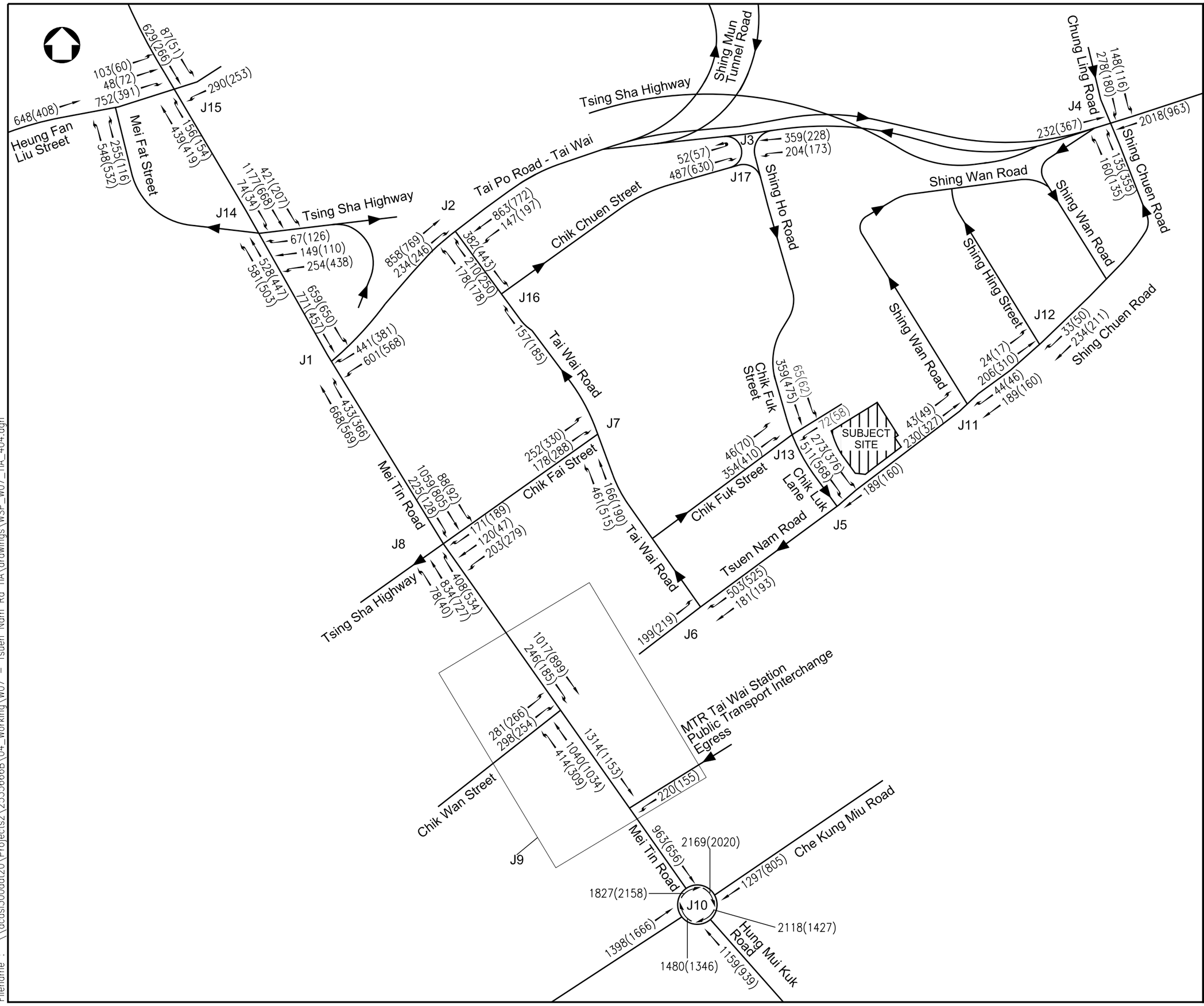
Drawn	Date	Checked	Approved
JL	MAR 2023	AP	AP

Scale: NTS

Status:

香港房屋委員會 HONG KONG HOUSING AUTHORITY

Date : 28/2/2024
Filename : \\dcasi300dat20\Projects2\253566B\04_Working\W07 - Tsuen Nam Rd TIA\drawings\WSP_W07_TIA_403.dgn



LEGEND :

