

西九龍交通影響評估

新高鐵專家組

簡介

- 是項研究基於政府提交立法會之 **“West Kowloon Reclamation Development Traffic Study”**.
- 此文件已包括西九高鐵站和西九文化區所帶來的旅客人流。
- 此文件只可於立法會圖書館內翻閱，不許翻印或帶走。
- 文件顯示西九龍的交通擠塞問題未被解決，將會帶來嚴重社會影響，而且尚有許多疑團未被解答。

An aerial photograph of a city, likely Osaka, Japan, showing a dense urban area with a river on the left. Two specific areas are highlighted: a blue rectangular area and a larger red area. Callout boxes with Chinese text point to these areas.

西九站

西九文化區

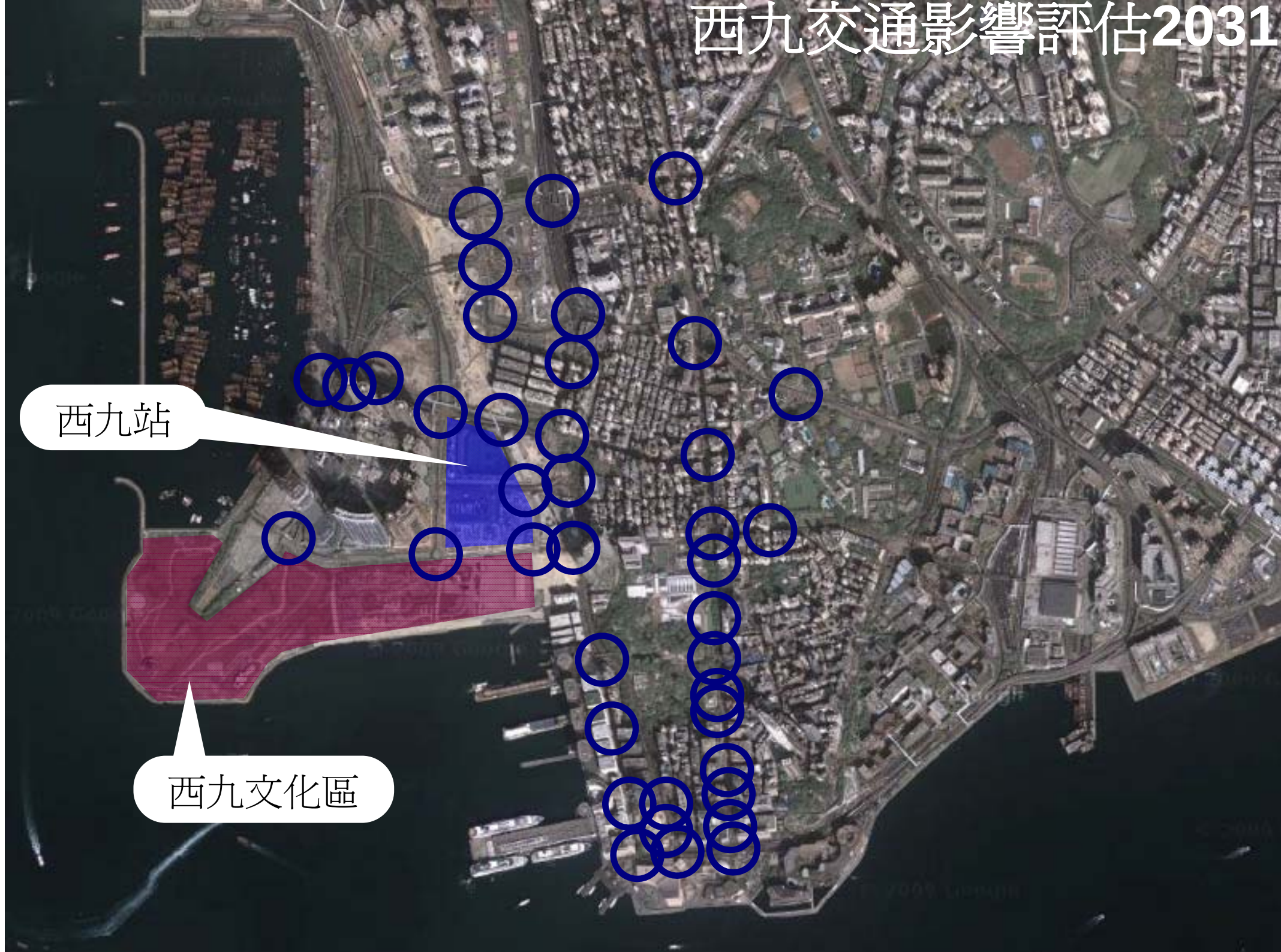
西九站

西九文化區



西九站

西九文化區

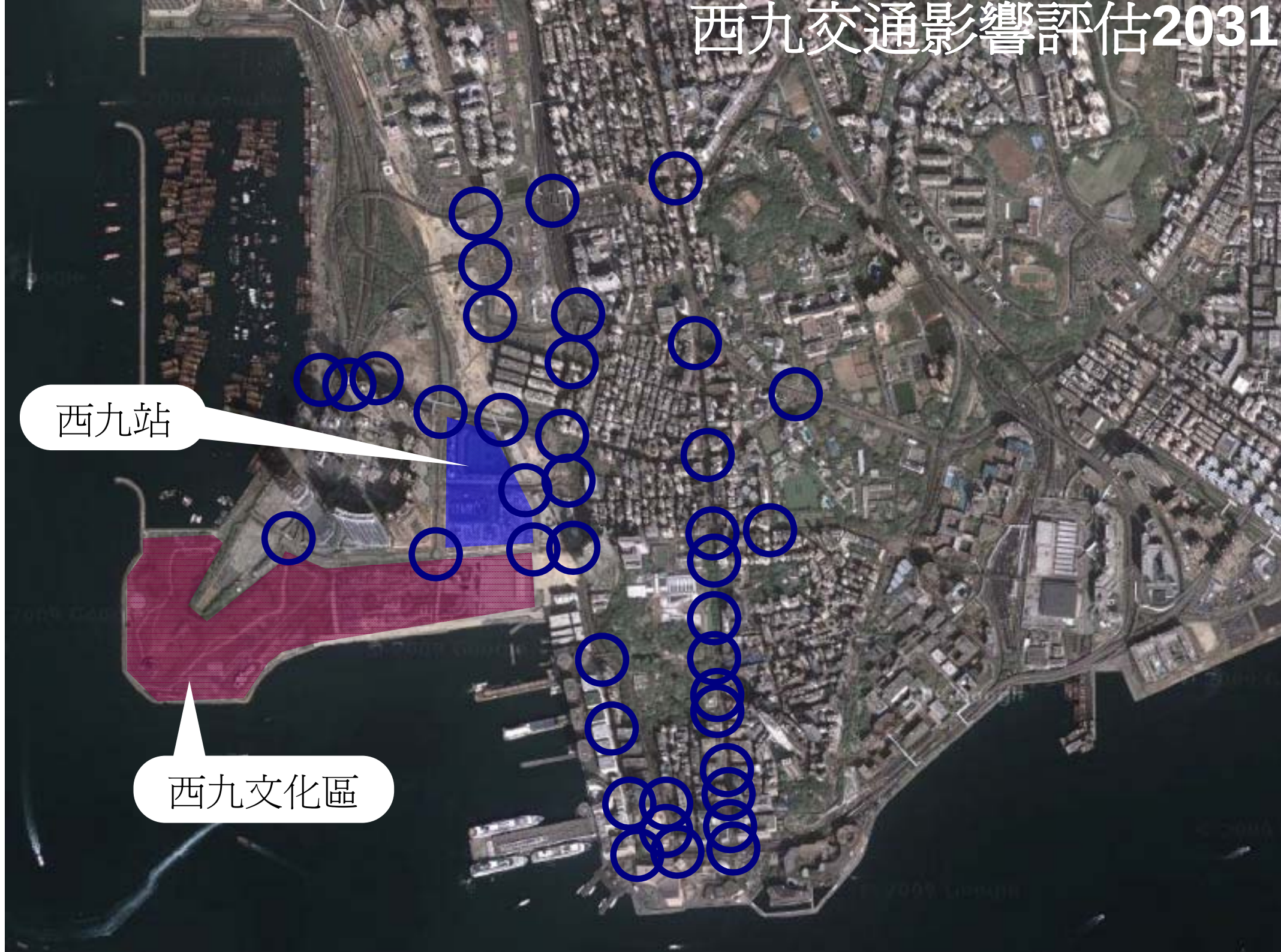


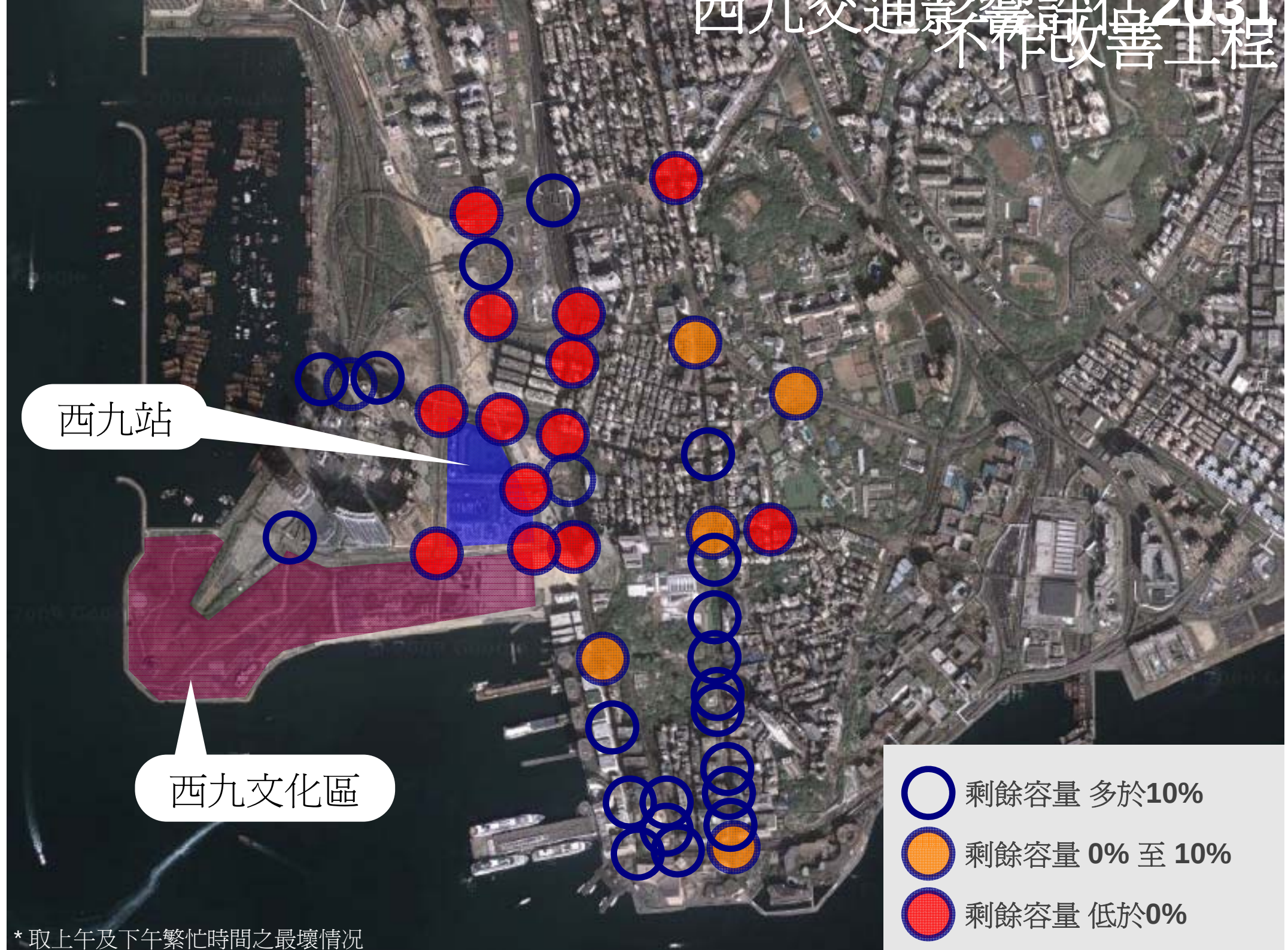
問題一：擠塞未解決

- 高鐵的 **669** 億撥款中，有過百億元將用作處理交通擠塞。
- 除百億配套外，政府另建議一系列的改道措施和道路公程。
- 即使完成了所有的投資和建議後，交通擠塞將仍然持續。
- 預計有 **2** 個路口的交通將會**超出容量**（彌敦道/窩打老道；柯士甸道/覺士道/松山道）。
- 預計有 **4** 個路口的剩餘容量會低於**10%**（廣東道/柯士甸道；彌敦道/柯士甸道；廣東道/九龍公園徑；欣翔道/渡船街/甘肅街）

西九站

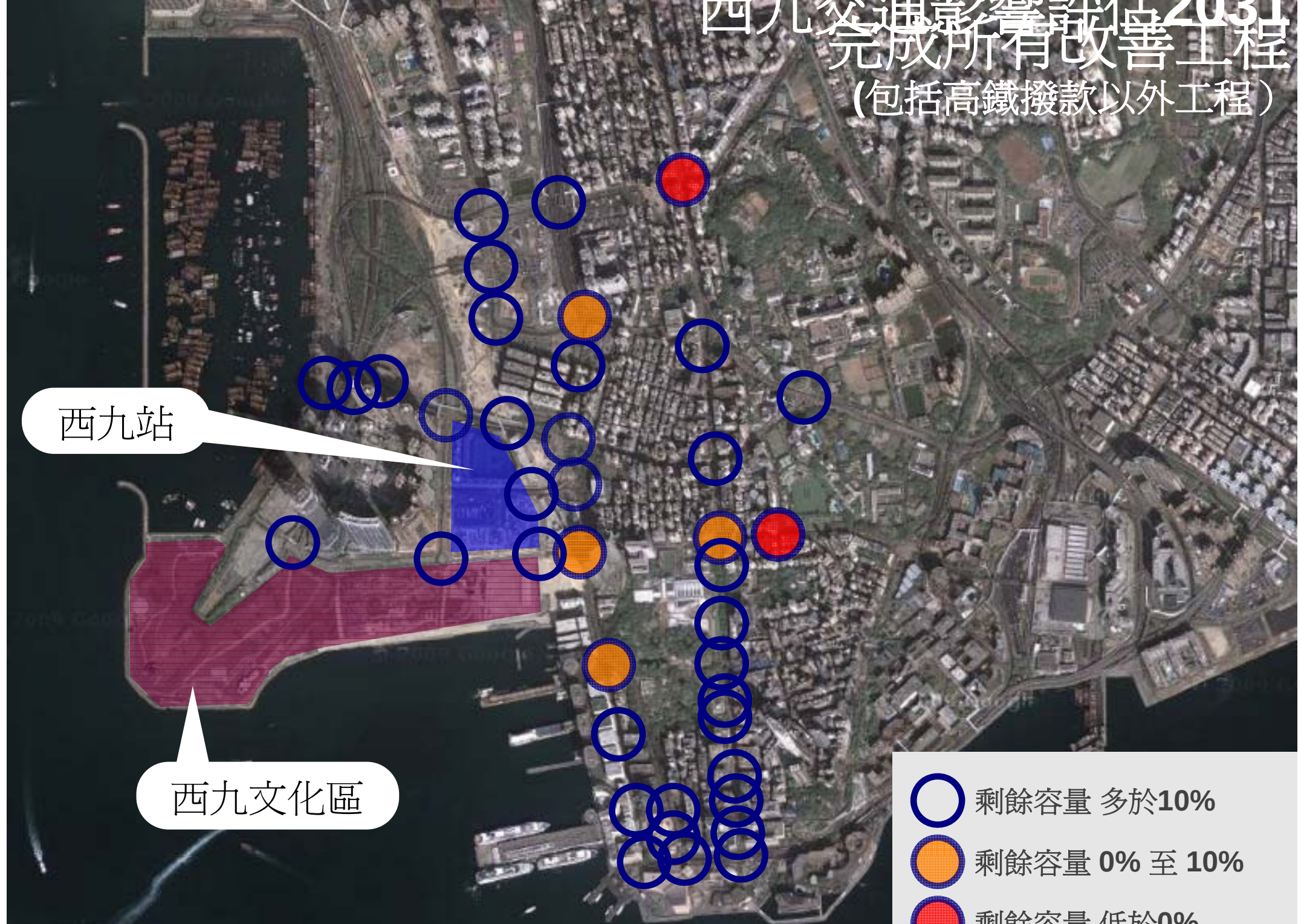
西九文化區





* 取上午及下午繁忙時間之最壞情況

西九交通影響評估2031 完成所有改善工程 (包括高鐵撥款以外工程)



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西九交通影響評估2031 完成所有改善工程 (包括高鐵撥款以外工程)

