

## Chapter 4 CTS-3 INPUT ASSUMPTIONS

### 4.1 Envelope of Input Assumptions

4.1.1 The following input assumptions were made when developing the transport scenarios during the Main Model Runs:

### 4.2 Land Use Planning Scenario

4.2.1 The main model runs used three land use planning scenarios (based on Territorial Population and Employment Data Matrices Scenarios I, II and III - prepared for Plan D). Three sets of development assumptions were used so that the impact of their differences on the transport system infrastructure needs and government policies could be investigated.

- Scenario I - The lower growth forecast (for all forecast years) - 2016 population of 8.2 million
- Scenario II - The medium growth forecast (years 2006, 2011 and 2016 only) - 2016 population of 8.9 million
- Scenario III - The high growth forecast (year 2016 only) - 2016 population of 10.1 million

### 4.3 Vehicle Fleet Growth

4.3.1 The following Table 4.3a contains the fleet scenarios used in the Main Model Runs:

**Table 4.3a  
Vehicle Fleet Assumptions in Main Model Runs**

Year	Medium Growth Fleet (Case B)		High Growth (Low End) Fleet (Case C)	
	Cars	Goods Vehicles	Cars	Goods Vehicles
1997	327,000	116,900	327,000	116,900
2001	392,500	127,500	392,500	127,500
2006	483,000	150,700	556,900	166,600
2011	560,000	167,300	746,100	211,600
2016	618,000	184,700	959,700	262,400
	Low Growth Fleet (Case A)		High Growth (High End) Fleet (Case D)	
2016	455,000	141,000	1,084,000	262,400

#### 4.4 *Cross Boundary Traffic*

##### **Cross Boundary Road Traffic**

- 4.4.1 Forecasts of cross boundary road traffic for 2006, 2011 and 2016 were taken from Draft Working Paper 4A (June 1998) and Draft Working Paper 4B (September 1998) of the Feasibility Study on Additional Cross Border Links: Stage 1 Investigations on Traffic Demand, also known as the Crosslinks Further Study (CFS). The CFS Medium Scenario has been used, as recommended in CFS. For 2001, estimates were derived by interpolating between the 1997 observed figures and the 2006 forecasts developed by the CFS. The forecasts are presented in Table 4.4a.

**Table 4.4a**  
**Cross Boundary Road Traffic Forecasts Daily Vehicles**

1997	2001	2006	2011	2016
29,645	50,650	66,400	89,780	120,000

Source: Feasibility Study for Additional Cross Border Links, Draft WP No. 4B (September, 1998), Tables 2.1a and 2.2b – Medium Estimates; CTS-3 WP 4-1, Table 4.4 and trip tables provided by CFS.

- 4.4.2 The underlying rationale of the CFS Medium Scenario is that the current acceleration in cross boundary traffic growth will continue until 2000 and will then return to growth rates consistent with historical trends. For car traffic, the estimates are based on forecasts of cross boundary person traffic with a Hong Kong car mode split applied.

#### 4.5 *Transport Infrastructure Projects*

- 4.5.1 Tables 4.5a and 4.5b contain the “Base” case road and rail infrastructure assumptions used in the evaluation of alternative transport policies. This set of infrastructure (and project timings) is not a recommended infrastructure programme from CTS-3. Rather, they represent the findings from the initial model runs. Evaluation of alternative transport policies was undertaken before the definition of final infrastructure recommendations. Therefore, the base system is “snap-shot” of the infrastructure assumptions at the time these analyses were undertaken.
- 4.5.2 The environmental analyses of individual projects (and overall recommended infrastructure programmes) was conducted using the recommended road infrastructure programme defined in tables 4.5c (strategic projects recommended by CTS-3) and 4.5d (other committed or planned infrastructure improvements). The environmental analyses conducted in this study are strategic in nature and will be subject to vigorous environmental assessment during the project feasibility stage. Railway assumptions for these tests are shown in Tables 4.5e and 4.5f. Note that the assumed rail networks were for testing purposes only and do not represent recommendations for new railways (this issue is being examined by RDS-2).

