



APPENDIX 3.4

DETAILED CALCULATION OF EMISSIONS ASSOCIATED WITH BUS AND MINIBUS TERMINI, HEAVY GOODS VEHICLE AND BUS/ COACH PARKING SITES

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Input Parameters in AERMOD

Source ID	X-Coordinate	Y-Coordinate	Source Type	Base Elevation	Release Height	Initial Lateral Dimension Coefficient	Initial Vertical Dimension Coefficient	Baseline Emission Rate			
								NO	NO2	RSP	FSP
								(g/s) or (g/s/m2)			
(ID)	(HK1980)	(HK1980)	(Type)	(mAG)	(m)	(σy)	(σz)				
BTP_7HUB	-	-	AREA_POLY	5.30	2.37	-	-	1.868E-07	8.717E-08	2.267E-09	2.098E-09
BTP_7SPR	-	-	AREA_POLY	5.30	2.37	-	-	8.104E-07	3.887E-07	0.000E+00	0.000E+00
BTP_8HUB	-	-	AREA_POLY	5.30	2.77	-	-	3.619E-07	1.340E-07	5.569E-09	5.138E-09
BTP_8SPR	-	-	AREA_POLY	5.30	2.77	-	-	1.556E-06	5.263E-07	0.000E+00	0.000E+00
BTP_9HUB	-	-	AREA_POLY	5.30	3.16	-	-	3.322E-08	1.127E-08	5.182E-10	4.785E-10
BTP_9SPR	-	-	AREA_POLY	5.30	3.16	-	-	1.375E-07	4.211E-08	0.000E+00	0.000E+00
CLF_BHUB	-	-	AREA_POLY	5.20	3.48	-	-	9.144E-06	7.162E-07	1.365E-07	1.306E-07
CLF_BSPR	-	-	AREA_POLY	5.20	3.48	-	-	3.653E-07	3.321E-08	0.000E+00	0.000E+00
CPB_BHUB	-	-	AREA_POLY	4.90	3.48	-	-	1.440E-06	1.132E-07	3.938E-08	3.656E-08
CPB_BSPR	-	-	AREA_POLY	4.90	3.48	-	-	9.253E-08	8.625E-09	0.000E+00	0.000E+00
FOS_8HUB	-	-	AREA_POLY	4.90	2.77	-	-	4.197E-07	1.574E-07	7.979E-09	7.372E-09
FOS_8SEB	-	-	AREA_POLY	4.90	2.77	-	-	3.415E-08	1.154E-08	0.000E+00	0.000E+00
FOS_8SHC	-	-	AREA_POLY	4.90	2.77	-	-	5.438E-08	1.838E-08	0.000E+00	0.000E+00
FOS_8SWB	-	-	AREA_POLY	4.90	2.77	-	-	3.442E-08	1.163E-08	0.000E+00	0.000E+00
FOS_9HUB	-	-	AREA_POLY	4.90	3.16	-	-	3.248E-07	1.108E-07	4.472E-09	4.137E-09
FOS_9SEB	-	-	AREA_POLY	4.90	3.16	-	-	3.387E-08	1.037E-08	0.000E+00	0.000E+00
FOS_9SHC	-	-	AREA_POLY	4.90	3.16	-	-	5.393E-08	1.652E-08	0.000E+00	0.000E+00
FOS_9SWB	-	-	AREA_POLY	4.90	3.16	-	-	3.414E-08	1.045E-08	0.000E+00	0.000E+00
GGM_BHUB	-	-	AREA_POLY	4.80	3.48	-	-	1.132E-04	8.864E-06	1.698E-06	1.624E-06
GGM_BSPR	-	-	AREA_POLY	4.80	3.48	-	-	9.208E-08	8.398E-09	0.000E+00	0.000E+00
HCR_7HUB	-	-	AREA_POLY	5.30	2.37	-	-	1.207E-06	5.642E-07	1.604E-08	1.515E-08
HCR_7SPR	-	-	AREA_POLY	5.30	2.37	-	-	7.038E-07	3.375E-07	0.000E+00	0.000E+00
HCR_8HUB	-	-	AREA_POLY	5.30	2.77	-	-	6.809E-07	2.511E-07	1.144E-08	1.055E-08
HCR_8SPR	-	-	AREA_POLY	5.30	2.77	-	-	3.787E-07	1.281E-07	0.000E+00	0.000E+00
KFP_8HUB	-	-	AREA_POLY	4.50	2.77	-	-	1.164E-07	4.340E-08	1.509E-09	1.395E-09
KFP_8SEB	-	-	AREA_POLY	4.50	2.77	-	-	5.352E-08	1.811E-08	0.000E+00	0.000E+00
KFP_8SNB	-	-	AREA_POLY	4.50	2.77	-	-	6.048E-08	2.046E-08	0.000E+00	0.000E+00
KFP_8SSB	-	-	AREA_POLY	4.50	2.77	-	-	1.314E-07	4.445E-08	0.000E+00	0.000E+00
LMO_BSNB	-	-	AREA_POLY	4.10	3.48	-	-	2.245E-07	2.048E-08	0.000E+00	0.000E+00