J4	KEY JUNCTION
395(335)	AM(PM) PEAK HOUR FLOW (PCU/hr)
	TRAFFIC MOVEMENT
	ONE-WAY ROAD
	SUBJECT SITE

Rev	Description	By	Date
C	GENERAL REVISION	JY	FEB 24
B	GENERAL REVISION	JY	JAN 24
A	TD'S COMMENTS INCORPORATED	JL	MAR 23
-	FIRST ISSUANCE	JL	MAR 23

Consultant

wsp

Project title

AGREEMENT NO. CB202104 24 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title

YEAR 2035 DESIGN TRAFFIC FLOWS

Drawing no.	Rev.
W07/TIA/404	C

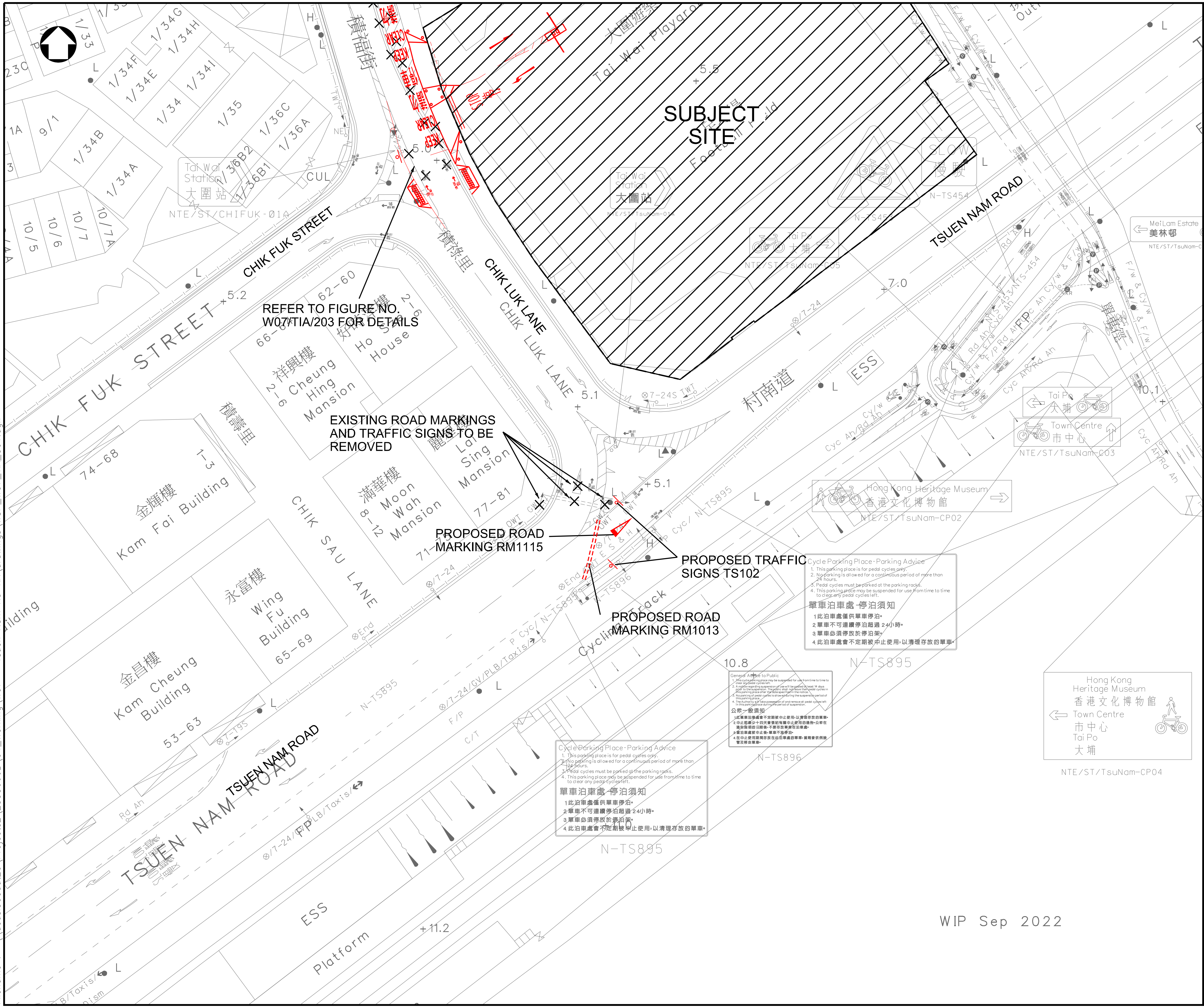
Drawn	Date	Checked	Approved
JL	MAR 2023	AP	AP