**Table 4.5a**  
**Highway Projects for Base Case**

Project	Road Section	2001	2006 Base	2011 Base	2016 Base
Smithfield Rd. Extension	Pokfulam Road to Kennedy Town	✓	✓	✓	✓
Central Reclamation	Distributor Roads on Central Reclamation	✓	✓	✓	✓
Route 7	Sai Ying Pun to Kennedy Town, including Belcher's Bay Link	✓	✓	✓	✓
Route 4 (Lung Cheung Road and Ching Cheung Road) Improvement	Lai Chi Kok Park to Castle Peak Road/Ching Cheung Road Interchange	✓	✓	✓	✓
	Castle Peak Road/Ching Cheung Road Interchange to Ching Cheung Road/Tai Po Road Interchange	✓	✓	✓	✓
	Ching Cheung Road/Tai Po Road Interchange to Nam Cheong Street/Lung Cheung Road Interchange	✓	✓	✓	✓
	Nam Cheong Street/Lung Cheung Road Interchange to Waterloo Road/Lung Cheung Road Interchange	✓	✓	✓	✓
Route 2 West Kowloon Corridor	Yau Ma Tei Section	✓	✓	✓	✓
Hung Hom Bypass and Princess Margaret Road Link	Princess Margaret Road/Hong Chong Road junction near King's Park Sports Ground to Flyover above Hong Chong Road/ Chatham Road Interchange	✓	✓	✓	✓
	Flyover above Hong Chong Road/Chatham Road Interchange to Junction at KCR Terminus	✓	✓	✓	✓
	Junction at KCR Terminus to ramps outside International Mail Centre	✓	✓	✓	✓
	Ramps outside International Mail Centre to Salisbury Road/Science Museum Road/Hong Chong Rd junction	✓	✓	✓	✓
	Hung Hom Bypass Ramps on Hung Hom Bay Reclamation to Ramps outside International Mail Centre	✓	✓	✓	✓
Route 3 (Ting Kau to Yuen Long)	Yuen Long Approach Road	✓	✓	✓	✓
	Tai Lam Tunnel	✓	✓	✓	✓
	Tai Lam Tunnel (Ting Kau End) to Ting Kau Interchange (Ting Kau Bridge and Approach Viaduct)	✓	✓	✓	✓
Route 2 Tuen Mun Road Improvements (EB Climbing Lane)	Whole Section	✓	✓	✓	✓
Duplicate Tsing Yi South Bridge	Whole Section	✓	✓	✓	✓
Tsing Yi North Coastal Road	Whole Section		✓	✓	✓
Castle Peak Road Widening (Tsuen Wan West to Gold Coast in Tuen Mun)	Siu Lam to So Kwun Tan	✓	✓	✓	✓
	Ka Loon Tsuen to Siu Lam			✓	✓
	Tsuen Wan Area 2 to Ka Loon Tsuen		✓	✓	✓
Route 1 Tolo Highway Widening	Island House to Ma Liu Shui Interchange	✓	✓	✓	✓
Dualing and Reconstruction of the Sha Tau Kok Road from Lung Yeuk Tau to Ping Che Road	Whole Section	✓	✓	✓	✓
Route 9 North Lantau Highway	Chek Lap Kok to Tsing Yi	✓	✓	✓	✓

**Table 4.5a (Continued)**  
**Highway Projects for Base Case**

Project	Road Section	2001	2006 Base	2011 Base	2016 Base
Discovery Bay Tunnel	Discovery Bay to Siu Ho Wan	✓	✓	✓	✓
Island Western Corridor	WP 7-1, Figure 9.1 – Option 2				
Island Eastern Corridor Link	Exhibition Centre to Causeway Bay			✓	✓
Central - Wan Chai Bypass	Central to Exhibition Centre			✓	✓
Route 7	Aberdeen to Kennedy Town			✓	✓
Green Island Reclamation Distributors	Green Island Reclamation			✓	✓
Route 81	Aberdeen to Chai Wan				✓
Improvements to Island Eastern Corridor	Between North Point Interchange and Sai Wan Ho		✓	✓	✓
Improvements to Island Eastern Corridor	Causeway Bay to North Point				
Additional Harbour Crossing (Lei Yue Mun Bridge, Hung Hom to Causeway Bay, or other)	Whole Section (using alignment from Southeast Kowloon Reclamation to Causeway Bay)			✓	✓
Trunk Road P1 (Kowloon Point)	West Kowloon Reclamation to Tsim Sha Tsui				✓
2 <sup>nd</sup> Cross Kowloon Route	West Kowloon to East Kowloon				
Central Kowloon Route	West Kowloon Reclamation to To Kwa Wan			✓	✓
Trunk Road T1	Hung Hom — Tate's Cairn Link			✓	✓
Trunk Road T2 (Kai Tak Connector)	Central Kowloon Route to Western Coast Road + Interchange with EHC		✓	✓	✓
Choi Hung Road Widening	Yin Hing Street to Sze Mei Street		✓	✓	✓
Route 9	Tsing Yi to Cheung Sha Wan		✓	✓	✓
Route 5 Extension	Shek Wai Kok to Chai Wan Kok		✓	✓	✓
Tuen Mun Port Expressway	Whole Section			✓	✓
Tuen Mun Southern Bypass	Whole Section			✓	✓
Route 10	Tsing Lung Tau to So Kwun Wat			✓	✓
Route 10	So Kwun Wat to Yuen Long Highway			✓	✓
Deep Bay Link	Lam Tei to Pak Nai		✓	✓	✓
Widening of Yuen Long Highway	Lam Tei to Shap Pat Heung Interchange		✓	✓	✓
So Kwun Wat Link Road	Route 10 to Tuen Mun Road			✓	✓
Deep Bay Coastal Road	Whole Section			✓	✓
Tsuen Wan Road Upgrading	Whole Section				
East — West Link	WP 7-1, Figure 3.1 – (Alignment O-Q-R-F)			✓	✓
Improvements to Kam Tin Road	Au Tau to Kam Tin	✓	✓	✓	✓
	Kam Tin Bypass		✓	✓	✓
	Kam Tin to Route Twisk Roundabout		✓	✓	✓
Route 16	Lai Chi Kok to Tai Wai		✓	✓	✓
Tseung Kwan O Western Coast Road	Whole Section		✓	✓	✓
Sha Tin Northern Bypass	Whole Section			✓	✓
Sai Kung Highway	Whole Section				✓