欣翔道/渡船街/甘肅街

彌敦道/窩打老道

西九站

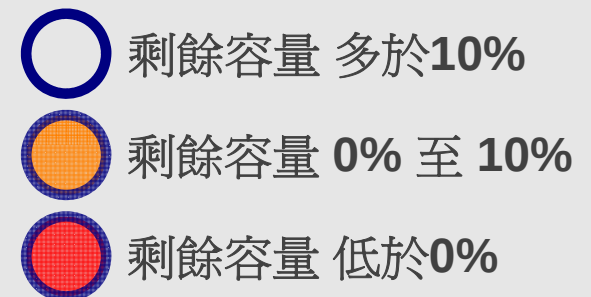
彌敦道/柯士甸道

柯士甸道/覺士道/松山道

廣東道/柯士甸道

廣東道/九龍公園徑

西九文化區



* 取上午及下午繁忙時間之最壞情況

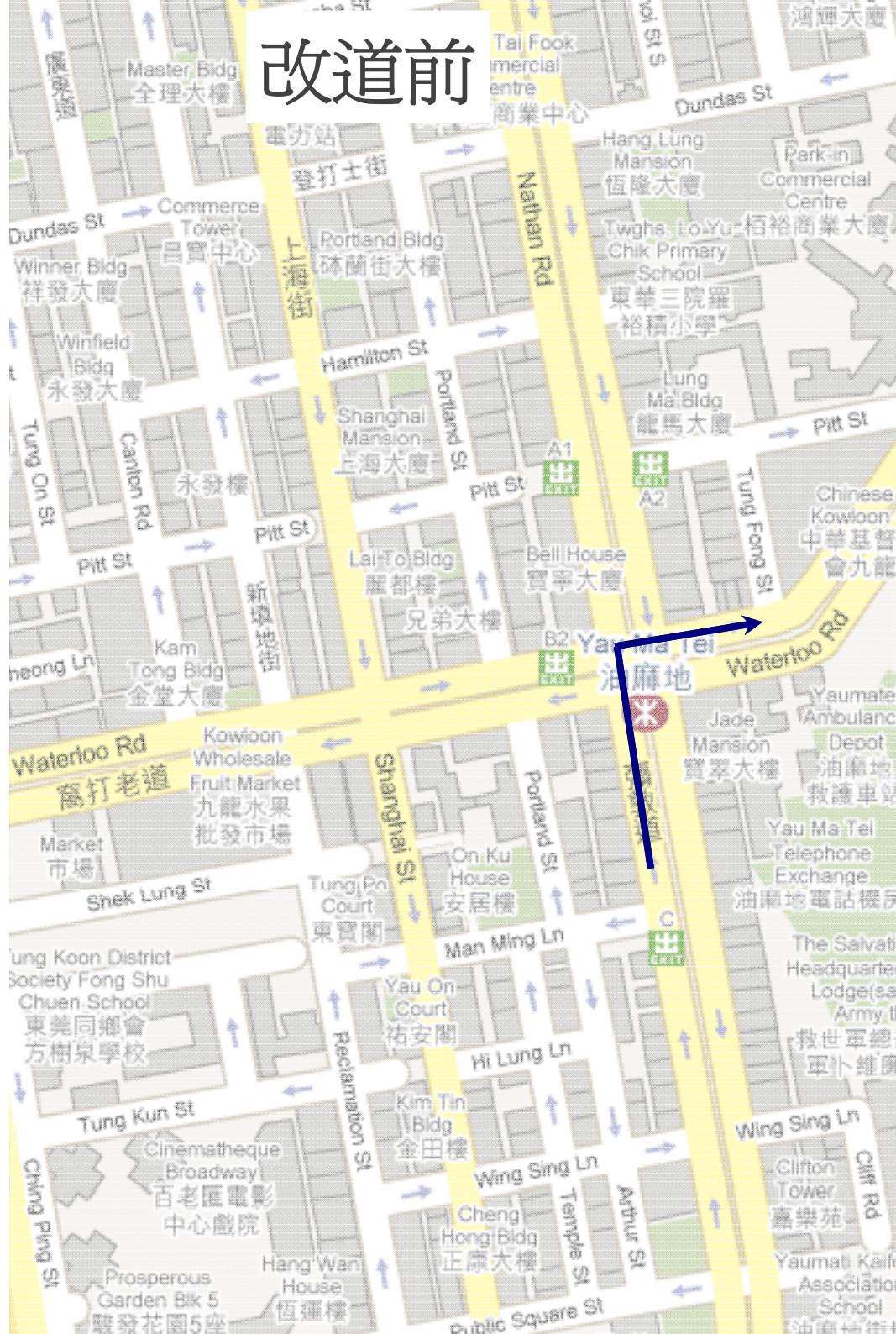
問題二：西九交通大改道

- 爲了處理預期的西九龍交通擠塞問題，政府提出大量的改道措施。
- 這些措施包括彌敦道北行將不可右轉入窩打老道東行；佐敦道東行將不可左轉至彌敦道北行；佐敦道西行將不可左轉至彌敦道南行；彌敦道南行將不可左轉至佐敦道東，或右轉至佐敦道西行（巴士除外）；柯士甸道東行將不可右轉至彌敦道南行。

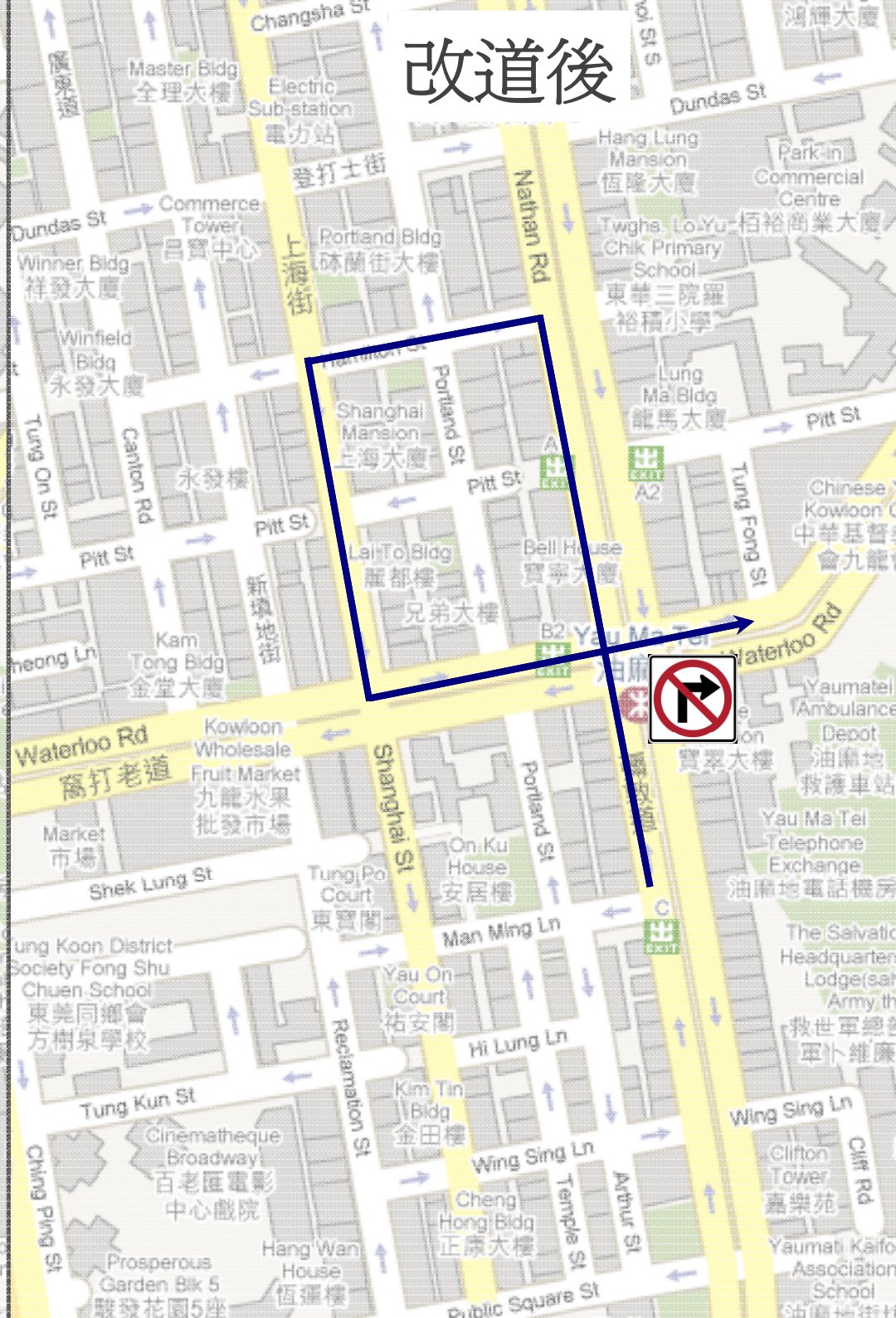
問題二：西九交通大改道

- 油麻地和佐敦一帶的內街交通會大為增加，影響包括：砵蘭街、咸美頓街、白加士街、南京街、德興街、德成街、眾坊街、上海街、北河街、覺士道及松山道。
- 上述街道之居民和商舖是否已被充分諮詢有關的改道措施，極為值得懷疑。