LMO_BSSB	-	-	AREA_POLY	4.10	3.48	-	-	9.376E-07	8.552E-08	0.000E+00	0.000E+00
LMO_MSPR	-	-	AREA_POLY	4.10	2.10	-	-	5.964E-09	2.311E-09	0.000E+00	0.000E+00
NFI_7SPR	-	-	AREA_POLY	5.30	2.37	-	-	4.479E-07	2.151E-07	0.000E+00	0.000E+00
NFI_8SPR	-	-	AREA_POLY	5.30	2.77	-	-	6.350E-08	2.142E-08	0.000E+00	0.000E+00
NFI_9SPR	-	-	AREA_POLY	5.30	3.16	-	-	3.325E-08	1.011E-08	0.000E+00	0.000E+00
SLC_MHUB	-	-	AREA_POLY	4.90	2.10	-	-	4.855E-06	1.889E-06	1.294E-07	1.252E-07
SLC_MSPR	-	-	AREA_POLY	4.90	2.10	-	-	1.106E-08	4.301E-09	0.000E+00	0.000E+00
SLC_PHUB	-	-	AREA_POLY	4.90	2.10	-	-	1.771E-05	8.940E-08	2.437E-08	2.437E-08
SLC_PSPR	-	-	AREA_POLY	4.90	2.10	-	-	1.340E-07	6.732E-10	0.000E+00	0.000E+00
SLS_BHUB	-	-	AREA_POLY	5.20	3.48	-	-	3.615E-05	2.830E-06	5.422E-07	5.186E-07
SLS_BSPR	-	-	AREA_POLY	5.20	3.48	-	-	6.997E-07	6.382E-08	0.000E+00	0.000E+00
SOP_7HUB	-	-	AREA_POLY	4.50	2.37	-	-	3.492E-07	1.622E-07	5.394E-09	5.009E-09
SOP_7SWB	-	-	AREA_POLY	4.50	2.37	-	-	4.967E-07	2.383E-07	0.000E+00	0.000E+00
SOP_8HUB	-	-	AREA_POLY	4.50	2.77	-	-	3.583E-07	1.353E-07	7.079E-09	6.543E-09
SOP_8SWB	-	-	AREA_POLY	4.50	2.77	-	-	3.545E-07	1.191E-07	0.000E+00	0.000E+00
SOP_9HUB	-	-	AREA_POLY	4.50	3.16	-	-	6.377E-08	2.243E-08	1.987E-09	1.839E-09
SOP_9SWB	-	-	AREA_POLY	4.50	3.16	-	-	8.092E-09	2.286E-09	0.000E+00	0.000E+00
SSE_BSEB	-	-	AREA_POLY	4.30	3.48	-	-	2.303E-07	2.101E-08	0.000E+00	0.000E+00
SSE_BSSB	-	-	AREA_POLY	4.30	3.48	-	-	5.128E-08	4.666E-09	0.000E+00	0.000E+00
SSE_MSPR	-	-	AREA_POLY	4.30	2.10	-	-	1.070E-08	4.169E-09	0.000E+00	0.000E+00
SSE_PSPR	-	-	AREA_POLY	4.30	2.10	-	-	5.478E-07	2.749E-09	0.000E+00	0.000E+00
STM_BHUB	-	-	AREA_POLY	6.50	3.48	-	-	2.520E-06	1.973E-07	3.780E-08	3.615E-08
STM_BSOL	-	-	AREA_POLY	6.50	3.48	-	-	5.243E-07	4.752E-08	0.000E+00	0.000E+00
STM_BSVL	-	-	AREA_POLY	6.50	3.48	-	-	2.094E-07	1.898E-08	0.000E+00	0.000E+00
TMD_8HUB	-	-	AREA_POLY	5.80	2.77	-	-	7.926E-08	2.973E-08	2.009E-09	1.851E-09
TMD_8SNB	-	-	AREA_POLY	5.80	2.77	-	-	5.569E-08	1.872E-08	0.000E+00	0.000E+00
TMD_8SSB	-	-	AREA_POLY	5.80	2.77	-	-	5.269E-08	1.771E-08	0.000E+00	0.000E+00
TMD_9HUB	-	-	AREA_POLY	5.80	3.16	-	-	3.276E-08	1.148E-08	1.117E-09	1.030E-09
TMD_9SNB	-	-	AREA_POLY	5.80	3.16	-	-	5.239E-09	1.559E-09	0.000E+00	0.000E+00
TMD_9SSB	-	-	AREA_POLY	5.80	3.16	-	-	4.957E-09	1.475E-09	0.000E+00	0.000E+00
TMD_BHUB	-	-	AREA_POLY	5.80	3.48	-	-	8.794E-08	6.946E-09	2.955E-09	2.722E-09
TMD_BSNB	-	-	AREA_POLY	5.80	3.48	-	-	2.372E-08	2.163E-09	0.000E+00	0.000E+00
TMD_BSSB	-	-	AREA_POLY	5.80	3.48	-	-	2.244E-08	2.047E-09	0.000E+00	0.000E+00
YOS_BHUB	-	-	AREA_POLY	3.60	3.48	-	-	2.729E-06	2.147E-07	8.284E-08	7.661E-08
YOS_BSPR	-	-	AREA_POLY	3.60	3.48	-	-	2.174E-07	1.978E-08	0.000E+00	0.000E+00
YYP_7HUB	-	-	AREA_POLY	14.10	2.37	-	-	5.498E-08	2.559E-08	5.412E-10	5.026E-10