**Table 4.5a (Continued)**  
**Highway Projects for Base Case**

Project	Road Section	2001	2006 Base	2011 Base	2016 Base
Eastern Highway	WP 7-1, Figure 2.3/2.4 (Alignment A-J (4 <sup>th</sup> Harbour Crossing) to K-L-M-N-O-S-T → to Tolo Highway)			✓	✓
Eastern Highway	Link To Boundary			✓	✓
Dualing of Hiram's Highway from CWB Road to Marina Cove	Whole Section		✓	✓	✓
New Road	Man Kam To to New Territories Circular Road and Boundary Crossing Facilities Expansion		✓	✓	✓
Widening of Tolo Highway/Fanling Highway	Island House Interchange to Fanling Highway		✓	✓	✓
Widening of Fo Tan Road	Yuen Wo Road to Kwei Tei Street		✓	✓	✓
Trunk Road T3	Whole Section		✓	✓	✓
Trunk Road T4	Whole Section		✓	✓	✓
Trunk Road T6	Whole Section (Sha Tin)		✓	✓	✓
Trunk Road T7	Whole Section		✓	✓	✓
Widening of Tai Po Road	Sha Tin Section		✓	✓	✓
Widening of Tate's Cairn Highway	Whole Section		✓	✓	✓
Cross Bay Bridge, Tseung Kwan O whole Section	Whole Section		✓	✓	✓
Tuen Mun - Chek Lap Kok Link	Tuen Mun to Chek Lap Kok				
Route 10	Hong Kong - Lantau Link				✓
Route 10	North Lantau Section			✓	✓
Route 10	Tsing Lung Bridge			✓	✓
Chok Ko Wan Link	Whole Section			✓	✓
North Lantau Corridor Improvements	Whole Section				✓
Road P1	Between Tung Chung and Yam O			✓	✓
Lantau Ring Road	WP 7-1, Figure 8.2 - Mui Wo to Tai Ho Link		✓	✓	✓
Road Link	WP 7-1, Figure 8.2 - Tung Chung to Tai O Link			✓	✓
Shenzhen Western Corridor	Whole Section		✓	✓	✓
Lingdingyang Bridge	Whole Section			✓	✓

Source: Information from Transport Department, Highways Department and Territory Development Department

**Table 4.5b  
Rail Projects for Base Case**

Project	2001	2006 Base	2011 Base	2016 Base
<b>Hong Kong</b>				
MTRC Quarry Bay Extension to North Point	✓	✓	✓	✓
South Hong Kong Island Line — Aberdeen to Admiralty				✓
North Hong Kong Island Line — Central to North Point (possible LAL extension)			✓	✓
West Hong Kong Island Line — Sheung Wan to Green Island			✓	✓
MTR Island Line Extension — Chai Wan to Siu Sai Wan				✓
<b>Harbour Crossings</b>				
KCRC Rail from Hung Hom to Wan Chai or Causeway Bay (Fourth Harbour Crossing Hung Hom to Wan Chai Exhibition Centre was tested in model)			✓	✓
<b>Kowloon</b>				
KCRC Hung Hom to Tsim Sha Tsui Extension		✓	✓	✓
East Kowloon Line — Diamond Hill to Hung Hom			✓	✓
West Rail Extension — Yen Chow Street to Tsim Sha Tsui				✓
South East Kowloon West-East Rail				✓
<b>New Territories West</b>				
KCRC West Rail (Tuen Mun Central to Yen Chow Street)		✓	✓	✓
Outer Western Corridor — Tuen Mun to Green Island via Yam O				✓
Kwai Chung Port Rail Line (freight service)			✓	✓
<b>New Territories East</b>				
Tseung Kwan O Line Extension (Phase I Lam Tin to Po Lam)		✓	✓	✓
Ma On Shan Rail (to Tai Wai)		✓	✓	✓
Tseung Kwan O Extension — Phase II (TKO to TKO South)		✓	✓	✓
East Kowloon Line Extension — Diamond Hill to Tai Wai			✓	✓
<b>Lantau</b>				
MTRC Airport Express Line to Central	✓	✓	✓	✓
MTRC Tung Chung Line to Central	✓	✓	✓	✓
<b>Cross Boundary</b>				
Western Corridor — Cross Boundary Passenger Service — Sheung Shui, Kam Tin to Lok Ma Chau and Lo Wu		✓	✓	✓

Source: Information from Railway Development Office of Highways Department.