改道前

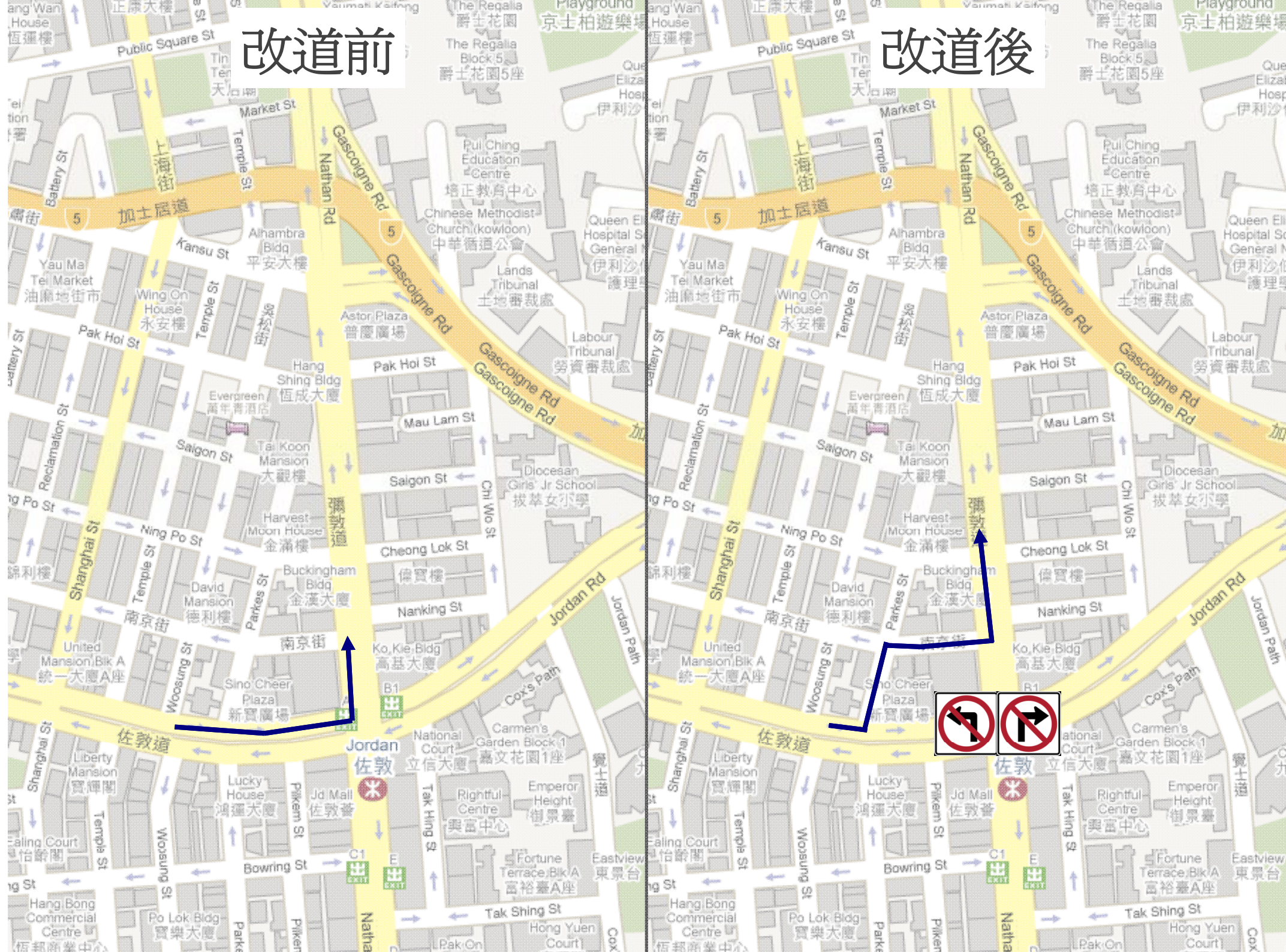


改道後



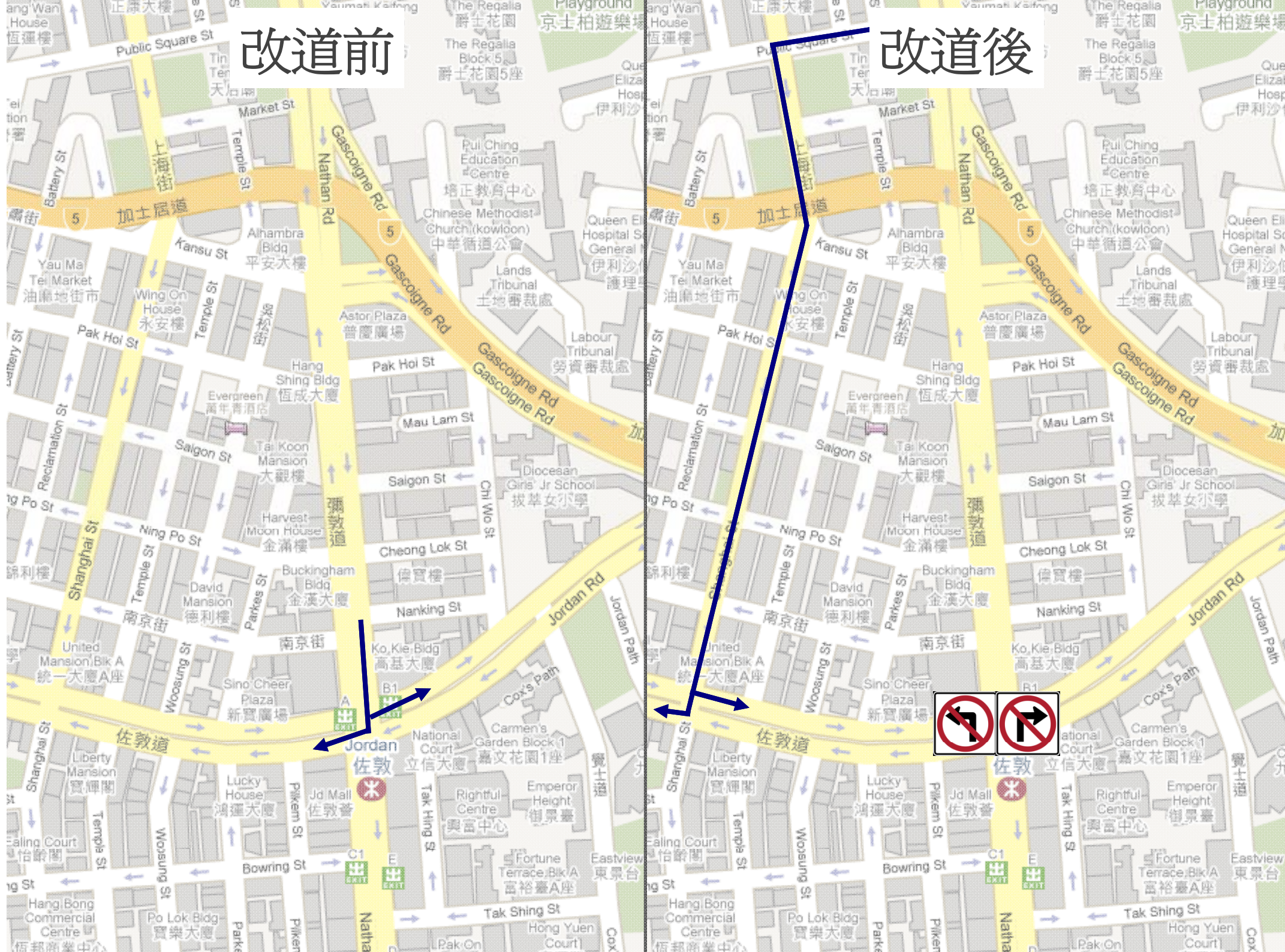
改道前

改道後



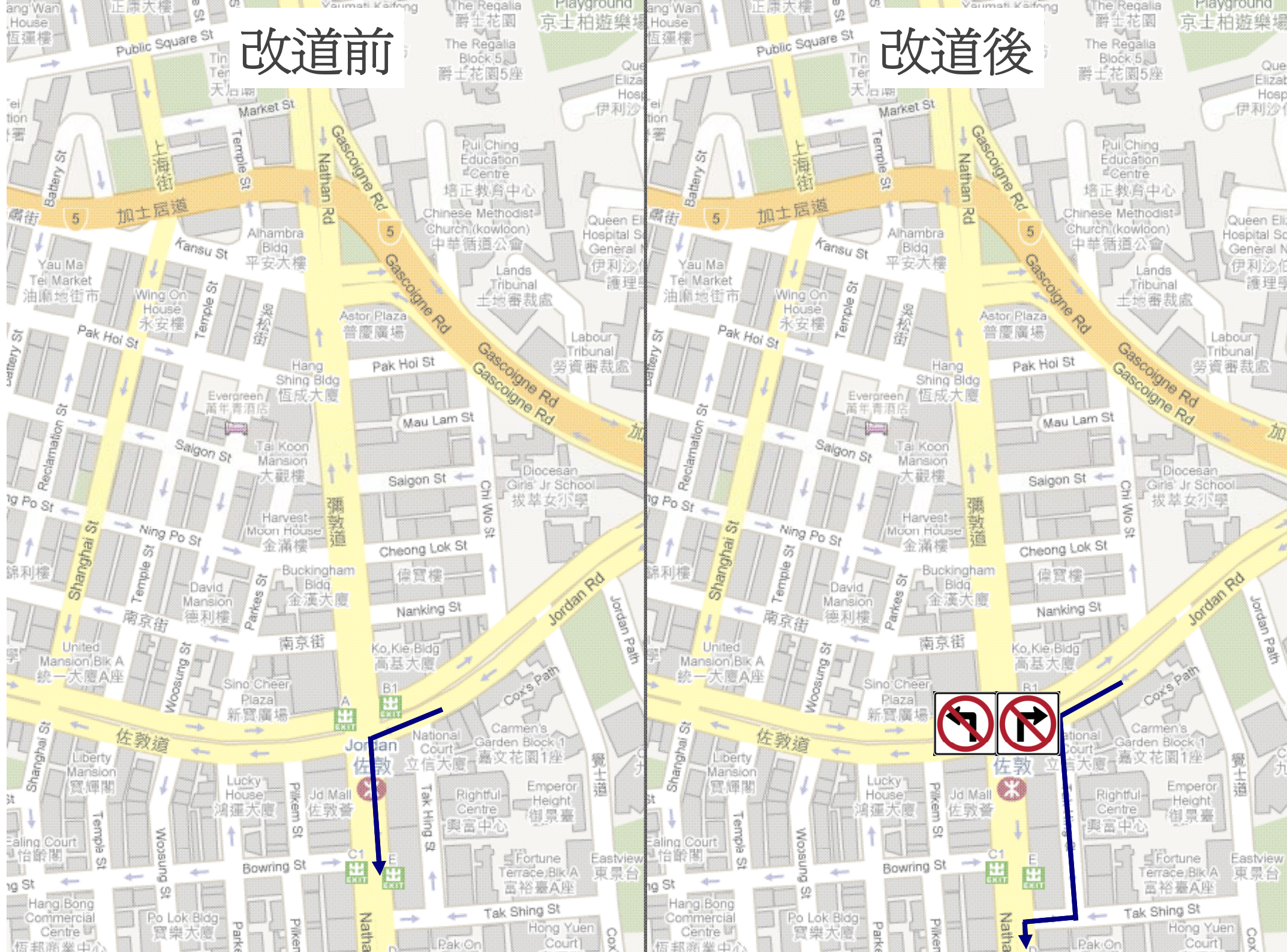
改道前

改道後

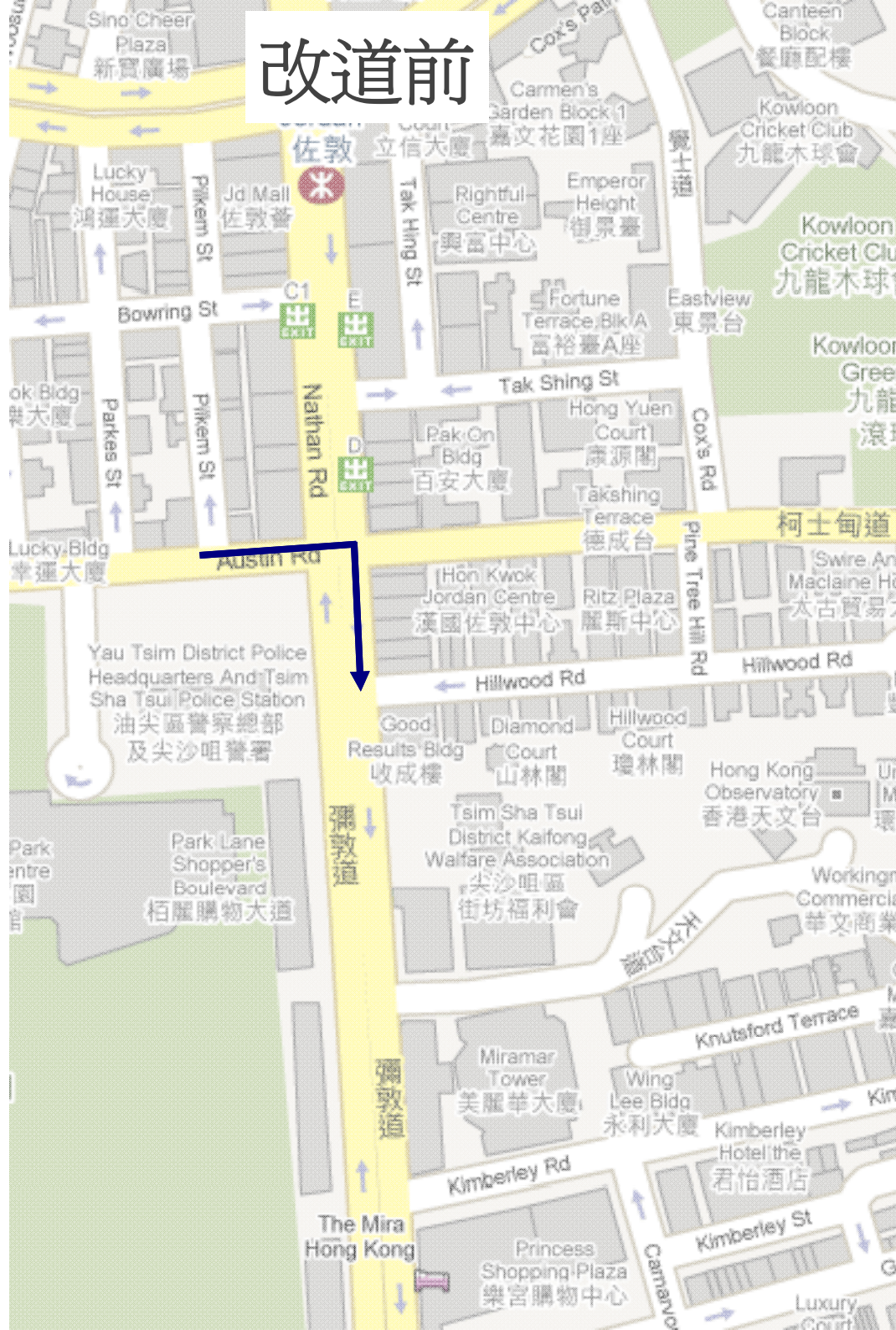


改道前

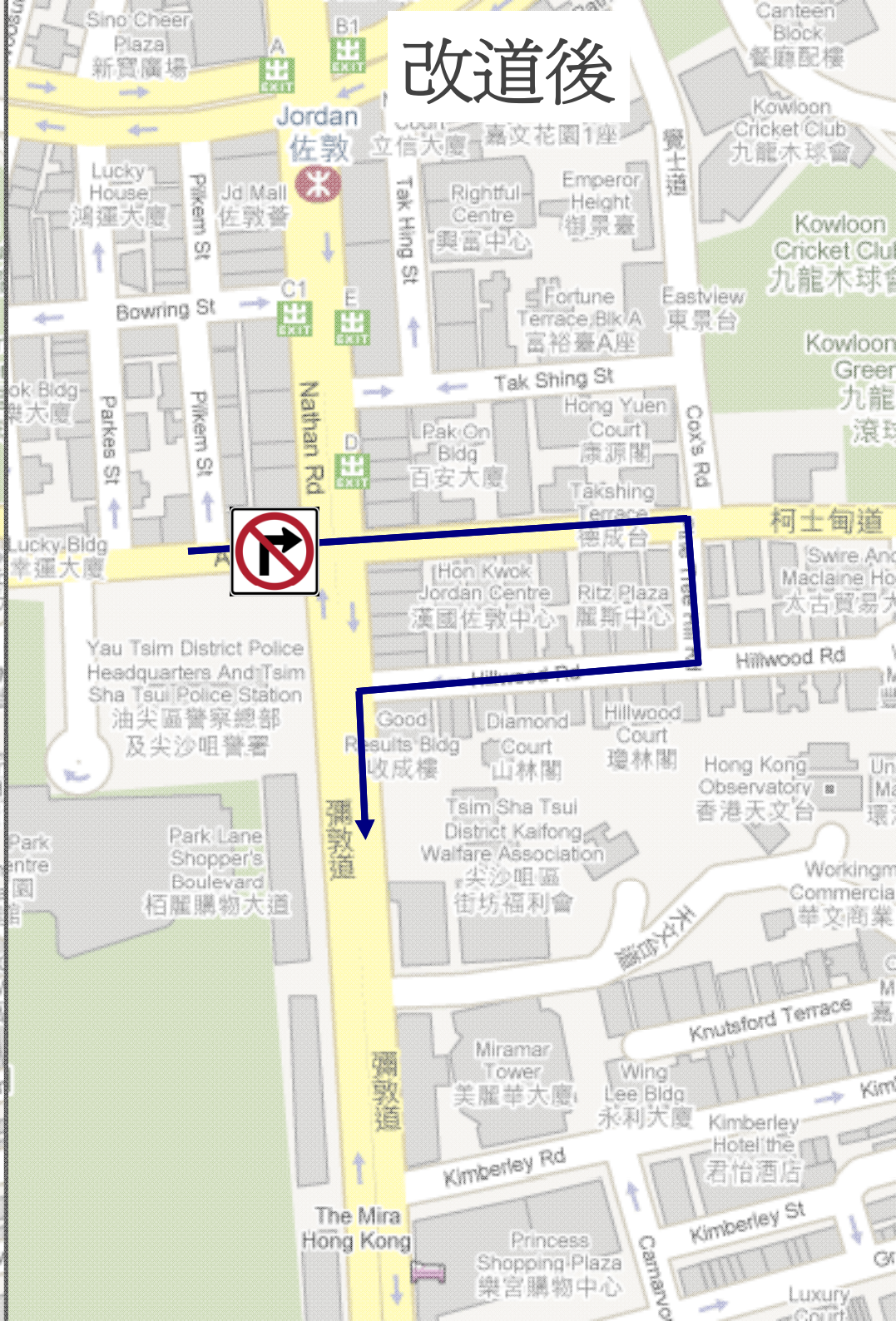
改道後



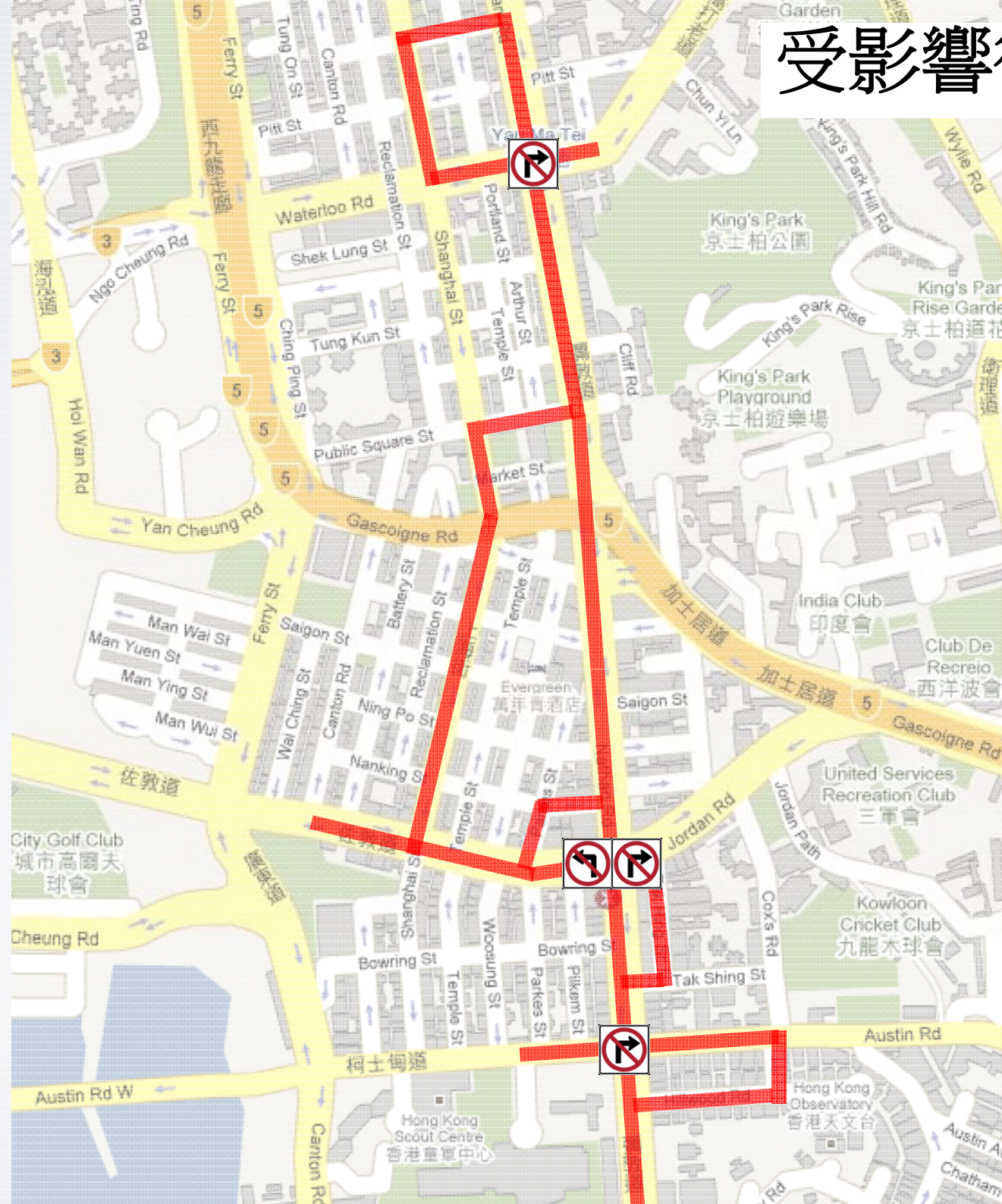
改道前



改道後



受影響街道總覽

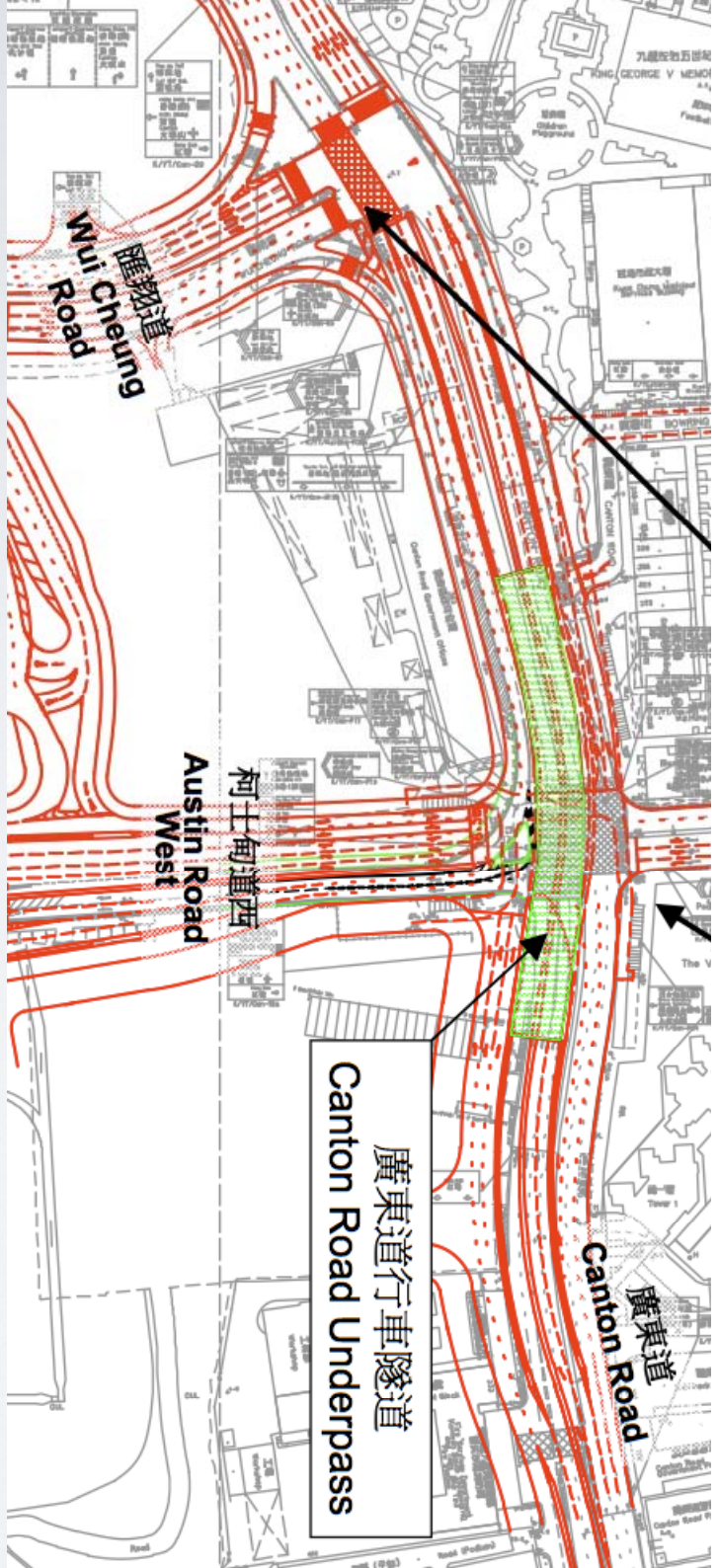


問題三：改善措施落實存疑

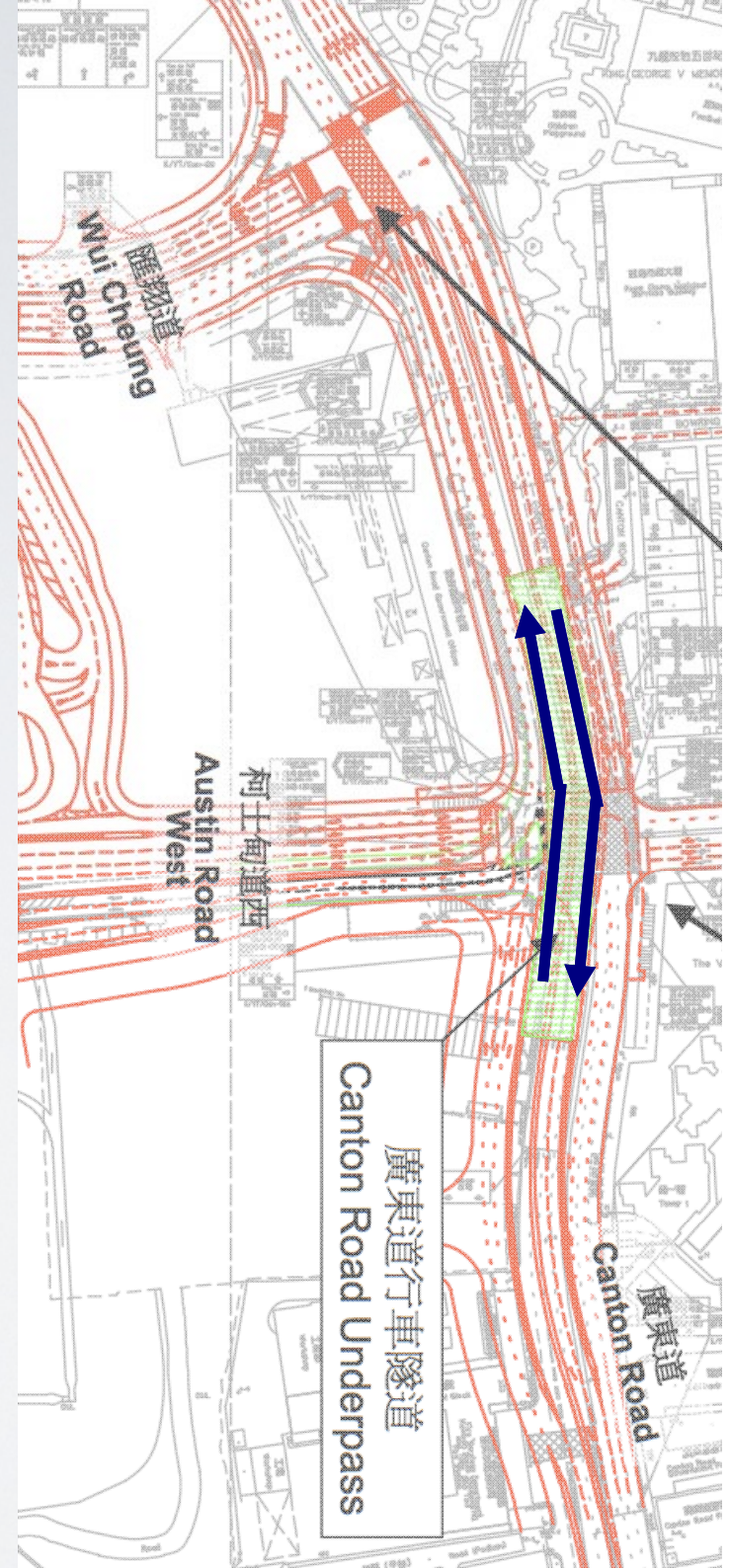
- 政府提出其中一項改善措施：廣東道穿越柯士甸道的隧道，技術上的可行性存疑，未必能夠落實。
- 此隧道之斜度甚高，附近又有主要水管，卻必需於西九高鐵站和西九文化區落成前建成。
- 此隧道為通往尖沙嘴一帶之交通命脈。如未能如期建成，則所有相關的交通評估需重新推算。