Scale: NTS

Status:

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 28/2/2024
Filename : \\dcasi300dat20\Projects2\2535666B\04_Working\W07 - Tsuen Nam Rd TIA\drawings\WSP_W07_TIA_404.dgn



LEGEND :

PROPOSED ROAD MARKINGS

PROPOSED TRAFFIC SIGNS

Rev	Description	By	Date
B	GENERAL REVISION	JY	JUN 24
A	GENERAL REVISION	JY	MAY 24

Consultant

wsp

Project title

AGREEMENT NO. CB20210424 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title

PROPOSED JUNCTION IMPROVEMENT SCHEME AT TSUEN NAM ROAD/ CHIK LUK LANE (J5)

Drawing no.	Rev.
W07/TIA/501	B

Drawn	Date	Checked	Approved
IY	MAR 2023	AP	JF

Scale 1 : 500 (A3) | Status –

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 6/6/2024
Filename : dcasi300dat20\Projects2\2535666B\04_Working\W07 - Tsuen Nam Rd TIA\drawings\WSP_W07_TIA_501.dgn

EXISTING KERB TO BE MAINTAINED

EXISTING ROAD MARKINGS RM1013 & RM1115 TO BE REMOVED

EXISTING HATCHED ROAD MARKING RM1035 TO BE MODIFIED

RM1104

J17 JUNCTION

EXISTING PRIORITY JUNCTION TO BE REPLACED WITH TWO EXCLUSIVE LANES FOR BOTH CHIK SHUN STREET AND SHING HO ROAD

EXISTING TRAFFIC SIGNS TS102 & TS115 TO BE REMOVED

EXISTING ROAD MARKING RM1104 TO BE MODIFIED

CHIK CHUEN STREET

CHIK SHUN STREET

SHING HO ROAD

SHING MUN TUNNEL ROAD

TAI PO ROAD - TAI WAI

大埔公路 — 大圍段

NTE/ST/TaiPo-135A

NTE/ST/ShiHo-03

NTE/ST/ShiHo-04

NTE/ST/TaiPo-137

NTE/ST/ShiWan-C01

N-TS106

N-TS107

2-HOUR METERS (CARD-OPERATED)
Operating from 8 am to 8 pm daily except general holidays
On general holidays operating from 10 am to 10 pm
In case of meter defects Tel. 23180616
The meter number marked on the post must be given
二小時停車錶(只收儲值卡)
除公眾假期外每日收費由上午八時至下午八時
公眾假期收費則由上午十時至下午十時
如錶失靈請撥電話 2318 0616 並需說明錶柱號碼

LEGEND :

PROPOSED ROAD MARKINGS

PROPOSED TRAFFIC SIGNS

PROPOSED KERB

Rev	Description	By	Date
C	GENERAL REVISION	JY	MAY 24
B	TD's COMMENTS INCORPORATED	JY	OCT 23
A	TD's COMMENTS INCORPORATED	JY	AUG 23
-	FIRST ISSUANCE	IY	MAY 23

Consultant

Project title
AGREEMENT NO. CB20210424 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title
PROPOSED JUNCTION IMPROVEMENT SCHEME AT SHING HO ROAD/ CHIK CHUEN STREET (J17)

Drawing no.		Rev.
W07/TIA/502		C
Drawn: JY	Date: MAY 2023	Checked: AP	Approved: JF
Scale: 1 : 500 (A3)		Status: -	

香港房屋委員會
HONG KONG HOUSING AUTHORITY

Date : 17/5/2024
Filename : \\dcasi300dat20\Projects2\253566B\04_Working\W07 - Tsuen Nam Rd TIA\drawings\WSP_W07_TIA_502.dgn