**Table 4.5c**  
**Strategic Highway Projects by Scenario**

Strategic Highway Projects	Timing of Projects <sup>4</sup>		
	Low Growth Scenario	Medium Growth Scenario	High Growth Scenario
<b>Hong Kong Island</b>			
Island Western Corridor	-	M	M
Central - Wan Chai Bypass and Island Eastern Corridor Link <sup>1</sup>	S	S	S
Route 7 (Kennedy Town to Aberdeen) <sup>2</sup>	S	S	S
Hong Kong North Shore Bypass	-	-	L
<b>Harbour Crossings</b>			
Fourth Harbour Crossing	-	L	L
<b>Kowloon</b>			
Central Kowloon Route	S	S	S
T1 (Hung Hom to Tate's Cairn Link)	-	L	L
T2 (Kai Tak Connector)	M	S	S
<b>New Territories West</b>			
Route 10 (Tsing Lung Tau to Yuen Long)	S	S	S
Route 10 (So Kwun Wat Link Road)	S	S	S
Deep Bay Link	S	S	S
Tuen Mun Port Expressway	L	M	M
Tuen Mun Southern Bypass	L	M	M
Tuen Mun Western Bypass	L	L	L
East - West Link	-	L	M
Tai Mo Shan Link	-	-	L
Kowloon Northern Bypass and Extension	-	-	L
<b>New Territories East</b>			
Tseung Kwan O, Western Coast Road	S	S	S
Eastern Highway (Southeast Kowloon to Fanling)	-	L	M
Eastern Highway (Fanling to Boundary)	-	-	L
<b>Lantau Crossings</b>			
Route 10 (Tsing Lung Bridge)	S	S	S
Route 10 (Hong Kong - Lantau Link)	L	M	M
Tuen Mun - Chek Lap Kok Link	-	L	L
<b>Lantau Island</b>			
Chok Ko Wan Link	S	S	S
<b>Cross Boundary</b>			
Shenzhen Western Corridor <sup>3</sup>	S	S	S
Lingdingyang Bridge <sup>3</sup>	L	M	M

- Notes: 1 - Central - Wan Chai Bypass and Island Eastern Corridor Link are currently planned for completion by 2010 because of unavailability of land. However, CTS-3 recommends these projects be implemented by 2006 as far as possible to relieve the anticipated congestion.
- 2 - Route 7 (Kennedy Town to Aberdeen) is currently planned for completion by 2010 because of unavailability of land. However, CTS-3 recommends to fast-track the project for completion by 2006 as far as possible to improve mobility.
- 3 - The implementation programmes of Shenzhen Western Corridor and Lingdingyang Bridge are subject to separate review.
- 4 - The need, lane configuration and timing of individual road projects are indicative only.
- S denotes project required around 2006.  
M denotes project required around 2011.  
L denotes project required around 2016.  
- denotes project not required until after 2016.