道路網-其他道路改善

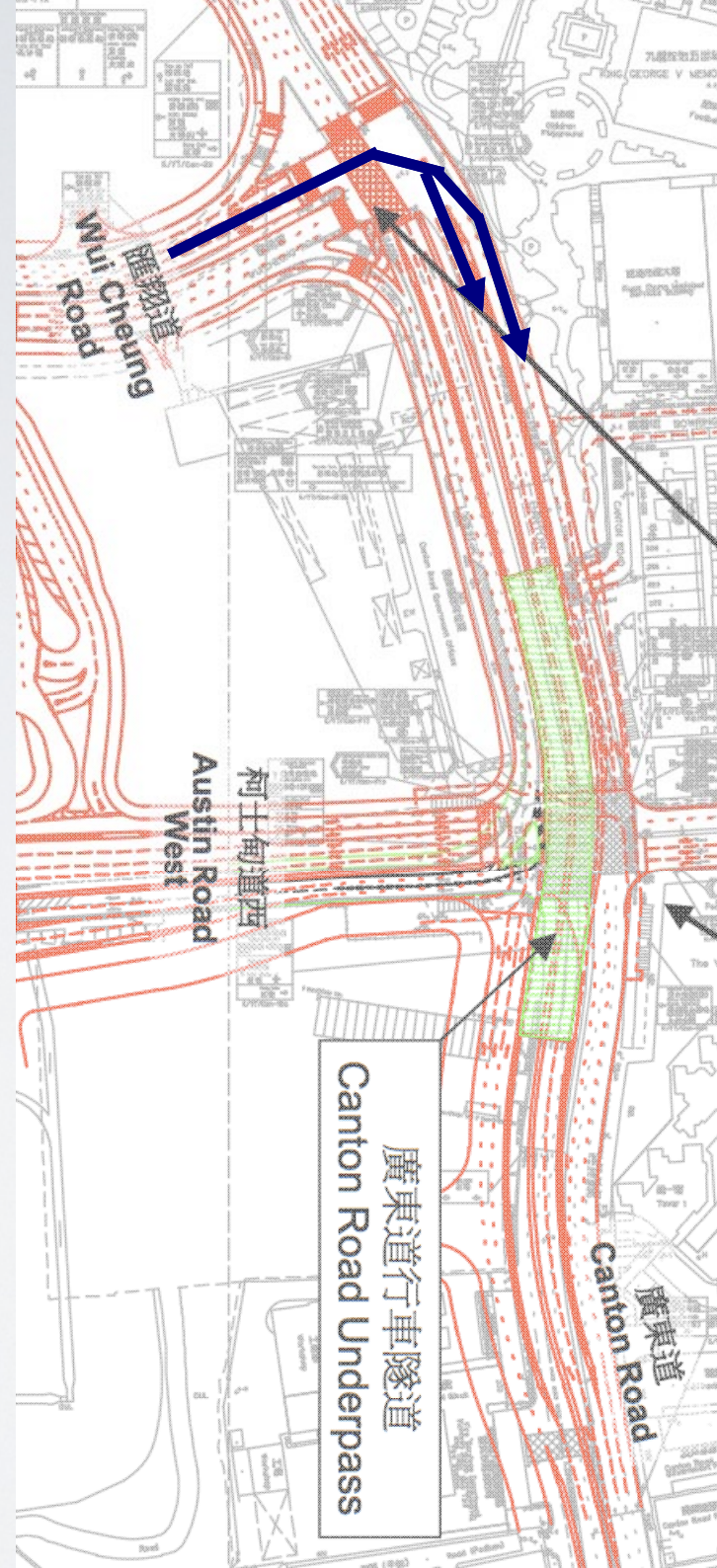




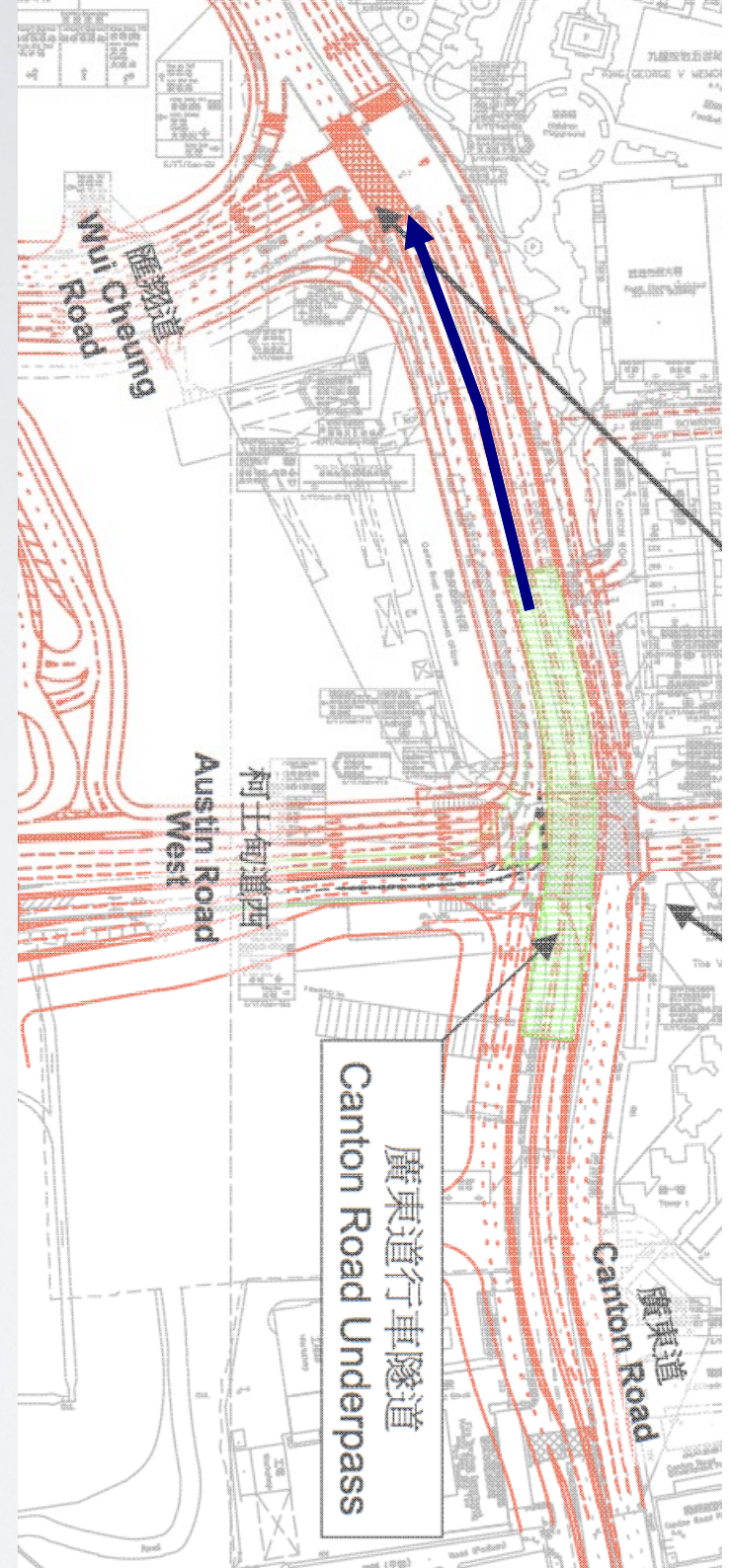
- 疑點一：行車隧道斜度達 **10%** 。
- 疑點二：行車隧道走線需避開沿廣東道之主要過海水管。



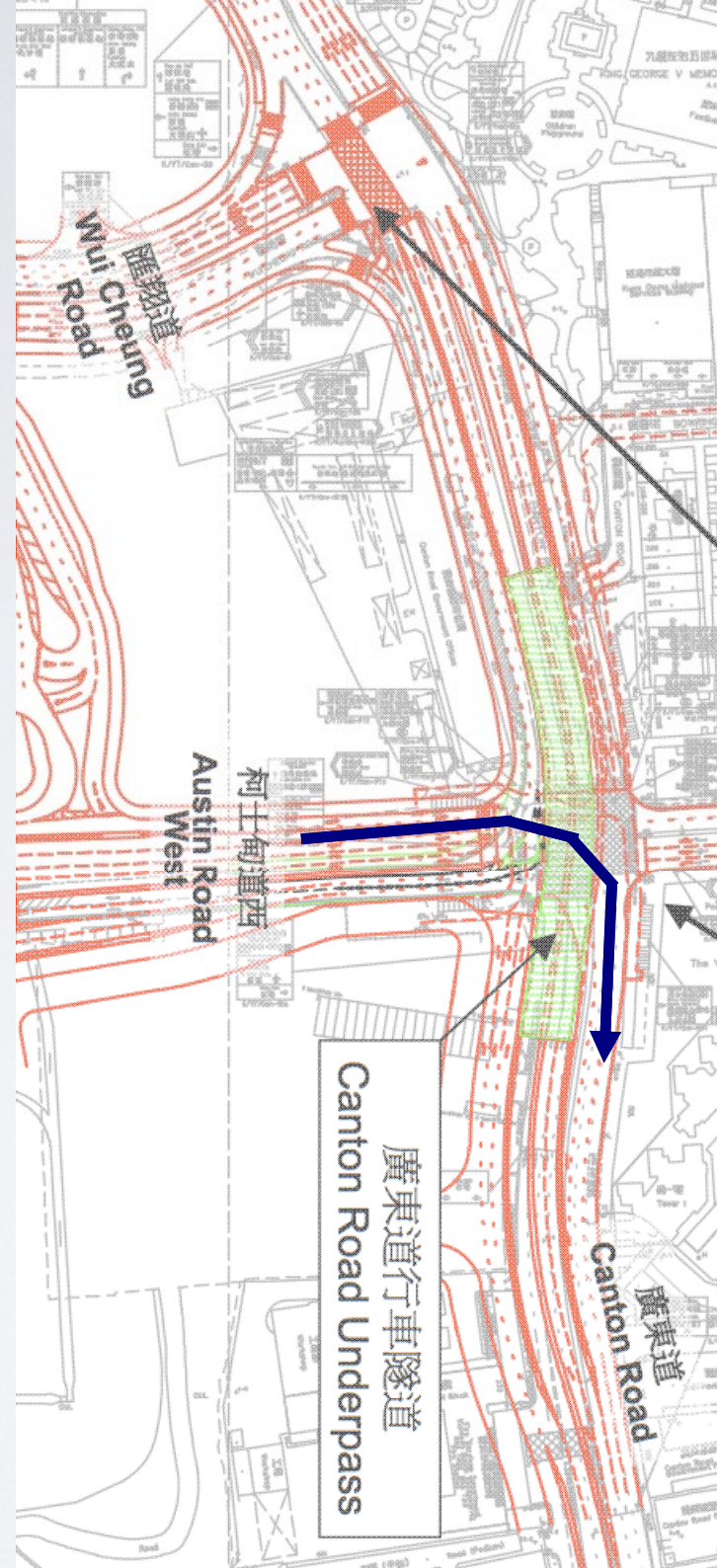
疑點三：從匯翔道右轉至廣東道的車輛，將會沒有足夠時間決定使用地面或地底通道；也沒有足夠空間於匯翔道的三條右轉行車線上提供清楚指示，結果將會做成交通擠塞和安全問題。



疑點四：廣東道之北行車輛將需於斜坡上停車等候，結果將會做成交通擠塞和安全問題。



疑點五：沒有足夠空間於柯士甸道西的三條右轉行車線上提供清楚指示，結果將會做成交通擠塞和安全問題。



問題四：破壞城市環境

- 擴闊廣東道將佔用佐治五世公園附近之行人路。
- 擴闊廣東道和柯士甸道西將佔用西九文化區的空間。
- 達十三條線的公路將會使西九龍海旁與油麻地和佐敦割裂，並製造社會和環境問題。

廣東道於2031年的預計交通流量 (已完成道路改善後) Traffic forecast along Canton Road in 2031 (with improvement schemes)

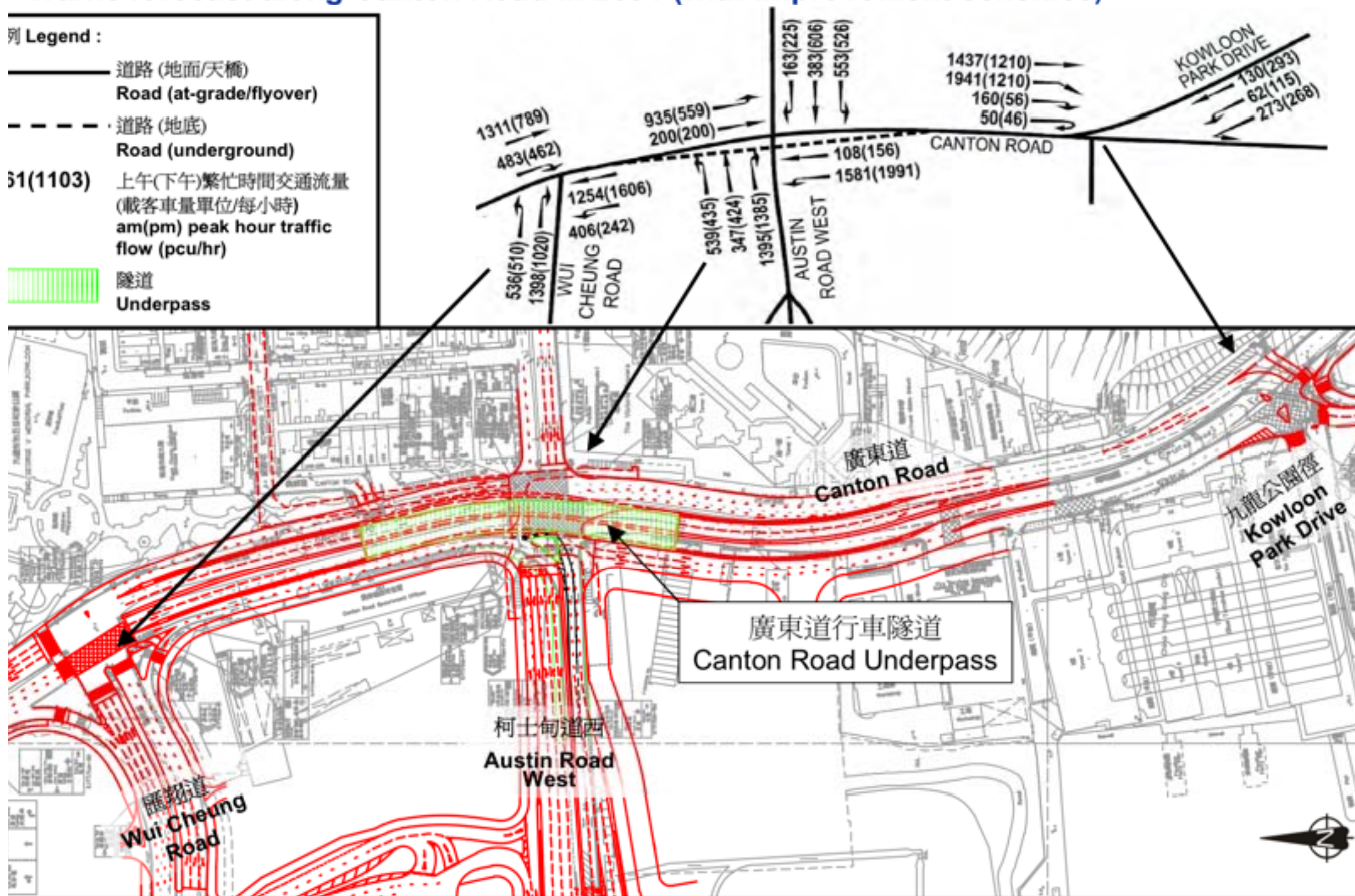
列 Legend :

—— 道路 (地面/天橋)
Road (at-grade/flyover)

