

**APPENDIX D**

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**AIR QUALITY CALCULATION TABLES**

**D1. Kilometres of New Road Over and Above those Already Committed**

Sub-Region	Committed Projects (Km)	2001		2006		2011	
		A	B	A	B	A	B
METRO	196.0	6.6	6.6	33.8	33.8	55.5	55.5
NWNT	53.5	0	0	11.8	11.8	11.8	33.1
NENT	33.9	0	0	8.0	8.0	8.0	0
SENT	103.4	0	0	5.1	5.1	5.1	5.1
SWNT	0.0	0	0	37.2	37.2	37.2	40.5
Total Km	386.6	6.6	6.6	96.0	96.0	117.7	134.2

Note : the definition of new road in this context is roads which are provided over and above the existing or committed roads. Committed developments are assumed to be those defined in the baseline scenario.

**D2. Interface of New Road With Established Agricultural, Urban/Residential, Country Park, SSSI, and Crossing Major Water Bodies (km)**

Interface/Location	2001 (A)	2001 (B)	2006 (A)	2006 (B)	2011 (A)	2011 (B)
Agriculture METRO NWNT NENT SENT SWNT			< 1km			
Urban/Residential METRO NWNT NENT SENT SWNT			19 17 5 3 8	19 17 5 3 8	16 - - - -	16 - - - -
Country Parks METRO NWNT NENT SENT SWNT						
SSSI's METRO NWNT NENT SENT SWNT						
Marine Crossing METRO NWNT NENT SENT SWNT			- - - - 2.5	- - - - 2.5 + 6	- - - - -	- - - - 3.5
Total (km)			55.5	60.5	16	19.5

**D3. AM Peak Vehicle Flow Through Each Airshed ('000's kilometers)**

Air Control Zone	2001		2006		2011	
	A	B	A	B	A	B
1. Harbour	853	865	1004	1056	1,108	1,163
2. Junk Bay	59	60	76	84	87	90
3. Lantau	45	47	69	77	152	187
4. Fanling	79	91	92	108	102	159
5. Port Shelter	19	19	24	25	25	26
6. South Hong Kong Island	65	67	71	71	108	118
7. Tolo	257	267	312	329	333	328
8. Tsuen Wan/Kwai Chung	358	367	434	474	480	483
9. Tuen Mun	153	161	233	280	272	384
10. Yuen Long	247	265	302	322	315	403
Total	2,135	2,209	2617	2826	3,002	3,341

**D4. Projected Number of Vehicles on Roads ('000's)**

Vehicle Type	2001		2006		2011	
	A	B	A	B	A	B
Assumed Number of Licenced Private Cars and Motorcycles	416	416	483	483	560	560
Estimated Number of Licenced Goods Vehicles	205	218	233	243	252	282

**D5. Vehicular Speeds (km/h)**

Velocities (km)	2001		2006		2011	
	A	B	A	B	A	B
AM Peak Velocities	27.7	26.9	25.8	23.2	24.6	21.7
24-hr Velocities	31.7	31.3	30.7	29.3	29.9	27.8

Note : it has been assumed that the lower the velocity the potential for congestion, and air quality problems increases.

**D6. Estimated CO Emission Rates**

As agreed with EPD this criterion has not been used. Rather, a suite of ten box models representing the ten airsheds within the Territory have been developed for use in this Study. The purpose of the modelling exercise was to determine whether the AQO's would be exceeded within each airshed at the design year of 2011. Both industrial and vehicular emissions were modelled and details of this exercise and the fundamental assumptions made are given in Appendix A.

### D7. Proximity of Special and General Industry to Residential Areas

Sub-Region/Industry						
<b>METRO</b> Special Industry General Industry - Tsuen Wan - Kowloon Bay - Tai Kok Tsui	< 500m < 500m -	200m - 500m	200m 200m 200m	- - 200m	- 500m -	
<b>NWNT</b> Special Industry - Tin Shui Wai General Industry		200m	200m	200m	200m	200m
<b>NENT</b> Special Industry General Industry						
<b>SENT</b> Special Industry General Industry - Tseung Kwan O	200m	-	-	-	200m	-
<b>SWNT</b> Special Industry General Industry - Tai Ho		500m	500m	500m	500m	500m
<b>Total Population Potentially Affected</b>	271,631	262,092	369,218	160,521	470,329	307,557

**Note**

1. The distances were taken off a plan which was illustrative only. The measurements are only intended to show any differences between the options.
2. New populations were used to assess the potential interface problems.
3. Distances > 500m between Industrial and Residential Uses were not included in this assessment.