**Table 4.5d  
Other Planned or Committed Highway Projects**

Other Planned Projects	Timing of Projects <sup>2</sup>		
	Low Growth Scenario	Medium Growth Scenario	High Growth Scenario
<b>Hong Kong Island</b>			
Green Island Reclamation Distributors	L	M	M
Route 81 <sup>1</sup>	-	-	L
<b>Kowloon</b>			
Choi Hung Road Widening	S	S	S
Trunk Road P1 <sup>1</sup>	L	L	L
<b>New Territories West</b>			
Tsuen Wan Road Upgrading	M	M	M
Kam Tin Road Improvements	S	S	S
Widen Yuen Long Highway to Dual 3-Lane <sup>1</sup>	S	S	S
Widen Yuen Long Highway to Dual 4-Lane <sup>1</sup>	-	L	L
<b>New Territories East</b>			
Sha Tin Northern Bypass <sup>1</sup>	S	S	S
Sai Kung Highway	L	L	L
Hiram's Highway Dualling	S	S	S
New Road from Man Kam To - Boundary	S	S	S
Tolo Highway/Fanling Highway Widening	S	S	S
Fo Tan Road Widening	S	S	S
Trunk Road T3	S	S	S
Trunk Road T4	S	S	S
Trunk Road T6	S	S	S
Trunk Road T7	S	S	S
Tai Po Road Widening	S	S	S
Tate's Cairn Highway Widening	S	S	S
Cross Bay Link	S	S	S
<b>Lantau Island</b>			
Road P1 <sup>1</sup>	M	M	M
Mui Wo - Tai Ho Link	S	S	S
<b>Committed Projects As Of 1999</b>	Timing of Projects <sup>2</sup>		
	Low Growth Scenario	Medium Growth Scenario	High Growth Scenario
<b>Hong Kong Island</b>			
Central Reclamation Distributor Roads	S	S	S
Island Eastern Corridor (North Point to Sai Wan Ho)	S	S	S
Island Eastern Corridor (Causeway Bay to North Point)	M	M	M
<b>New Territories West</b>			
Route 9	S	S	S
Route 5 Extension	S	S	S
Route 2 Tuen Mun Road (Eastbound Climbing Lane)	VS	VS	VS
Tsing Yi North Coastal Road	S	S	S
Castle Peak Road Widening (Ka Loon Tsuen to Siu Lam)	M	M	M
Castle Peak Road Widening (Tsuen Wan Area 2 to Ka Loon Tsuen)	S	S	S
<b>New Territories East</b>			
Tolo Highway Widening	VS	VS	VS
<b>Lantau Island</b>			
Discovery Bay Tunnel	VS	VS	VS

Notes: 1 - Other Planned Projects evaluated in CTS-3.  
 2 - The need, lane configuration and timing of the projects shown in this table are indicative only and are subject to further detailed study.  
 VS denotes project required around 2001.  
 S denotes project required around 2006.  
 M denotes project required around 2011.  
 L denotes project required around 2016.  
 - denotes project not required until after 2016.



**Table 4.5e**  
**Planned Railway Projects by Scenario**

Planned Railway Projects	Low Growth Network			Medium Growth Network			High Growth Network		
	2006	2011	2016	2006	2011	2016	2006	2011	2016
<b>Hong Kong Island</b>									
North Hong Kong Island Line					**	**		**	**
West Hong Kong Island Line								**	**
South Hong Kong Island Line									**
<b>Harbour Crossings</b>									
Fourth Rail Harbour Crossing					**	**		**	**
<b>Kowloon</b>									
East Kowloon Line						**		**	**
Kowloon East-West Rail						**		**	**
Kowloon Southern Loop			**			**		**	**
<b>New Territories</b>									
Tai Wai to Diamond Hill Line						**		**	**
Tai Wai to Yen Chow Street						**		**	**
West Rail – Phase II			**			**		**	**
Outer Western Corridor								**	**

Notes: 1 - Year 2006 and 2011 Low Growth Network projects selected based on review of Medium Growth Network demand estimates and judgement.

2 - The projects shown in this table are indicative and subject to review.

**Table 4.5f**  
**Committed Railway Projects**

Committed Railway Projects	Included in Transport Network			
	2001	2006	2011	2016
<b>Hong Kong Island</b>				
MTRC Quarry Bay Extension to North Point	**	**	**	**
<b>Kowloon</b>				
KCRC East Rail Extension – Hung Hom to Tsim Sha Tsui		**	**	**
<b>New Territories</b>				
KCRC West Rail (Phase I) – Yen Chow Street to Tuen Mun Central		**	**	**
MTRC Tseung Kwan O Line (Phase I) – Lam Tin to Po Lam		**	**	**
MTRC Tseung Kwan O Line (Phase II) – Extension to TKO South		**	**	**
KCRC East Rail Extension – Tai Wai to Ma On Shan		**	**	**
KCRC East Rail Extension – Sheung Shui to Lok Ma Chau Spur Line		**	**	**

Notes: The projects shown in this table are indicative and subject to review.

## 4.6 Economic Growth

4.6.1 Several sets of GDP assumptions were prepared for the study analyses, as summarised in Table 4.6a. GDP assumptions B, C and D correspond to land use scenarios I, II and III and are intended to reflect the different employment bases associated with each of the scenarios. Assumption A is intended to represent a more pessimistic outlook on Hong Kong's future economic development.