- - - 道路 (地底)
Road (underground)

51(1103) 上午(下午)繁忙時間交通流量
(載客車量單位/每小時)
am(pm) peak hour traffic
flow (pcu/hr)

—— 隧道
Underpass



廣東道於2031年的預計交通流量 (已完成道路改善後) Traffic forecast along Canton Road in 2031 (with improvement schemes)

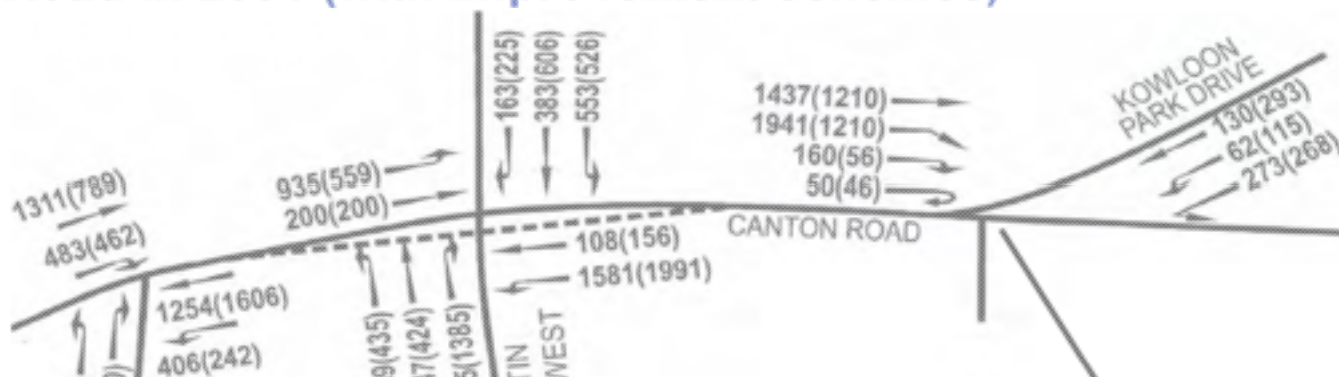
列 Legend :

—— 道路 (地面/天橋)
Road (at-grade/flyover)

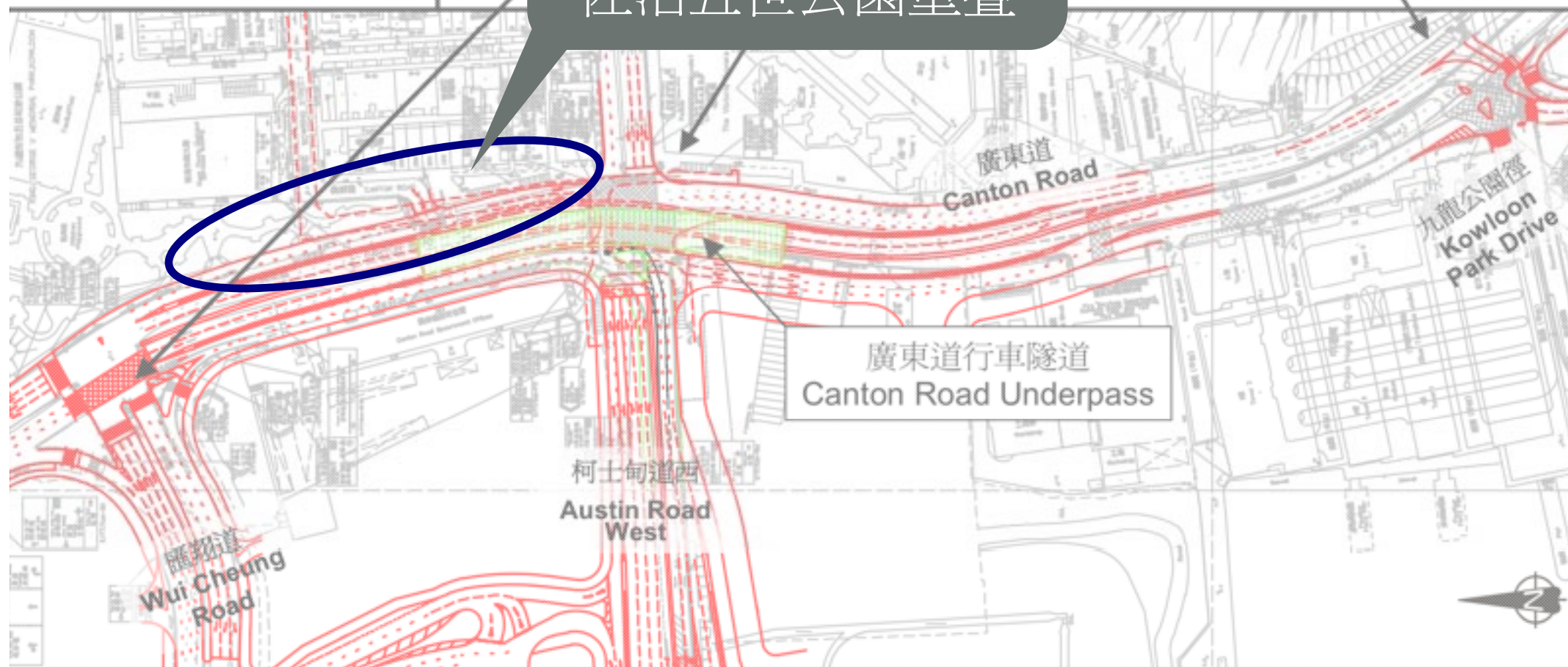
- - - 道路 (地底)
Road (underground)

51(1103) 上午(下午)繁忙時間交通流量
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flow (pcu/hr)

—— 隧道
Underpass

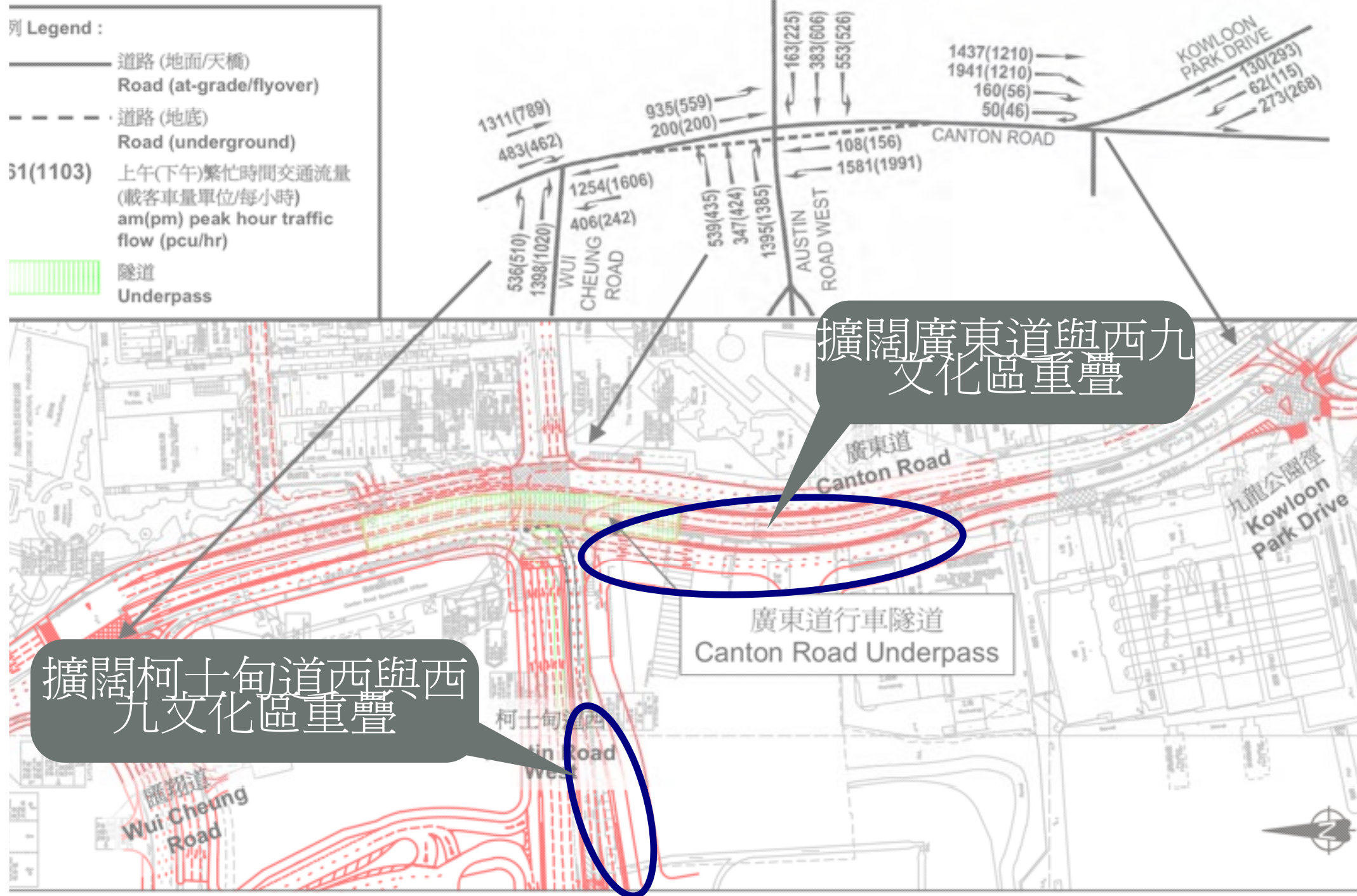


擴闊廣東道與
佐治五世公園重疊



廣東道於2031年的預計交通流量 (已完成道路改善後)

Traffic forecast along Canton Road in 2031 (with improvement schemes)



港景峰

西九
文化區

三條北行線

三條南行線

兩條北行線 兩條南行線

廣東道（擴闊後）十條行車線

港景峰

不能於地面步行來往西九文化區

西九
文化區

三條北行線

三條南行線

兩條北行線 兩條南行線

廣東道（擴闊後）十條行車線

港景峰

視覺污染
(未經環評審批)

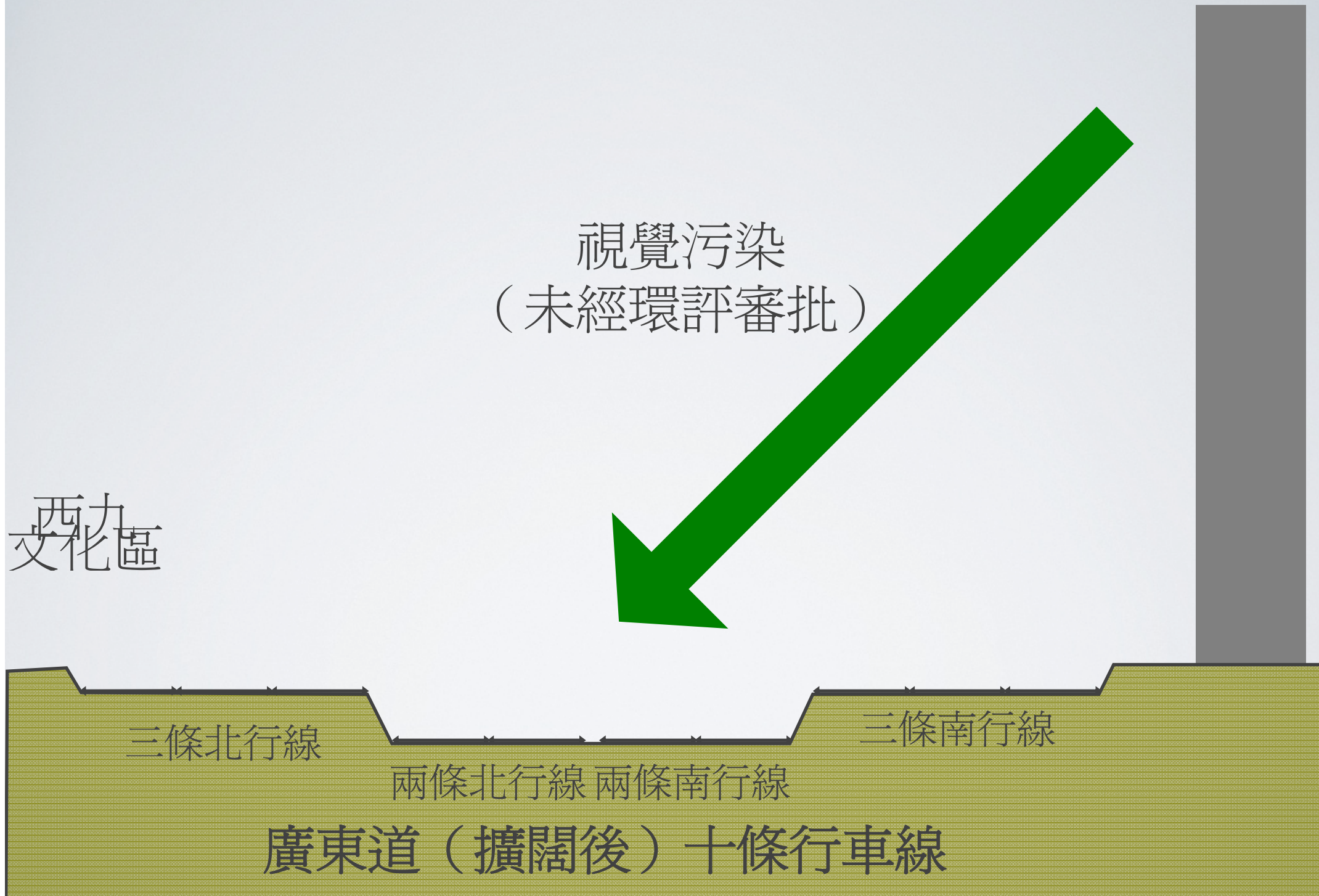
西九
文化區

三條北行線

三條南行線

兩條北行線 兩條南行線

廣東道(擴闊後) 十條行車線



港景峰

噪音及空氣污染
(未經環評審批)

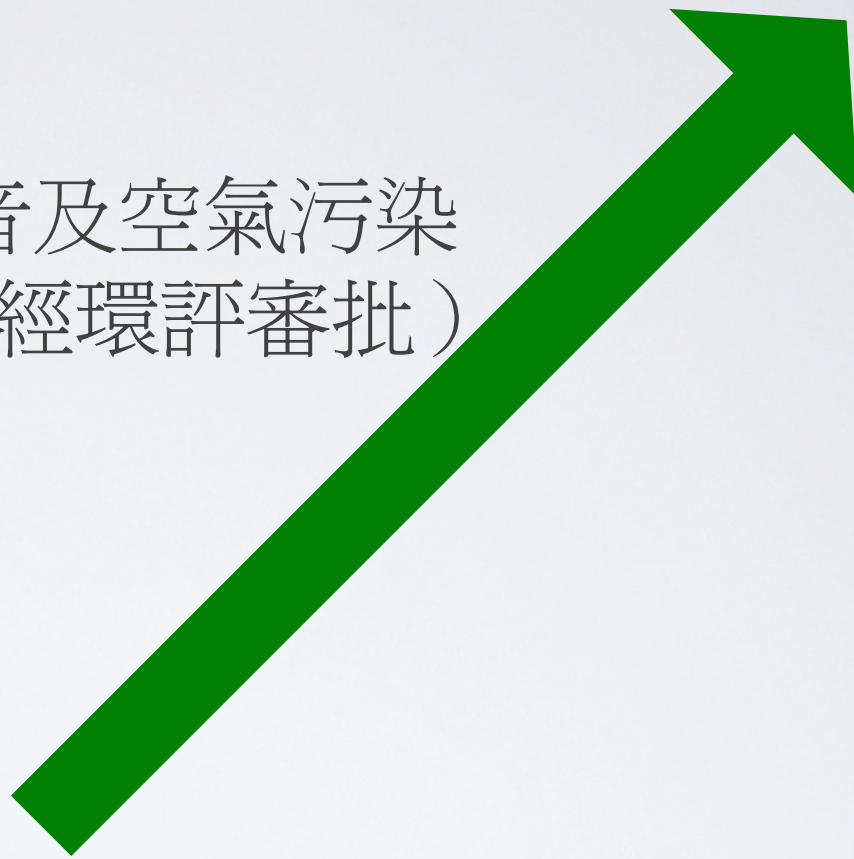
西九
文化區

三條北行線

三條南行線

兩條北行線 兩條南行線

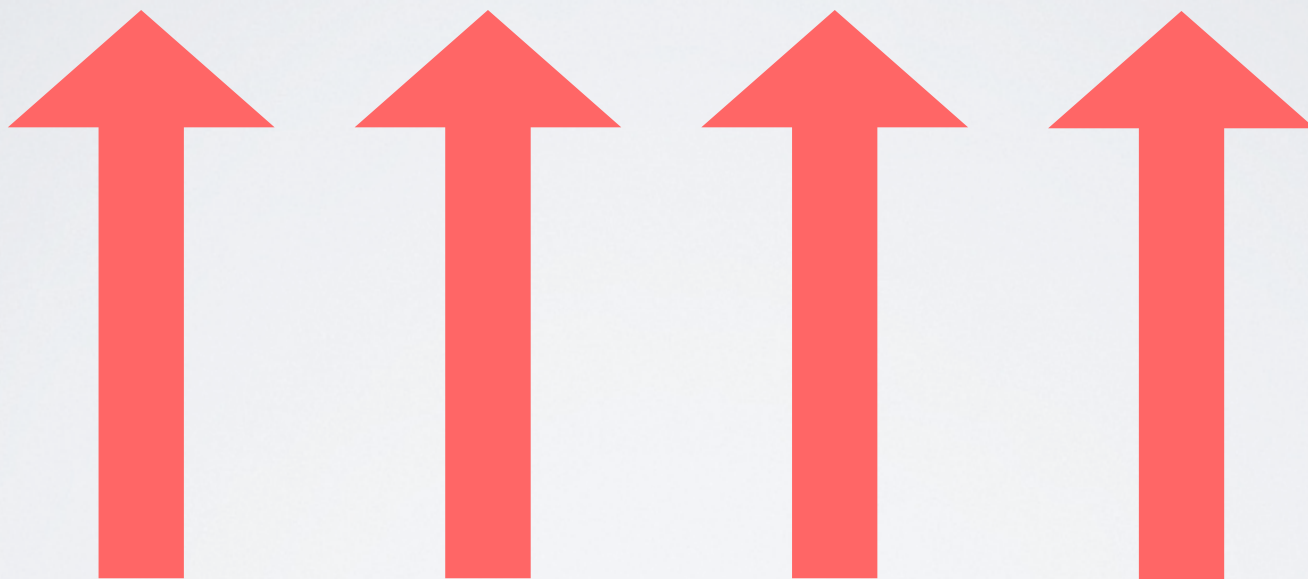
廣東道(擴闊後) 十條行車線



港景峰

城市熱島效應

西九
文化區



三條北行線

三條南行線

兩條北行線 兩條南行線

廣東道（擴闊後）十條行車線

造價並不包括於 669 億高鐵撥款之內



西九
文化區

三條北行線

三條南行線

兩條北行線 兩條南行線

廣東道（擴闊後）十條行車線

From the Actual Text of the Report

11.6.3

There are another 11 junction which would be operating with ***marginal*** capacity. Some of them are within the Focus Area and some of them are in the hinterland area of the Study Area.