Date : 6/3/2024
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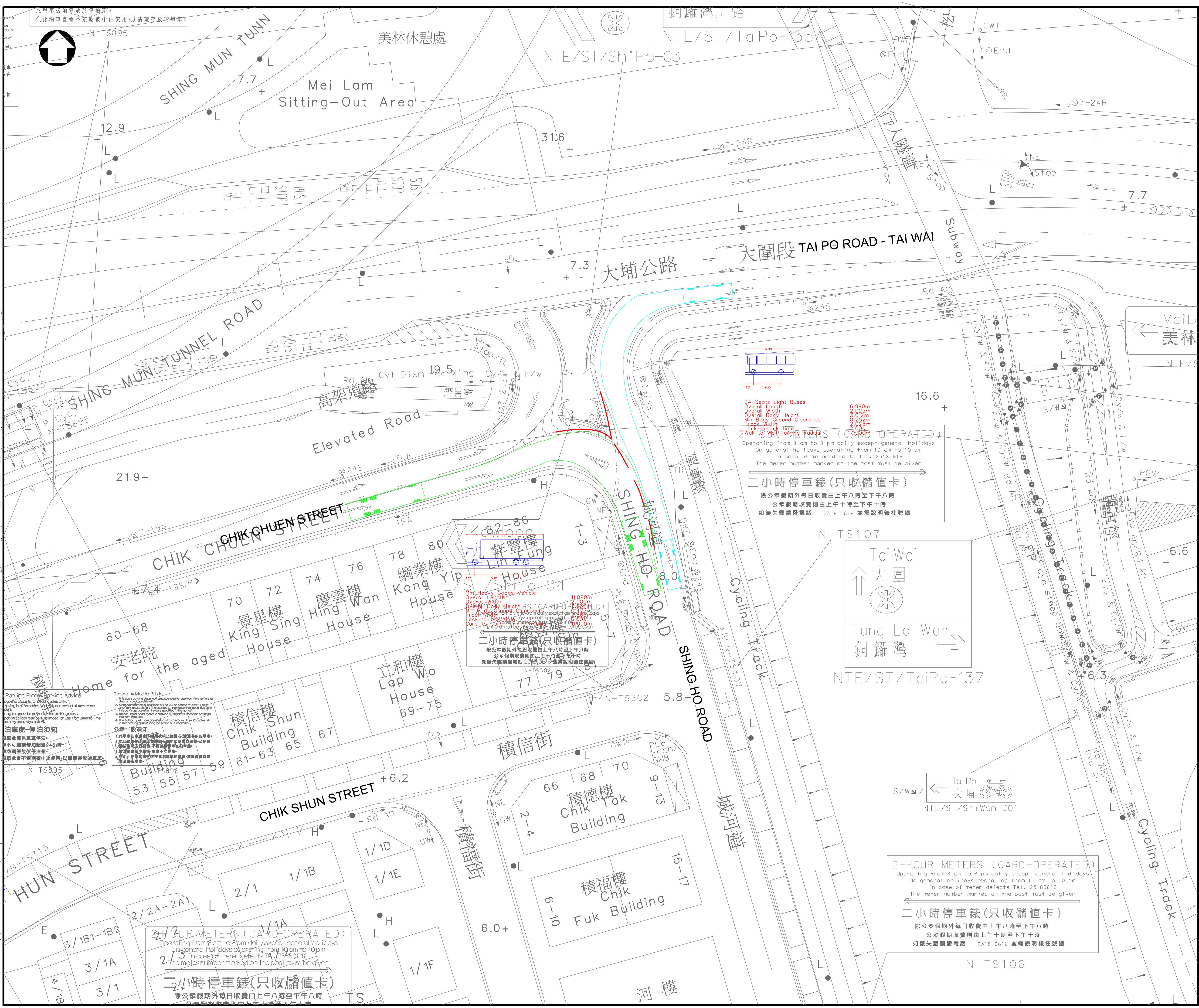

LEGEND :

PROPOSED ROAD MARKINGS

PROPOSED TRAFFIC SIGNS

PROPOSED KERB

Rev	Description	By	Date
-	FIRST ISSUANCE	JY	MAR 24

Consultant

wsp

Project title

AGREEMENT NO. CB20210424 TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2021-2024 FOR NEW TERRITORIES EAST REGION - INSTRUCTION NO. W07 - PROPOSED TAI WAI GOVERNEMNT COMPLEX CO-LOCATED WITH PUBLIC HOUSING DEVELOPMENT AT TSUEN NAM ROAD, TAI WAI - TRAFFIC IMPACT ASSSESSMENT (TIA)

Drawing title

SWEPT PATH ANALYSIS FOR PROPOSED JUNCTION IMPROVEMENT SCHEME AT SHING HO ROAD / CHIK CHUEN STREET (J17)

Drawing no.	Rev.
W07/TIA/503	-

Drawn	Date	Checked	Approved
JY	MAR 2024	AP	JF

Scale	Status
1 : 500 (A3)	-

香港房屋委員會
HONG KONG HOUSING AUTHORITY