**Table 4.6a  
GDP Growth Assumptions**

Year	Percentage Growth per Annum			
	A	B	C	D
1997	+5.3%	+5.3%	+5.3%	+5.3%
1998	-5.1%	-5.1%	-5.1%	-5.1%
1999-2001	1999-2016 @3.0% per annum	+4.0%	+4.0%	1999-2016 @5.4% per annum
2002		+4.0%	+5.5%	
2003 - 2006		+4.9%	+5.5%	
2007		+4.9%	+4.9%	
2008-2011		+4.5%	+4.9%	
2012-2016		+4.0%	+4.4%	
Growth ratio 2016/1997	1.64	2.20	2.36	2.63
Average annual growth rate 1997-2016	+2.4%	+4.0%	+4.4%	+4.9%
Notes	Low growth scenario	Medium Growth corresponding to Land Use Scenario I	Medium Growth corresponding to Land Use Scenario II	High Growth corresponding to Land Use Scenario III

Note: A slightly different set of figures was endorsed for CTS-3 Model Runs prior to the 1998 GDP Growth rate of -5% being determined, but the overall ratios were not changed.

**4.7 Transport Scenarios**

4.7.1 Table 4.7a presents the transport scenarios tested in the Main Model Runs and the assumptions of each scenario.

**4.8 Envelope of Assumptions for the Recommended Transport Strategy**

**Low Demand Growth Scenario**

4.8.1 The low scenario was only tested for 2016 and the key defining elements are summarised in Table 4.8a. As the growth implied for this scenario is so low, it was not considered important to closely examine the earlier analysis years.

**Table 4.8a  
Definition of 2016 Low Scenario**

Variable	Assumption	Value
Population	Scenario I	8,184,000
GDP Average Annual Growth 1997-2016	A	2.4%
Private Vehicle Fleet	A	455,000
Goods Vehicle Fleet	A	141,000
Cross Boundary Traffic (Two-way daily vehicles)	CFS Low	85,000

**Medium Demand Growth Scenario**

4.8.2 The medium scenario was tested for 2006 - 2016 and Scenario I for 2001 and the key defining elements are summarised in Table 4.8b.

Table 4.7a  
Transport Scenarios Tested in Main Model Runs

Year	Version	Description	Tests	Pop scenario	Road Network	Rail Network	Car fleet size	GV fleet size	Toll Sch
2001	39	LOW / Toll Scheme A	Sensitivity	1	Base 2001		392500	127500	A
2001	40	LOW / Toll Scheme B	Sensitivity	1	Base 2001		392500	127500	B
2001	41	LOW / Toll Scheme C	Sensitivity	1	Base 2001		392500	127500	C
2001	43	LOW / Toll Scheme D1	Sensitivity	1	Base 2001		392500	127500	D1
2001	47	LOW / Toll Scheme D	Sensitivity	1	Base 2001		392500	127500	D
2001	48	LOW / Budget Toll	Main	1	Base 2001		392500	127500	Budget
2006	49	High Car High Goods	Sensitivity	2	Base 2006		558900	166600	D
2006	50	Medium Car High Goods	Sensitivity	2	Base 2006		558900	166600	D
2006	52	High Car Medium Goods	Sensitivity	2	Base 2006		483000	150700	D
2006	54	Medium Car Medium Goods	Sensitivity	2	Base 2006		483000	150700	D
2006	58	Scenario 2, Toll D, HVF, System Test 1	Main	2	Test 2006		558900	166600	D
2006	75	Scenario 2, Toll D, HVF, System Test 2	Economics	2	High 2006		558900	166600	D
2006	76	Scenario 2, Toll D, HVF, System Test 2, w/o CRK	Main	2	High 2006		558900	166600	D
2006	77	Scenario 2, Toll D, HVF, System Test 2, w/o CRK	Economics	2	High 2006		558900	166600	D
2006	78	Scenario 2, Toll D, HVF, System Test 2, w/o CRK	Economics	2	High 2006		558900	166600	D