11.6.4

In addition the queuing analysis also demonstrates that all of the locations with critical traffic queues would be relieved in the sense that the ***average*** queues would not extend to the junction immediately of the junction in question.

11.6.5

This road infrastructure package ***could be considered as the minimum requirements*** that would provide a ***marginally sustainable*** road network up to 2031.

總結

- 按照政府提交立法會之交通影響評估，政府自己承認即使花費過百億的配套措施，仍然未能解決西九龍之擠塞問題。
- 政府提出的部份配套措施，將會帶來嚴重社會和環境影響，應先廣泛諮詢當地居民和商舖之意見。
- 所有配套措施之可行性、造價和細節未明，尚有許多疑團未被解答。
- 我們呼籲議員於釐清以上問題前，不要通過高鐵撥款。

Works included in the \$11.8Bn

- **Roads**
- **Reprovisioning, Remedial and Improvement Works (not specified)**
- **Enabling Works**
- **Government Facilities**

Roads

- **Footbridges**

- Three footbridges linking to Kowloon Station

- Two footbridges linking to Austin Station

- A footbridge linking to Public Transport Interchange

- A footbridge above Road D1A near Man Cheong Street

- **Pedestrian Subways**

- Two subways linking to Austin Station and the footpath on the west of Lin Cheung Road

- **Roads with Noise Barriers / Enclosures**

- Depressed and associated at-grade road system at Austin Road West / Lin Cheung Road

- New road D1A and reconstruction of Mui Wan Road

Enabling Works and Government Facilities

Enabling Works

Topside Property Development
WKCD development above the WKT
Sham Wong Road Footbridges

Government Facilities

Boundary Control Facilities
Special Fire Fighting Equipment

CORE SCHEMES

Banning turns / provision of alternative routes

- Nathan Road NB to Waterloo Road EB
- Jordan Road EB to Nathan Road NB
- Nathan Road SB to Jordan Road WB
- Nathan Road SB to Jordan Road EB
- Jordan Road WB to Nathan Road SB
- Austin Road EB to Nathan Road SB

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Special Fire Fighting Equipment

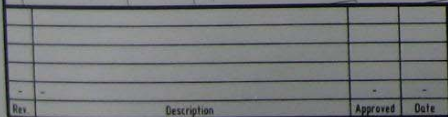
CORE SCHEMES

Banning turns / provision of alternative routes

- Nathan Road NB to Waterloo Road EB
- Jordan Road EB to Nathan Road NB
- Nathan Road SB to Jordan Road WB
- Nathan Road SB to Jordan Road EB
- Jordan Road WB to Nathan Road SB
- Austin Road EB to Nathan Road SB

ADDITIONAL SCHEMES

- Scheme H – Widening at Nga Chung Road Elevated
- Scheme I – New Link Road from Nga Chung Road (Elevated) to WHC
- Scheme J - WKH SB Link to at-grade Nga Chung Road
- Scheme Q – Canton Road Underpass at Austin Road / Austin Road West



EXTENT OF THE ENCROACHMENT INTO WKCD

Figure No.	11.17	
Designed By	HEJ	Scale 1 : 2500
Checked By	SPC	Date Aug. 7009
Ref. : 270A/10/1007 DGM/LIT/21A0009		



Table 10.2 2031 Junction Performance – Reference Case

Junction No.	Junction Name	Junction Type	Reserve Capacity (%) / RFC	
			AM	PM
J1	Hoi Wang Road / Lai Cheung Road	S	-4%	9%
J2	Ferry St / Lai Cheung Road / Waterloo Road	S	10%	15%
J3	Nathan Road / Waterloo Road	S	-5%	-4%
J4	Hoi Wang Road / NCR	S	40%	29%
J5	Yan Cheung Road / Ferry St / Kansu St	S	-29%	-36%
J6	Nathan Road / Kansu St / Gascoigne Road	S	14%	5%
J7	JOR / Hoi Po Road	S	20%	11%
J8	NCR (elevated) / JOR (elevated)	S	47%	33%
J9	NCR / JOR	R	0.424	0.380
J10	JOR / To Wah Road	P	0.198	0.209
J11	JOR / LCR	S	-5%	-4%
J12	JOR / Ferry Street / CAR	S	-27%	-30%
J13	Nathan Road / JOR	S	16%	14%
J14	Road D1A(S) / WCR / Road D1	S	1%	-6%
J15	CAR / WCR	S	11%	13%
J16	NCR / AURW	R	0.373	0.325
J17	LCR / AURW	S	-7%	-16%
J18	CAR / AUR / AURW	S	-3%	-7%
J19	Nathan Road / AUR	S	3%	31%
J20	CAR / KPD	S	7%	34%
J21	Salisbury Road / CAR	S	87%	98%
J22	Salisbury Road / KPD	S	36%	40%
J23	Salisbury Road / Nathan Road	S	15%	6%
J24	AUR / Cox's Road / Pine Tree Hill Road	S	-7%	-3%
J25	Nathan Road / Hill Wood Road	P	0.408	0.684
J26	JOR / Gascoigne Road	S	47%	3%
J27	CAR / Haiphong Road	S	56%	143%
J28	CAR / Peking Road	S	157%	368%
J29	Peking Road / KPD	S	57%	54%
J30	KPD / Middle Road	S	65%	81%
J31	Nathan Road / Kimberley Road	S	97%	77%
J32	Nathan Road / Granville Road	S	99%	107%
J33	Nathan Road / Cameron Road	F	N/A	N/A
J34	Nathan Road / Haiphong Road / Humphreys Avenue	S	56%	67%
J35	Nathan Road / Mody Road	F	N/A	N/A
J36	Nathan Road / Peking Road	S	170%	125%
J37	Nathan Road / Middle Road	P	0.512	0.848
J38	Ferry Street / Man Cheong Street / Saigon Street	S	-6%	25%
J39	Yan Cheung Road / Hoi Wang Road / Road D1A(N)	S	24%	-1%
J40	Road D1A(N) / JOR / Road D1A(S)	S	29%	-8%
J41	AURW / Road D1	S	-37%	-37%

Note: S – Signal-control junction
P – Priority junction
R – Roundabout
F – Free-flow junction
N/A – Not available

Table 11.2 2031 Junction Performance – With Core Schemes and Proposed Junction Improvements

Junction No.	Junction Name	Junction Type	Reserve Capacity (%) / RFC	
			AM	PM
J1	Hoi Wang Road / Lai Cheung Road	S	24%	47%
J2	Ferry St / Lai Cheung Road / Waterloo Road	S	10%	14%
J3	Nathan Road / Waterloo Road	S	-5%	-4%
J4	Hoi Wang Road / NCR	S	41%	31%
J5	Yan Cheung Road / Ferry St / Kansu St	S	0%	1%
J6	Nathan Road / Kansu St / Gascoigne Road	S	14%	10%
J7	JOR / Hoi Po Road	S	57%	57%
J8	NCR (elevated) / JOR (elevated)	S	37%	38%
J9	NCR / JOR	R	0.674	0.513
J10	JOR / To Wah Road	P	0.197	0.222
J11	JOR / LCR	S	8%	-5%
	With LCR SB Right-turn Banned With LCR SB Right-turn & Further Road Widening	S	10%	-3%
J12	JOR / Ferry Street / CAR	S	9%	5%
J13	Nathan Road / JOR	S	12%	11%
J14	Road D1(S) / WCR / Road D1	S	18%	22%
J15	CAR / WCR	S	8%	23%
J16	NCR / AURW	R	0.235	0.321
J17	LCR / AURW	S	56%	33%
J18*	CAR / AUR / AURW	S	4%	0%
J19	Nathan Road / AUR	S	4%	26%
J20	CAR / KPD	S	7%	27%
J21	Salisbury Road / CAR	S	97%	79%
J22	Salisbury Road / KPD	S	38%	28%
J23	Salisbury Road / Nathan Road	S	26%	20%
J24	AUR / Cox's Road / Pine Tree Hill Road	S	-7%	-3%
J25	Nathan Road / Hill Wood Road	P	0.397	0.686
J26	JOR / Gascoigne Road	S	47%	13%
J27	CAR / Haiphong Road	S	50%	108%
J28	CAR / Peking Road	S	164%	313%
J29	Peking Road / KPD	S	57%	50%
J30	KPD / Middle Road	S	65%	95%
J31	Nathan Road / Kimberley Road	S	95%	75%
J32	Nathan Road / Granville Road	S	97%	103%
J33	Nathan Road / Cameron Road	F	N/A	N/A
J34	Nathan Road / Haiphong Road / Humphreys Avenue	S	57%	67%
J35	Nathan Road / Moddy Road	F	N/A	N/A
J36	Nathan Road / Peking Road	S	169%	128%
J37	Nathan Road / Middle Road	P	0.512	0.859
J38	Ferry Street / Man Cheong Street / Saigon Street	S	55%	19%
J39	Yan Cheung Road / Hoi Wang Road / Road D1A(N)	S	28%	10%
J40	Road D1A(N) / JOR / Road D1A(S)	S	12%	0%
J41	AURW / Road D1	F	N/A	N/A

Note: S – Signal-control junction
P – Priority junction
R – Roundabout
F – Free-flow junction
N/A – Not available
* – No Scheme Q

11.6.2 The traffic queue at critical locations within the Focus Area were also calculated according to the methodology as stipulated in the Volume 4 of TPDM. The results are summarised in Table 11.3 and illustrated in Figure 11.34.

Table 11.3 2031 Critical Traffic Queue - With Core Schemes and Proposed Junction Improvements

Junction No.	Junction	Approach	Capacity (m)	Average Queue Length (m)		Within Capacity	
				AM	PM	AM	PM
J11	Lin Cheung Rd / JOR (With LCR SB Right-Turn Banned)	JOR EB	120	55	75	Yes	Yes
		LCR SB	100	65	65	Yes	Yes
		JOR WB	70	55	70	Yes	Yes
		LCR NB	170	45	85	Yes	Yes
		JOR EB	120	75	75	Yes	Yes
		LCR SB	100	70	80	Yes	Yes
		JOR WB	70	60	70	Yes	Yes
J12	JOR / Ferry Street / CAR	LCR NB	170	65	130	Yes	Yes
		JOR EB	150	45	40	Yes	Yes
		Ferry Street SB	210	60	50	Yes	Yes
		JOR WB	190	60	70	Yes	Yes
J14	Road D1(S) / WCR / Road D1	Ferry Street NB	90	65	75	Yes	Yes
		Road D1A(S) SB	170	45	45	Yes	Yes
		WCR WB	100	50	50	Yes	Yes
J15	WCR / CAR	Road D1NB	130	50	55	Yes	Yes
		WCR EB	100	45	40	Yes	Yes
		CAR SB	90	55	45	Yes	Yes
J17	LCR / AURW	CAR NB	180	60	50	Yes	Yes
		AURW EB	180	35	30	Yes	Yes
		LCR SB	240	50	55	Yes	Yes
J18*	CAR / AURW	AURW WB	230	10	15	Yes	Yes
		AURW EB	80	60	55	Yes	Yes
		CAR SB	180	75	45	Yes	Yes
		AUR WB	90	55	60	Yes	Yes
J20	CAR / KPD	CAR NB	130	65	85	Yes	Yes
		CAR SB	280	35	25	Yes	Yes
		KPD NB	130	35	45	Yes	Yes
J40	Road D1A(N) / JOR / Road D1A(S)	JOR EB	70	65	55	Yes	Yes
		Road D1(N) SB	260	35	45	Yes	Yes
		JOR WB	150	45	65	Yes	Yes
		Road D1(S) NB	170	35	90	Yes	Yes

Note: * – No Scheme Q

11.6.3 As shown in Table 11.2, most of the junctions would be operating with spare capacity with the Core Schemes and the proposed junction improvement schemes. There are another 11 nos. of junctions would be operating with marginal capacity. Some of them are within the Focus Area and some of them are within the hinterland area of the Study Area.

11.6.4 In addition, the queuing analysis also demonstrates that all the locations with critical traffic queues as identified in Section 11.6 would be relieved, in the sense that the average queues would not extend to the junction immediately upstream of the junction in question.

11.6.5 This road infrastructure package could be considered as the minimum requirements that would provide a marginally sustainable road network up to 2031. In relation to the "opportunities" as discussed in Section 12.3, in essence the Core Schemes are oriented at the roads and junctions in the Focus Area. Meanwhile, the junction improvement schemes address the problematic locations on a more localized perspective, in particular for the eastern hinterland area, because of the heavily built-up area offering little or no scope for large-scale, comprehensive new road infrastructure items. The hinterland junctions receive different degrees of performance enhancement, depending on the scale of site constraints.

11.7 Traffic Assessment for Additional Schemes – Schemes H, I, J, Q

11.7.1 With the extra western connections from WRA to WHC, WKH, LCR (north) as well as the CAR Underpass, the key junctions within the Focus Area were assessed. The traffic flows for core and additional schemes are presented in Figure 11.35. The results are summarised in Table 11.4 and Figure 11.36. The signal calculation sheets are attached in Appendix E.

Table 11.4 2031 Junction Performance – With Core Schemes, Proposed Junction Improvements and Additional Schemes

Junction No.	Junction Name	Junction Type	Reserve Capacity (%) / RFC			
			With Core Schemes		With Core & Additional Schemes	
			AM	PM	AM	PM
J7	JOR / Hoi Po Road	S	57%	57%	14%	27%
J8	NCR (elevated) / JOR (elevated)	S	37%	38%	25%	32%
J9	NCR / JOR	R	0.674	0.513	0.502	0.376
J10	JOR / To Wah Road	P	0.197	0.222	0.211	0.210
J11	JOR / LCR					
	With LCR SB Right-turn Banned	S	8%	-5%	12%	15%
	With LCR SB Right-turn & Further Road Widening	S	10%	-3%	8%	11%
J12	JOR / Ferry Street / CAR	S	9%	5%	35%	33%
J14	Road D1A(S) / WCR / Road D1	S	18%	22%	14%	30%
J15	CAR / WCR					
	Without Additional Schemes	S	8%	23%	N/A	N/A
	With CAR Underpass (Scheme Q)	S	N/A	N/A	18%	18%
	With CAR Widening	S	N/A	N/A	19%	22%
J16	NCR / AURW	R	0.235	0.321	0.241	0.190
J17	LCR / AURW	S	56%	33%	46%	11%
J18	CAR / AUR / AURW					
	Without Additional Schemes	S	4%	0%	N/A	N/A
	With CAR Underpass (Scheme Q)	S	N/A	N/A	34%	8%
	With CAR Widening	S	N/A	N/A	12%	8%
J20	CAR / KPD	S	7%	27%	7%	27%
J40	JOR / Road D1	S	12%	0%	13%	22%

Note: S – Signal-control junction
P – Priority junction
R – Roundabout
N/A – Not Available

11.7.2 The traffic queue at critical locations within the Focus Area were also calculated according to the methodology as stipulated in the Volume 4 of TPDM. The results are summarised in Table 11.5 and illustrated in Figure 11.37.

Table 11.5 2031 Critical Traffic Queue – With Core Schemes, Proposed Junction Improvements and Additional Schemes

Junction No.	Junction	Approach	Capacity (m)	Average Queue Length (m)		Within Capacity	
				AM	PM	AM	PM
J11	Lin Cheung Rd / JOR (Scheme with SB Right-Turn Banned)	JOR EB	120	45	50	Yes	Yes
		LCR SB	100	65	60	Yes	Yes
		JOR WB	70	55	55	Yes	Yes
	Lin Cheung Rd / JOR (Scheme with SB Right-Turn)	LCR NB	170	55	50	Yes	Yes
		JOR EB	120	45	55	Yes	Yes
		LCR SB	100	70	60	Yes	Yes
J12	JOR / Ferry Street / CAR	JOR WB	70	55	60	Yes	Yes
		LCR NB	170	50	45	Yes	Yes
		JOR EB	150	40	35	Yes	Yes
		Ferry Street SB	210	55	40	Yes	Yes
J14	Road D1(S) / WCR / Road D1	JOR WB	190	50	55	Yes	Yes
		Ferry Street NB	90	30	55	Yes	Yes
		Road D1A(S) SB	170	65	55	Yes	Yes
J15	WCR / CAR (With CAR Underpass Scheme)	WCR WB	100	45	35	Yes	Yes
		Road D1NB	130	45	30	Yes	Yes
		WCR EB	100	55	45	Yes	Yes
	WCR / CAR (With CAR Widening Scheme)	CAR SB	90	55	55	Yes	Yes
		CAR NB	180	55	65	Yes	Yes
		WCR EB	100	55	45	Yes	Yes
J17	LCR / AURW	CAR NB	180	50	60	Yes	Yes
		AURW EB	180	35	50	Yes	Yes
		LCR SB	240	45	55	Yes	Yes
J18	CAR / AURW (With CAR Underpass Scheme)	AURW WB	230	30	45	Yes	Yes
		AURW EB	80	45	45	Yes	Yes
		CAR SB	180	40	25	Yes	Yes
		AUR WB	90	45	55	Yes	Yes
J18	CAR / AURW (With CAR Widening Scheme)	CAR NB	130	50	60	Yes	Yes
		AURW EB	80	55	50	Yes	Yes
		CAR SB	180	65	50	Yes	Yes
		AUR WB	90	45	55	Yes	Yes
J20	CAR / KPD	CAR NB	130	40	60	Yes	Yes
		CAR SB	280	35	25	Yes	Yes
		KPD NB	130	35	45	Yes	Yes
J40	Road D1A(N) / JOR / Road D1A(S)	JOR EB	70	60	50	Yes	Yes
		Road D1(N) SB	260	55	35	Yes	Yes
		JOR WB	150	30	40	Yes	Yes
		Road D1(S) NB	170	35	40	Yes	Yes

11.7.3 As shown in the above **Tables 11.4 and 11.5**, with the additional schemes, most of the junctions within the Focus Area would be operating with spare capacity, and meanwhile the traffic queue would be within acceptable level and would not cause blocking of junctions. Compared with the scenario with only the Core Schemes and the proposed junction improvement schemes, the additional schemes offer further improvements to the roads and junctions in the Focus Area by drawing traffic to the direct connections to/from the strategic roads without the need of using LCR and CAR.