**D8. Proximity of Proposed Industrial Developments to Existing Pollution Blackspots**

Location	Exceeds AQO Y/N	No. Blackspots	2001		2006		2011	
			A	B	A	B	A	B
<b>METRO</b>								
Tsuen Wan	Y	11	*	*	*	na	na	na
West Tsing Yi	N	-	-	-	-	-	-	-
East Tsing Yi	N	2	*	*	*	*	*	*
Kau Wah	N	1	*	*	*	*	*	na
Keng	Y	-	*	*	*	*	*	*
Cheung Sha Wan	Y	-	*	*	*	*	*	*
Sham Shui Po	N	-	na	*	na	na	na	na
Tai Kok Tsui	N	-	*	na	*	na	na	na
Mong Kok	Y	16	*	*	*	*	*	*
Kowloon Bay (To Kwan O)	N	4	*	*	*	*	na	na
Ngau Tau Kok	N	-	-	-	-	-	-	-
Kwun Tong	N	-	-	-	-	na	-	-
Yau Tong	N	-	-	-	-	-	-	-
HK East	N	-	-	-	-	-	-	-
HK South	N	-	-	-	-	-	-	-
<b>NWNT</b>								
Lam Tei	N	2	*	*	*	*	*	*
Ping Shan	N	2	*	*	*	*	*	*
Yuen Long	N	2	*	*	*	*	*	*
Au Tau	N	-	-	-	-	-	-	-
<b>NENT</b>								
Sheung Shui	N	1	*	*	*	*	*	*
Ma On Shan	N	-	-	-	-	-	-	-
<b>SENT</b>								
Tseung Kwan O	Y	-	*	*	*	*	*	*
<b>SWNT</b>								
	N	-	-	-	-	-	-	-
<b>Total</b>								

NOTE \* REPRESENTS DISTANCE < 1KM  
 - REPRESENTS DISTANCE > 1KM

For the purpose of this assessment it was assumed that where the AQO's were exceeded the potential impacts could be worse and thus the interface scored double points.

**D9. Proposed New Industrial Development Zones Adjacent to Areas of Ecological Significance (within conservation areas CA, or where there may be marine parks within 1km)**

Location	2001		2006		2011	
	A	B	A	B	A	B
METRO East Tsing Yi Hong Kong Is. South	CA < 5ha CA < 5ha	CA < 5ha CA < 5ha	CA < 5ha CA < 5ha	CA < 5ha -	CA < 5ha CA < 5ha	CA < 5ha CA < 5ha
NWNT						
NENT Ma On Shan	MP5-10ha	MP < 5ha	MP < 5ha	MP < 5ha	MP < 5ha	MP < 5ha
SENT						
SWNT						
Total (maximum area affected)	20ha	15ha	15ha	10ha	15ha	15ha

**D10. Impact on Existing Air Quality**

Full details of model testing results are given in Appendix A.

**D11. Strategic Residential Developments Within Confined Airshed or With Existing Poor/Bad Air Quality**

Sub-Region	2001		2006		2011	
	A	B	A	B	A	B
METRO Kowloon Bay Reclamation	# -	- -	# *	# -	# *	# -
NWNT Yuen Long S.		o	-	o	o	o
NENT						
SENT						
SWNT						

Note : The following definitions of air quality were taken from the TDS Baseline Studies.

- \* confined airshed - bad air quality
- # partially confined airshed - bad air quality
- o partially confined airshed - poor air quality



**D12. Interface Between Industry and Residential Uses**

Location	2001		2006		2011	
	A	B	A	B	A	B
METRO Tai Kok Tsui Tsuen Wan Kwun Tong	*	*	*			
NWNT	none observed		none observed		none observed	
NENT	none observed		none observed		none observed	
SENT Tseung Kwan O	**	-	-	-	**	**
SWNT	none observed		none observed		none observed	
Total - Population - hectares of industry		-		-		

**D13. Industry Within Confined Airsheds**

No strategic growth special industries, PHI's or Science Parks are located within areas where air quality is currently poor. Tseung Kwan O is within a confined airshed where existing industrial developments have restrictions placed on them regarding fuel consumption. It is assumed that similar environmental controls will be applied to proposed developments in TKO.

The promulgated industrial strategy has been founded on high standards of environmental pollution controls being implemented.