2006	80	Scenario 2, Toll D, HVF, System Test 2, w/o IEC	Economics	2	High 2006		558900	166600	D
2006	82	Scenario 2, Toll D, HVF, System Test 2, w/o T2	Economics	2	High 2006		558900	166600	D
2006	83	Scenario 2, Toll D, HVF, System Test 2, w/o Route 5	Economics	2	High 2006		558900	166600	D
2006	84	Scenario 2, Toll D, HVF, System Test 2, w/o Route 10	Economics	2	High 2006		558900	166600	D
2006	85	Scenario 2, Toll D, HVF, System Test 2, w/o Route 16	Economics	2	High 2006		558900	166600	D
2006	86	Scenario 2, Toll D, HVF, System Test 2, w/o all	Economics	2	High 2006		558900	166600	D
2006	89	Scenario 2, Toll D, HVF, System Test 2, w/o TM Southern Bypass & Port Expressway	Economics	2	High 2006		558900	166600	D
2006	91	Base Case for Rail Priority	Policy	2	Base 2006		483000	150700	B
2006	92	Low Car, Toll B	Policy	2	Base 2006		483000	150700	D
2006	94	Rail Priority	Policy	2	Special Bus 2006		558900	166600	D
2006	95	Base Case	Policy	2	Base 2006		558900	166600	D
2006	97	(Sci, Lo, Toll D) Least Demand	Main	2	Base 2006		483000	150700	D
2006	98	System Test 2 without TKO Rail Phase II	Main	1	Base 2006		483000	150700	D
2006	102	2001 Road / 2006 Rail	Economics	2	High 2006		558900	166600	D
2006	106	Recommended Transport Strategy - High Growth	Main	2	Base 2001		558900	166600	Budget
2006	107	Recommended Transport Strategy - Medium Growth	Main	2	Medium 2006		483000	150700	Budget
2011	41	High Car High Goods	Sensitivity	2	Base 2011		746100	211600	D
2011	42	Medium Car High Goods	Sensitivity	2	Base 2011		746100	211600	D
2011	43	Medium Car Medium Goods	Sensitivity	2	Base 2011		560000	211600	D
2011	44	Medium Car Medium Goods	Sensitivity	2	Base 2011		560000	211600	D
2011	55	PT Fare Policy	Policy	2	Base 2011		746100	211600	D
2011	68	Sci, Toll D, H, Base	Main	2	Base 2011		746100	211600	D
2011	69	Park and Ride	Main	2	Base 2011		560000	167300	D
2011	71	(Sci, Toll, Lo) Least Demand	Main	1	High 2011		746100	211600	D
2011	74	(Sci, Toll, H) System Test 4	Economics	2	High 2011		746100	211600	B
2011	75	(Sci, Toll, H) System Test 4	Economics	2	High 2011		746100	211600	D
2011	76	System Test 4 without WC	Economics	2	High 2011		746100	211600	D
2011	77	System Test 4 without Central - Wan Chai Bypass	Economics	2	High 2011		746100	211600	D
2011	78	System Test 4 without Lantau P1 Road	Economics	2	High 2011		746100	211600	D
2011	79	System Test 4 without IEC	Economics	2	High 2011		746100	211600	D
2011	80	System Test 4 without East-West Link	Economics	2	High 2011		746100	211600	D
2011	81	System Test 4 without Lantau Road Link	Economics	2	High 2011		746100	211600	D
2011	82	System Test 4 without Eastam Highway	Economics	2	High 2011		746100	211600	D
2011	83	(Sci, Toll, H) System Test 4 without HK - Lantau Link	Economics	2	High 2011		746100	211600	B (excl - D)
2011	84	(Sci, Toll, H) System Test 4 (GHK - Toll D)	Main	2	High 2011		746100	211600	D
2011	87	System Test 4 without North Hong Kong Line (Central to North Point)	Economics	2	High 2011		746100	211600	D