11.8 Refresh

11.8.1 In this Chapter 11, we have gone through the principles of developing the future traffic improvements. We also considered nearly all the possible solutions meanwhile the likely constraints were also highlighted. Some effective schemes were selected, in which some would be straight forward (e.g. works are minor or other parties have already carried out investigation), but some (i.e. Schemes D2, H, I, J & Q) would need further investigation to confirm the feasibility. For ease reference, a plan incorporated the recommended Core and Additional Schemes (i.e. Schemes D2, H, I, J & Q) is presented in **Figure 11.38**. The detail road layout for Focus Area is presented in **Figure 11.39**.

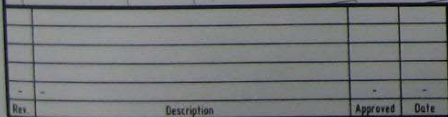
11.8.2 In Chapter 14, we would propose the implementation programme for the selected traffic schemes mentioned in this Chapter as well as other pedestrian and transport schemes identified in the coming Chapters.

11.9 Suggestions for the Coming WKCD Study

11.9.1 Among all the possible improvement schemes as presented in **Table 11.1**, Schemes F, G, K & N are mainly proposed for serving the possible westernmost WKCD access point (i.e. to the west of WHC portal as shown in **Figure 10.19**). These schemes were not further considered in this Study due to land constraint and the unknown internal road layout inside WKCD. If the WKCD would like to make use of the said access point in future, it is suggested that the consultants of WKCD should further study the feasibility of these schemes. Also, WHC should be consulted as the access road is within the Tunnel Area.

ADDITIONAL SCHEMES

- Scheme H – Widening at Nga Chung Road Elevated
- Scheme I – New Link Road from Nga Chung Road (Elevated) to WHC
- Scheme J - WKH SB Link to at-grade Nga Chung Road
- Scheme Q – Canton Road Underpass at Austin Road / Austin Road West



EXTENT OF THE ENCROACHMENT INTO WKCD

Figure No.	11.17	
Designed By	HEJ	Scale 1 : 2500
Checked By	SPC	Date Aug. 7009
Ref. : 270A/10/1007 DGM/LIT/23A0009		



Table 10.2 2031 Junction Performance – Reference Case

Junction No.	Junction Name	Junction Type	Reserve Capacity (%) / RFC	
			AM	PM
J1	Hoi Wang Road / Lai Cheung Road	S	-4%	9%
J2	Ferry St / Lai Cheung Road / Waterloo Road	S	10%	15%
J3	Nathan Road / Waterloo Road	S	-5%	-4%
J4	Hoi Wang Road / NCR	S	40%	29%
J5	Yan Cheung Road / Ferry St / Kansu St	S	-29%	-36%
J6	Nathan Road / Kansu St / Gascoigne Road	S	14%	5%
J7	JOR / Hoi Po Road	S	20%	11%
J8	NCR (elevated) / JOR (elevated)	S	47%	33%
J9	NCR / JOR	R	0.424	0.380
J10	JOR / To Wah Road	P	0.198	0.209
J11	JOR / LCR	S	-5%	-4%
J12	JOR / Ferry Street / CAR	S	-27%	-30%
J13	Nathan Road / JOR	S	16%	14%
J14	Road D1A(S) / WCR / Road D1	S	1%	-6%
J15	CAR / WCR	S	11%	13%
J16	NCR / AURW	R	0.373	0.325
J17	LCR / AURW	S	-7%	-16%
J18	CAR / AUR / AURW	S	-3%	-7%
J19	Nathan Road / AUR	S	3%	31%
J20	CAR / KPD	S	7%	34%
J21	Salisbury Road / CAR	S	87%	98%
J22	Salisbury Road / KPD	S	36%	40%
J23	Salisbury Road / Nathan Road	S	15%	6%
J24	AUR / Cox's Road / Pine Tree Hill Road	S	-7%	-3%
J25	Nathan Road / Hill Wood Road	P	0.408	0.684
J26	JOR / Gascoigne Road	S	47%	3%
J27	CAR / Haiphong Road	S	56%	143%
J28	CAR / Peking Road	S	157%	368%
J29	Peking Road / KPD	S	57%	54%
J30	KPD / Middle Road	S	65%	81%
J31	Nathan Road / Kimberley Road	S	97%	77%
J32	Nathan Road / Granville Road	S	99%	107%
J33	Nathan Road / Cameron Road	F	N/A	N/A
J34	Nathan Road / Haiphong Road / Humphreys Avenue	S	56%	67%
J35	Nathan Road / Mody Road	F	N/A	N/A
J36	Nathan Road / Peking Road	S	170%	125%
J37	Nathan Road / Middle Road	P	0.512	0.848
J38	Ferry Street / Man Cheong Street / Saigon Street	S	-6%	25%
J39	Yan Cheung Road / Hoi Wang Road / Road D1A(N)	S	24%	-1%
J40	Road D1A(N) / JOR / Road D1A(S)	S	29%	-8%
J41	AURW / Road D1	S	-37%	-37%

Note: S – Signal-control junction
P – Priority junction
R – Roundabout
F – Free-flow junction
N/A – Not available

Table 11.2 2031 Junction Performance – With Core Schemes and Proposed Junction Improvements

Junction No.	Junction Name	Junction Type	Reserve Capacity (%) / RFC	
			AM	PM
J1	Hoi Wang Road / Lai Cheung Road	S	24%	47%
J2	Ferry St / Lai Cheung Road / Waterloo Road	S	10%	14%
J3	Nathan Road / Waterloo Road	S	-5%	-4%
J4	Hoi Wang Road / NCR	S	41%	31%
J5	Yan Cheung Road / Ferry St / Kansu St	S	0%	1%
J6	Nathan Road / Kansu St / Gascoigne Road	S	14%	10%
J7	JOR / Hoi Po Road	S	57%	57%
J8	NCR (elevated) / JOR (elevated)	S	37%	38%
J9	NCR / JOR	R	0.674	0.513
J10	JOR / To Wah Road	P	0.197	0.222
J11	JOR / LCR	S	8%	-5%
	With LCR SB Right-turn Banned With LCR SB Right-turn & Further Road Widening	S	10%	-3%
J12	JOR / Ferry Street / CAR	S	9%	5%
J13	Nathan Road / JOR	S	12%	11%
J14	Road D1(S) / WCR / Road D1	S	18%	22%
J15	CAR / WCR	S	8%	23%
J16	NCR / AURW	R	0.235	0.321
J17	LCR / AURW	S	56%	33%
J18*	CAR / AUR / AURW	S	4%	0%
J19	Nathan Road / AUR	S	4%	26%
J20	CAR / KPD	S	7%	27%
J21	Salisbury Road / CAR	S	97%	79%
J22	Salisbury Road / KPD	S	38%	28%
J23	Salisbury Road / Nathan Road	S	26%	20%
J24	AUR / Cox's Road / Pine Tree Hill Road	S	-7%	-3%
J25	Nathan Road / Hill Wood Road	P	0.397	0.686
J26	JOR / Gascoigne Road	S	47%	13%
J27	CAR / Haiphong Road	S	50%	108%
J28	CAR / Peking Road	S	164%	313%
J29	Peking Road / KPD	S	57%	50%
J30	KPD / Middle Road	S	65%	95%
J31	Nathan Road / Kimberley Road	S	95%	75%
J32	Nathan Road / Granville Road	S	97%	103%
J33	Nathan Road / Cameron Road	F	N/A	N/A
J34	Nathan Road / Haiphong Road / Humphreys Avenue	S	57%	67%
J35	Nathan Road / Moddy Road	F	N/A	N/A
J36	Nathan Road / Peking Road	S	169%	128%
J37	Nathan Road / Middle Road	P	0.512	0.859
J38	Ferry Street / Man Cheong Street / Saigon Street	S	55%	19%
J39	Yan Cheung Road / Hoi Wang Road / Road D1A(N)	S	28%	10%
J40	Road D1A(N) / JOR / Road D1A(S)	S	12%	0%
J41	AURW / Road D1	F	N/A	N/A

Note: S – Signal-control junction
P – Priority junction
R – Roundabout
F – Free-flow junction
N/A – Not available
* – No Scheme Q

11.6.2 The traffic queue at critical locations within the Focus Area were also calculated according to the methodology as stipulated in the Volume 4 of TPDM. The results are summarised in Table 11.3 and illustrated in Figure 11.34.

Table 11.3 2031 Critical Traffic Queue - With Core Schemes and Proposed Junction Improvements

Junction No.	Junction	Approach	Capacity (m)	Average Queue Length (m)		Within Capacity	
				AM	PM	AM	PM
J11	Lin Cheung Rd / JOR (With LCR SB Right-Turn Banned)	JOR EB	120	55	75	Yes	Yes
		LCR SB	100	65	65	Yes	Yes
		JOR WB	70	55	70	Yes	Yes
		LCR NB	170	45	85	Yes	Yes
		JOR EB	120	75	75	Yes	Yes
		LCR SB	100	70	80	Yes	Yes
		JOR WB	70	60	70	Yes	Yes
J12	JOR / Ferry Street / CAR	LCR NB	170	65	130	Yes	Yes
		JOR EB	150	45	40	Yes	Yes
		Ferry Street SB	210	60	50	Yes	Yes
		JOR WB	190	60	70	Yes	Yes
J14	Road D1(S) / WCR / Road D1	Ferry Street NB	90	65	75	Yes	Yes
		Road D1A(S) SB	170	45	45	Yes	Yes
		WCR WB	100	50	50	Yes	Yes
J15	WCR / CAR	Road D1NB	130	50	55	Yes	Yes
		WCR EB	100	45	40	Yes	Yes
		CAR SB	90	55	45	Yes	Yes
J17	LCR / AURW	CAR NB	180	60	50	Yes	Yes
		AURW EB	180	35	30	Yes	Yes
		LCR SB	240	50	55	Yes	Yes
J18*	CAR / AURW	AURW WB	230	10	15	Yes	Yes
		AURW EB	80	60	55	Yes	Yes
		CAR SB	180	75	45	Yes	Yes
		AUR WB	90	55	60	Yes	Yes
J20	CAR / KPD	CAR NB	130	65	85	Yes	Yes
		CAR SB	280	35	25	Yes	Yes
		KPD NB	130	35	45	Yes	Yes
J40	Road D1A(N) / JOR / Road D1A(S)	JOR EB	70	65	55	Yes	Yes
		Road D1(N) SB	260	35	45	Yes	Yes
		JOR WB	150	45	65	Yes	Yes
		Road D1(S) NB	170	35	90	Yes	Yes

Note: * – No Scheme Q

11.6.3 As shown in Table 11.2, most of the junctions would be operating with spare capacity with the Core Schemes and the proposed junction improvement schemes. There are another 11 nos. of junctions would be operating with marginal capacity. Some of them are within the Focus Area and some of them are within the hinterland area of the Study Area.

11.6.4 In addition, the queuing analysis also demonstrates that all the locations with critical traffic queues as identified in Section 11.6 would be relieved, in the sense that the average queues would not extend to the junction immediately upstream of the junction in question.

11.6.5 This road infrastructure package could be considered as the minimum requirements that would provide a marginally sustainable road network up to 2031. In relation to the "opportunities" as discussed in Section 12.3, in essence the Core Schemes are oriented at the roads and junctions in the Focus Area. Meanwhile, the junction improvement schemes address the problematic locations on a more localized perspective, in particular for the eastern hinterland area, because of the heavily built-up area offering little or no scope for large-scale, comprehensive new road infrastructure items. The hinterland junctions receive different degrees of performance enhancement, depending on the scale of site constraints.

11.7 Traffic Assessment for Additional Schemes – Schemes H, I, J, Q

11.7.1 With the extra western connections from WRA to WHC, WKH, LCR (north) as well as the CAR Underpass, the key junctions within the Focus Area were assessed. The traffic flows for core and additional schemes are presented in Figure 11.35. The results are summarised in Table 11.4 and Figure 11.36. The signal calculation sheets are attached in Appendix E.

Table 11.4 2031 Junction Performance – With Core Schemes, Proposed Junction Improvements and Additional Schemes

Junction No.	Junction Name	Junction Type	Reserve Capacity (%) / RFC			
			With Core Schemes		With Core & Additional Schemes	
			AM	PM	AM	PM
J7	JOR / Hoi Po Road	S	57%	57%	14%	27%
J8	NCR (elevated) / JOR (elevated)	S	37%	38%	25%	32%
J9	NCR / JOR	R	0.674	0.513	0.502	0.376
J10	JOR / To Wah Road	P	0.197	0.222	0.211	0.210
J11	JOR / LCR					
	With LCR SB Right-turn Banned	S	8%	-5%	12%	15%
	With LCR SB Right-turn & Further Road Widening	S	10%	-3%	8%	11%
J12	JOR / Ferry Street / CAR	S	9%	5%	35%	33%
J14	Road D1A(S) / WCR / Road D1	S	18%	22%	14%	30%
J15	CAR / WCR					
	Without Additional Schemes	S	8%	23%	N/A	N/A
	With CAR Underpass (Scheme Q)	S	N/A	N/A	18%	18%
	With CAR Widening	S	N/A	N/A	19%	22%
J16	NCR / AURW	R	0.235	0.321	0.241	0.190
J17	LCR / AURW	S	56%	33%	46%	11%
J18	CAR / AUR / AURW					
	Without Additional Schemes	S	4%	0%	N/A	N/A
	With CAR Underpass (Scheme Q)	S	N/A	N/A	34%	8%
	With CAR Widening	S	N/A	N/A	12%	8%
J20	CAR / KPD	S	7%	27%	7%	27%
J40	JOR / Road D1	S	12%	0%	13%	22%

Note: S – Signal-control junction
P – Priority junction
R – Roundabout
N/A – Not Available

11.7.2 The traffic queue at critical locations within the Focus Area were also calculated according to the methodology as stipulated in the Volume 4 of TPDM. The results are summarised in Table 11.5 and illustrated in Figure 11.37.

Table 11.5 2031 Critical Traffic Queue – With Core Schemes, Proposed Junction Improvements and Additional Schemes

Junction No.	Junction	Approach	Capacity (m)	Average Queue Length (m)		Within Capacity	
				AM	PM	AM	PM
J11	Lin Cheung Rd / JOR (Scheme with SB Right-Turn Banned)	JOR EB	120	45	50	Yes	Yes
		LCR SB	100	65	60	Yes	Yes
		JOR WB	70	55	55	Yes	Yes
	Lin Cheung Rd / JOR (Scheme with SB Right-Turn)	LCR NB	170	55	50	Yes	Yes
		JOR EB	120	45	55	Yes	Yes
		LCR SB	100	70	60	Yes	Yes
J12	JOR / Ferry Street / CAR	JOR WB	70	55	60	Yes	Yes
		LCR NB	170	50	45	Yes	Yes
		JOR EB	150	40	35	Yes	Yes
		Ferry Street SB	210	55	40	Yes	Yes
J14	Road D1(S) / WCR / Road D1	JOR WB	190	50	55	Yes	Yes
		Ferry Street NB	90	30	55	Yes	Yes
		Road D1A(S) SB	170	65	55	Yes	Yes
J15	WCR / CAR (With CAR Underpass Scheme)	WCR WB	100	45	35	Yes	Yes
		Road D1NB	130	45	30	Yes	Yes
		WCR EB	100	55	45	Yes	Yes
	WCR / CAR (With CAR Widening Scheme)	CAR SB	90	55	55	Yes	Yes
		CAR NB	180	55	65	Yes	Yes
		WCR EB	100	55	45	Yes	Yes
J17	LCR / AURW	CAR NB	180	50	60	Yes	Yes
		CAR SB	90	55	55	Yes	Yes
		WCR EB	100	55	45	Yes	Yes
J18	CAR / AURW (With CAR Underpass Scheme)	AURW EB	180	35	50	Yes	Yes
		LCR SB	240	45	55	Yes	Yes
		AURW WB	230	30	45	Yes	Yes
		CAR NB	130	50	60	Yes	Yes
J18	CAR / AURW (With CAR Widening Scheme)	CAR SB	180	40	25	Yes	Yes
		AURW EB	80	45	45	Yes	Yes
		CAR NB	130	50	60	Yes	Yes
		AURW WB	230	30	45	Yes	Yes
J20	CAR / KPD	CAR SB	180	40	25	Yes	Yes
		AURW WB	90	45	55	Yes	Yes
		CAR NB	130	50	60	Yes	Yes
J40	Road D1A(N) / JOR / Road D1A(S)	CAR SB	280	35	25	Yes	Yes
		KPD NB	130	35	45	Yes	Yes
		JOR EB	70	60	50	Yes	Yes
		Road D1(N) SB	260	55	35	Yes	Yes
		JOR WB	150	30	40	Yes	Yes
		Road D1(S) NB	170	35	40	Yes	Yes

11.7.3 As shown in the above **Tables 11.4 and 11.5**, with the additional schemes, most of the junctions within the Focus Area would be operating with spare capacity, and meanwhile the traffic queue would be within acceptable level and would not cause blocking of junctions. Compared with the scenario with only the Core Schemes and the proposed junction improvement schemes, the additional schemes offer further improvements to the roads and junctions in the Focus Area by drawing traffic to the direct connections to/from the strategic roads without the need of using LCR and CAR.

11.8 Refresh

11.8.1 In this Chapter 11, we have gone through the principles of developing the future traffic improvements. We also considered nearly all the possible solutions meanwhile the likely constraints were also highlighted. Some effective schemes were selected, in which some would be straight forward (e.g. works are minor or other parties have already carried out investigation), but some (i.e. Schemes D2, H, I, J & Q) would need further investigation to confirm the feasibility. For ease reference, a plan incorporated the recommended Core and Additional Schemes (i.e. Schemes D2, H, I, J & Q) is presented in **Figure 11.38**. The detail road layout for Focus Area is presented in **Figure 11.39**.

11.8.2 In Chapter 14, we would propose the implementation programme for the selected traffic schemes mentioned in this Chapter as well as other pedestrian and transport schemes identified in the coming Chapters.

11.9 Suggestions for the Coming WKCD Study

11.9.1 Among all the possible improvement schemes as presented in **Table 11.1**, Schemes F, G, K & N are mainly proposed for serving the possible westernmost WKCD access point (i.e. to the west of WHC portal as shown in **Figure 10.19**). These schemes were not further considered in this Study due to land constraint and the unknown internal road layout inside WKCD. If the WKCD would like to make use of the said access point in future, it is suggested that the consultants of WKCD should further study the feasibility of these schemes. Also, WHC should be consulted as the access road is within the Tunnel Area.

Works included in the \$11.8Bn

- **Roads**
- **Reprovisioning, Remedial and Improvement Works (not specified)**
- **Enabling Works**
- **Government Facilities**

Roads

- **Footbridges**

- Three footbridges linking to Kowloon Station

- Two footbridges linking to Austin Station

- A footbridge linking to Public Transport Interchange

- A footbridge above Road D1A near Man Cheong Street

- **Pedestrian Subways**

- Two subways linking to Austin Station and the footpath on the west of Lin Cheung Road

- **Roads with Noise Barriers / Enclosures**

- Depressed and associated at-grade road system at Austin Road West / Lin Cheung Road

- New road D1A and reconstruction of Mui Wan Road

Enabling Works and Government Facilities

Enabling Works

Topside Property Development
WKCD development above the WKT
Sham Wong Road Footbridges

Government Facilities

Boundary Control Facilities
Special Fire Fighting Equipment

西九龍總站與佐敦站的行人接駁

Pedestrian Connection between West Kowloon Terminus and Jordan Station



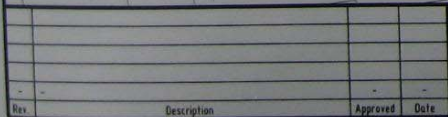
CORE SCHEMES

Banning turns / provision of alternative routes

- Nathan Road NB to Waterloo Road EB
- Jordan Road EB to Nathan Road NB
- Nathan Road SB to Jordan Road WB
- Nathan Road SB to Jordan Road EB
- Jordan Road WB to Nathan Road SB
- Austin Road EB to Nathan Road SB

ADDITIONAL SCHEMES

- Scheme H – Widening at Nga Chung Road Elevated
- Scheme I – New Link Road from Nga Chung Road (Elevated) to WHC
- Scheme J - WKH SB Link to at-grade Nga Chung Road
- Scheme Q – Canton Road Underpass at Austin Road / Austin Road West



EXTENT OF THE ENCROACHMENT INTO WKCD

Figure No.	11.17	
Designed By	HEJ	Scale 1 : 2500
Checked By	SPC	Date Aug. 7009
Ref. : 270A/10/1007 DGM/LIT/23A0009		



Table 10.2 2031 Junction Performance – Reference Case

Junction No.	Junction Name	Junction Type	Reserve Capacity (%) / RFC	
			AM	PM
J1	Hoi Wang Road / Lai Cheung Road	S	-4%	9%
J2	Ferry St / Lai Cheung Road / Waterloo Road	S	10%	15%
J3	Nathan Road / Waterloo Road	S	-5%	-4%
J4	Hoi Wang Road / NCR	S	40%	29%
J5	Yan Cheung Road / Ferry St / Kansu St	S	-29%	-36%
J6	Nathan Road / Kansu St / Gascoigne Road	S	14%	5%
J7	JOR / Hoi Po Road	S	20%	11%
J8	NCR (elevated) / JOR (elevated)	S	47%	33%
J9	NCR / JOR	R	0.424	0.380
J10	JOR / To Wah Road	P	0.198	0.209
J11	JOR / LCR	S	-5%	-4%
J12	JOR / Ferry Street / CAR	S	-27%	-30%
J13	Nathan Road / JOR	S	16%	14%
J14	Road D1A(S) / WCR / Road D1	S	1%	-6%
J15	CAR / WCR	S	11%	13%
J16	NCR / AURW	R	0.373	0.325
J17	LCR / AURW	S	-7%	-16%
J18	CAR / AUR / AURW	S	-3%	-7%
J19	Nathan Road / AUR	S	3%	31%
J20	CAR / KPD	S	7%	34%
J21	Salisbury Road / CAR	S	87%	98%
J22	Salisbury Road / KPD	S	36%	40%
J23	Salisbury Road / Nathan Road	S	15%	6%
J24	AUR / Cox's Road / Pine Tree Hill Road	S	-7%	-3%
J25	Nathan Road / Hill Wood Road	P	0.408	0.684
J26	JOR / Gascoigne Road	S	47%	3%
J27	CAR / Haiphong Road	S	56%	143%
J28	CAR / Peking Road	S	157%	368%
J29	Peking Road / KPD	S	57%	54%
J30	KPD / Middle Road	S	65%	81%
J31	Nathan Road / Kimberley Road	S	97%	77%
J32	Nathan Road / Granville Road	S	99%	107%
J33	Nathan Road / Cameron Road	F	N/A	N/A
J34	Nathan Road / Haiphong Road / Humphreys Avenue	S	56%	67%
J35	Nathan Road / Mody Road	F	N/A	N/A
J36	Nathan Road / Peking Road	S	170%	125%
J37	Nathan Road / Middle Road	P	0.512	0.848
J38	Ferry Street / Man Cheong Street / Saigon Street	S	-6%	25%
J39	Yan Cheung Road / Hoi Wang Road / Road D1A(N)	S	24%	-1%
J40	Road D1A(N) / JOR / Road D1A(S)	S	29%	-8%
J41	AURW / Road D1	S	-37%	-37%

Note: S – Signal-control junction
P – Priority junction
R – Roundabout
F – Free-flow junction
N/A – Not available

Table 11.2 2031 Junction Performance – With Core Schemes and Proposed Junction Improvements

Junction No.	Junction Name	Junction Type	Reserve Capacity (%) / RFC	
			AM	PM
J1	Hoi Wang Road / Lai Cheung Road	S	24%	47%
J2	Ferry St / Lai Cheung Road / Waterloo Road	S	10%	14%
J3	Nathan Road / Waterloo Road	S	-5%	-4%
J4	Hoi Wang Road / NCR	S	41%	31%
J5	Yan Cheung Road / Ferry St / Kansu St	S	0%	1%
J6	Nathan Road / Kansu St / Gascoigne Road	S	14%	10%
J7	JOR / Hoi Po Road	S	57%	57%
J8	NCR (elevated) / JOR (elevated)	S	37%	38%
J9	NCR / JOR	R	0.674	0.513
J10	JOR / To Wah Road	P	0.197	0.222
J11	JOR / LCR	S	8%	-5%
	With LCR SB Right-turn Banned With LCR SB Right-turn & Further Road Widening	S	10%	-3%
J12	JOR / Ferry Street / CAR	S	9%	5%
J13	Nathan Road / JOR	S	12%	11%
J14	Road D1(S) / WCR / Road D1	S	18%	22%
J15	CAR / WCR	S	8%	23%
J16	NCR / AURW	R	0.235	0.321
J17	LCR / AURW	S	56%	33%
J18*	CAR / AUR / AURW	S	4%	0%
J19	Nathan Road / AUR	S	4%	26%
J20	CAR / KPD	S	7%	27%
J21	Salisbury Road / CAR	S	97%	79%
J22	Salisbury Road / KPD	S	38%	28%
J23	Salisbury Road / Nathan Road	S	26%	20%
J24	AUR / Cox's Road / Pine Tree Hill Road	S	-7%	-3%
J25	Nathan Road / Hill Wood Road	P	0.397	0.686
J26	JOR / Gascoigne Road	S	47%	13%
J27	CAR / Haiphong Road	S	50%	108%
J28	CAR / Peking Road	S	164%	313%
J29	Peking Road / KPD	S	57%	50%
J30	KPD / Middle Road	S	65%	95%
J31	Nathan Road / Kimberley Road	S	95%	75%
J32	Nathan Road / Granville Road	S	97%	103%
J33	Nathan Road / Cameron Road	F	N/A	N/A
J34	Nathan Road / Haiphong Road / Humphreys Avenue	S	57%	67%
J35	Nathan Road / Moddy Road	F	N/A	N/A
J36	Nathan Road / Peking Road	S	169%	128%
J37	Nathan Road / Middle Road	P	0.512	0.859
J38	Ferry Street / Man Cheong Street / Saigon Street	S	55%	19%
J39	Yan Cheung Road / Hoi Wang Road / Road D1A(N)	S	28%	10%
J40	Road D1A(N) / JOR / Road D1A(S)	S	12%	0%
J41	AURW / Road D1	F	N/A	N/A

Note: S – Signal-control junction
P – Priority junction
R – Roundabout
F – Free-flow junction
N/A – Not available
* – No Scheme Q

11.6.2 The traffic queue at critical locations within the Focus Area were also calculated according to the methodology as stipulated in the Volume 4 of TPDM. The results are summarised in Table 11.3 and illustrated in Figure 11.34.

Table 11.3 2031 Critical Traffic Queue - With Core Schemes and Proposed Junction Improvements

Junction No.	Junction	Approach	Capacity (m)	Average Queue Length (m)		Within Capacity	
				AM	PM	AM	PM
J11	Lin Cheung Rd / JOR (With LCR SB Right-Turn Banned)	JOR EB	120	55	75	Yes	Yes
		LCR SB	100	65	65	Yes	Yes
		JOR WB	70	55	70	Yes	Yes
		LCR NB	170	45	85	Yes	Yes
		JOR EB	120	75	75	Yes	Yes
		LCR SB	100	70	80	Yes	Yes
		JOR WB	70	60	70	Yes	Yes
J12	JOR / Ferry Street / CAR	LCR NB	170	65	130	Yes	Yes
		JOR EB	150	45	40	Yes	Yes
		Ferry Street SB	210	60	50	Yes	Yes
		JOR WB	190	60	70	Yes	Yes
J14	Road D1(S) / WCR / Road D1	Ferry Street NB	90	65	75	Yes	Yes
		Road D1A(S) SB	170	45	45	Yes	Yes
		WCR WB	100	50	50	Yes	Yes
J15	WCR / CAR	Road D1NB	130	50	55	Yes	Yes
		WCR EB	100	45	40	Yes	Yes
		CAR SB	90	55	45	Yes	Yes
J17	LCR / AURW	CAR NB	180	60	50	Yes	Yes
		AURW EB	180	35	30	Yes	Yes
		LCR SB	240	50	55	Yes	Yes
J18*	CAR / AURW	AURW WB	230	10	15	Yes	Yes
		AURW EB	80	60	55	Yes	Yes
		CAR SB	180	75	45	Yes	Yes
		AUR WB	90	55	60	Yes	Yes
J20	CAR / KPD	CAR NB	130	65	85	Yes	Yes
		CAR SB	280	35	25	Yes	Yes
		KPD NB	130	35	45	Yes	Yes
J40	Road D1A(N) / JOR / Road D1A(S)	JOR EB	70	65	55	Yes	Yes
		Road D1(N) SB	260	35	45	Yes	Yes
		JOR WB	150	45	65	Yes	Yes
		Road D1(S) NB	170	35	90	Yes	Yes

Note: * – No Scheme Q

11.6.3 As shown in Table 11.2, most of the junctions would be operating with spare capacity with the Core Schemes and the proposed junction improvement schemes. There are another 11 nos. of junctions would be operating with marginal capacity. Some of them are within the Focus Area and some of them are within the hinterland area of the Study Area.

11.6.4 In addition, the queuing analysis also demonstrates that all the locations with critical traffic queues as identified in Section 11.6 would be relieved, in the sense that the average queues would not extend to the junction immediately upstream of the junction in question.

11.6.5 This road infrastructure package could be considered as the minimum requirements that would provide a marginally sustainable road network up to 2031. In relation to the "opportunities" as discussed in Section 12.3, in essence the Core Schemes are oriented at the roads and junctions in the Focus Area. Meanwhile, the junction improvement schemes address the problematic locations on a more localized perspective, in particular for the eastern hinterland area, because of the heavily built-up area offering little or no scope for large-scale, comprehensive new road infrastructure items. The hinterland junctions receive different degrees of performance enhancement, depending on the scale of site constraints.

11.7 Traffic Assessment for Additional Schemes – Schemes H, I, J, Q

11.7.1 With the extra western connections from WRA to WHC, WKH, LCR (north) as well as the CAR Underpass, the key junctions within the Focus Area were assessed. The traffic flows for core and additional schemes are presented in Figure 11.35. The results are summarised in Table 11.4 and Figure 11.36. The signal calculation sheets are attached in Appendix E.

Table 11.4 2031 Junction Performance – With Core Schemes, Proposed Junction Improvements and Additional Schemes

Junction No.	Junction Name	Junction Type	Reserve Capacity (%) / RFC			
			With Core Schemes		With Core & Additional Schemes	
			AM	PM	AM	PM
J7	JOR / Hoi Po Road	S	57%	57%	14%	27%
J8	NCR (elevated) / JOR (elevated)	S	37%	38%	25%	32%
J9	NCR / JOR	R	0.674	0.513	0.502	0.376
J10	JOR / To Wah Road	P	0.197	0.222	0.211	0.210
J11	JOR / LCR					
	With LCR SB Right-turn Banned	S	8%	-5%	12%	15%
	With LCR SB Right-turn & Further Road Widening	S	10%	-3%	8%	11%
J12	JOR / Ferry Street / CAR	S	9%	5%	35%	33%
J14	Road D1A(S) / WCR / Road D1	S	18%	22%	14%	30%
J15	CAR / WCR					
	Without Additional Schemes	S	8%	23%	N/A	N/A
	With CAR Underpass (Scheme Q)	S	N/A	N/A	18%	18%
	With CAR Widening	S	N/A	N/A	19%	22%
J16	NCR / AURW	R	0.235	0.321	0.241	0.190
J17	LCR / AURW	S	56%	33%	46%	11%
J18	CAR / AUR / AURW					
	Without Additional Schemes	S	4%	0%	N/A	N/A
	With CAR Underpass (Scheme Q)	S	N/A	N/A	34%	8%
	With CAR Widening	S	N/A	N/A	12%	8%
J20	CAR / KPD	S	7%	27%	7%	27%
J40	JOR / Road D1	S	12%	0%	13%	22%

Note: S – Signal-control junction
P – Priority junction
R – Roundabout
N/A – Not Available

11.7.2 The traffic queue at critical locations within the Focus Area were also calculated according to the methodology as stipulated in the Volume 4 of TPDM. The results are summarised in Table 11.5 and illustrated in Figure 11.37.

Table 11.5 2031 Critical Traffic Queue – With Core Schemes, Proposed Junction Improvements and Additional Schemes

Junction No.	Junction	Approach	Capacity (m)	Average Queue Length (m)		Within Capacity	
				AM	PM	AM	PM
J11	Lin Cheung Rd / JOR (Scheme with SB Right-Turn Banned)	JOR EB	120	45	50	Yes	Yes
		LCR SB	100	65	60	Yes	Yes
		JOR WB	70	55	55	Yes	Yes
	Lin Cheung Rd / JOR (Scheme with SB Right-Turn)	LCR NB	170	55	50	Yes	Yes
		JOR EB	120	45	55	Yes	Yes
		LCR SB	100	70	60	Yes	Yes
J12	JOR / Ferry Street / CAR	JOR WB	70	55	60	Yes	Yes
		LCR NB	170	50	45	Yes	Yes
		JOR EB	150	40	35	Yes	Yes
		Ferry Street SB	210	55	40	Yes	Yes
J14	Road D1(S) / WCR / Road D1	JOR WB	190	50	55	Yes	Yes
		Ferry Street NB	90	30	55	Yes	Yes
		Road D1A(S) SB	170	65	55	Yes	Yes
J15	WCR / CAR (With CAR Underpass Scheme)	WCR WB	100	45	35	Yes	Yes
		Road D1NB	130	45	30	Yes	Yes
		WCR EB	100	55	45	Yes	Yes
	WCR / CAR (With CAR Widening Scheme)	CAR SB	90	55	55	Yes	Yes
		CAR NB	180	55	65	Yes	Yes
		WCR EB	100	55	45	Yes	Yes
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		AURW EB	180	35	50	Yes	Yes
		LCR SB	240	45	55	Yes	Yes
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		AURW EB	80	45	45	Yes	Yes
		CAR SB	180	40	25	Yes	Yes
		AUR WB	90	45	55	Yes	Yes
J18	CAR / AURW (With CAR Widening Scheme)	CAR NB	130	50	60	Yes	Yes
		AURW EB	80	55	50	Yes	Yes
		CAR SB	180	65	50	Yes	Yes
		AUR WB	90	45	55	Yes	Yes
J20	CAR / KPD	CAR NB	130	40	60	Yes	Yes
		CAR SB	280	35	25	Yes	Yes
		KPD NB	130	35	45	Yes	Yes
J40	Road D1A(N) / JOR / Road D1A(S)	JOR EB	70	60	50	Yes	Yes
		Road D1(N) SB	260	55	35	Yes	Yes
		JOR WB	150	30	40	Yes	Yes
		Road D1(S) NB	170	35	40	Yes	Yes

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