Table 4.7a (Continued)  
Transport Scenarios Tested in Main Model Runs

Year	Version	Description	Tests	Pop scenario	Road Network	Rail Network	Car fleet size	GV fleet size	Toll Sch
2011	85	System Test 4 without West Hong Kong Line (Sheung Wan to Green Island)	Economics	2	High 2011		746100	211600	D
2011	86	System Test 4 without Hung Hom to Wan Chai (KCRC)	Economics	2	High 2011		745100	211600	D
2011	90	System Test 4 without East Kowloon Line (Tai Wai to Hung Hom)	Economics	2	High 2011		748100	211600	D
2011	93	PT Fare Integration	Policy	2	Base 2011		746100	211600	D
2011	97	with 2001 Road/ 2006 Rail	Main	2	Base 2001	High 2006	746100	211600	D
2011	103	High Xborder Case	Sensitivity	2	High 2011		746100	211600	D
2011	104	Recommended Transport Strategy - High Growth	Main	2	High 2011		746100	211600	D
2011	105	Recommended Transport Strategy - Medium Growth	Main	2	Medium 2011		560000	167300	Budget
2011	106	(Soll, TollD, H) System Test 4 with Port Rail	Main	2	High 2011		746100	211600	Budget
2011	107	(Soll, TollD, H) System Test 4 without Rail Between Tai Wai and Diamond Hill	Main	2	High 2011		746100	211600	D
2016	7	High Car High Goods	Sensitivity	2	Base 2016		959700	262400	D
2016	8	Medium Car High Goods	Sensitivity	2	Base 2016		959700	262400	D
2016	10	Medium Car Medium Goods	Sensitivity	2	Base 2016		618000	184700	D
2016	12	High Car Medium Goods	Sensitivity	2	Base 2016		618000	262400	D
2016	18	(Soll, TollD, H, Base)	Main	1	Base 2016		959700	262400	D
2016	19	(Soll, TollD, Low) Least Demand	Main	2	Base 2016		618000	184700	B
2016	21	(Soll, TollD, Base, Low Car, H GV)	Sensitivity	2	Base 2016		1084000	262400	D
2016	23	(Soll, TollD, H) Mast Demand	Main	3	Base 2016		959700	262400	D
2016	35	System Test 2A - M4 Northern Bias	Sensitivity	2	High 2016		959700	262400	D
2016	36	System Test 2A - M3 Lanau Bias	Sensitivity	2	High 2016		959700	262400	D
2016	37	System Test 2A without IWC	Economics	2	High 2016		959700	262400	D
2016	38	System Test 2A without Route 81	Economics	2	High 2016		959700	262400	D
2016	39	System Test 2A without TST PI Road	Economics	2	High 2016		959700	262400	D
2016	40	System Test 2A without TMS Link	Economics	2	High 2016		959700	262400	D
2016	41	System Test 2A without TM Western Bypass	Economics	2	High 2016		959700	262400	D
2016	42	System Test 2A without HK - Lanau Link	Economics	2	High 2016		959700	262400	D
2016	43	System Test 2A without HK North Bypass	Economics	2	High 2016		959700	262400	D
2016	44	System Test 2A without Kin Northern Bypass So Kwun Wai to Tai Mo Shan Link	Economics	2	High 2016		959700	262400	D
2016	45	System Test 2A without TM-CK Link	Economics	2	High 2016		959700	262400	D
2016	46	System Test 2A without Further Widening YL HW	Economics	2	High 2016		959700	262400	D
2016	47	System Test 2A without IEC Imp	Economics	2	High 2016		959700	262400	D
2016	48	System Test 2A without Hong Kong Rail	Economics	2	High 2016		959700	262400	D
2016	49	System Test 2A without Siu Sai Wan Station	Economics	2	High 2016		959700	262400	D
2016	50	System Test 2A without WR Yen Chow Street to TST	Economics	2	High 2016		959700	262400	D
2016	51	System Test 2A without SE KL West-East Rail	Economics	2	High 2016		959700	262400	D
2016	52	System Test 2A without Outer Western Corridor	Economics	2	High 2016		959700	262400	D
2016	53	System Test 2A without MDSR Ext	Economics	2	High 2016		959700	262400	D
2016	54	System Test 2A without XB Western Corridor	Economics	2	High 2016		959700	262400	D
2016	55	Recommended Infrastructure with New Kowloon Northern Bypass & So Kwun Wai to Tai Mo Shan Link	Main	2	High 2016		959700	262400	D
2016	64	with 2001 Road and 2006 Rail	Main	2	Base 2001	High 2006	959700	262400	D
2016	75	High Xborder Case	Sensitivity	2	High 2016		959700	262400	D
2016	82	Recommended Transport Strategy - High Growth (Low End)	Main	2	High 2016		959700	262400	budget
2016	83	Recommended Transport Strategy - High Growth (High End)	Main	3	High 2016		1084000	262400	budget
2016	84	Recommended Transport Strategy - Medium Growth	Main	1	Medium 2016		818000	184700	budget
2016	86	Recommended Transport Strategy - Low Growth	Main	2	Low 2016		455000	141000	budget
2016	88	System Test 2A without Fourth Harbour Crossing	Main	2	High 2016		959700	262400	D
2016	90	System Test 2A without T1	Main	2	High 2016		959700	262400	D

**Table 4.8b**  
**Definition of Medium Scenario**

Variable	Assumption	2001	2006	2011	2016
Population	Scenario II	6,945,000 <sup>1</sup>	7,737,000	8,338,000	8,934,000
GDP Average Annual Growth 1997-2016	C	4.4%			
Private Vehicle Fleet	B	393,000	483,000	560,000	618,000
Goods Vehicle Fleet	B	128,000	151,000	167,000	185,000
Cross Boundary Traffic (Two-way daily vehicles)	CFS Medium	51,000	66,000	90,000	120,000

Notes: 1 - Year 2001 uses Scenario I Population - No other scenarios exist for this year.  
2 - The figures are rounded to the nearest thousand

### High Demand Growth Scenario

4.8.3 The high scenario was tested for the design years of 2006, 2011 and 2016, and the key defining elements are summarised in Table 4.8c.

**Table 4.8c**  
**Definition of High Scenario**

Variable	Assumption	2006	2011	2016	
				Low End	High End
Population	Scenario II	7,737,000	8,338,000	8,934,000	10,130,000
GDP Average Annual Growth 1997-2016	C	4.4 % - 4.9%			
Private Vehicle Fleet	C/D	557,000	746,000	960,000	1,084,000
Goods Vehicle Fleet	C/D	167,000	212,000	262,000	262,000
Cross Boundary Traffic (Two-way daily vehicles)	CFS Medium	66,000	90,000	120,000	120,000/ 164,000 <sup>1</sup>

Notes: 1 - This number was used in the High Cross Boundary Sensitivity Test.  
2 - The figures are rounded to the nearest thousand.