YYP_7SPR	-	-	AREA_POLY	14.10	2.37	-	-	1.839E-07	8.821E-08	0.000E+00	0.000E+00
YYP_8HUB	-	-	AREA_POLY	14.10	2.77	-	-	7.525E-08	2.805E-08	9.752E-10	9.015E-10
YYP_8SPR	-	-	AREA_POLY	14.10	2.77	-	-	2.639E-07	8.930E-08	0.000E+00	0.000E+00
YYP_9HUB	-	-	AREA_POLY	14.10	3.16	-	-	3.442E-08	1.200E-08	5.475E-10	5.068E-10
YYP_9SUP	-	-	AREA_POLY	14.10	3.16	-	-	3.776E-08	1.116E-08	0.000E+00	0.000E+00
LMO_BH01	814513.27	827290.28	VOLUME	4.10	3.00	1.395	2.791	7.673E-04	6.028E-05	2.650E-05	2.442E-05
LMO_BH02	814515.67	827295.78	VOLUME	4.10	3.00	1.395	2.791	7.673E-04	6.028E-05	2.650E-05	2.442E-05
LMO_BH03	814518.08	827301.28	VOLUME	4.10	3.00	1.395	2.791	7.673E-04	6.028E-05	2.650E-05	2.442E-05
LMO_BH04	814520.48	827306.77	VOLUME	4.10	3.00	1.395	2.791	7.673E-04	6.028E-05	2.650E-05	2.442E-05
LMO_BH05	814522.88	827312.27	VOLUME	4.10	3.00	1.395	2.791	7.673E-04	6.028E-05	2.650E-05	2.442E-05
LMO_BH06	814525.29	827317.77	VOLUME	4.10	3.00	1.395	2.791	7.673E-04	6.028E-05	2.650E-05	2.442E-05
LMO_BH07	814527.69	827323.26	VOLUME	4.10	3.00	1.395	2.791	7.673E-04	6.028E-05	2.650E-05	2.442E-05
LMO_BH08	814530.09	827328.76	VOLUME	4.10	3.00	1.395	2.791	7.673E-04	6.028E-05	2.650E-05	2.442E-05
LMO_BH09	814532.50	827334.26	VOLUME	4.10	3.00	1.395	2.791	7.673E-04	6.028E-05	2.650E-05	2.442E-05
LMO_BH10	814534.90	827339.75	VOLUME	4.10	3.00	1.395	2.791	7.673E-04	6.028E-05	2.650E-05	2.442E-05
LMO_BH11	814537.30	827345.25	VOLUME	4.10	3.00	1.395	2.791	7.673E-04	6.028E-05	2.650E-05	2.442E-05

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Input Parameters in AERMOD

Source ID	X-Coordinate	Y-Coordinate	Source Type	Base Elevation	Release Height	Initial Lateral Dimension Coefficient	Initial Vertical Dimension Coefficient	Baseline Emission Rate			
								NO	NO2	RSP	FSP
(ID)	(HK1980)	(HK1980)	(Type)	(mAG)	(m)	(σ _y)	(σ _z)	(g/s) or (g/s/m2)			
NFI_8H74	814730.25	827797.67	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H75	814730.41	827792.68	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H76	814730.57	827787.68	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H77	814730.73	827782.68	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H78	814730.88	827776.68	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H79	814731.04	827770.69	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H80	814731.20	827764.69	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H81	814768.93	827799.96	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H82	814769.08	827794.96	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H83	814769.24	827789.96	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H84	814769.40	827784.96	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H85	814769.56	827778.97	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H86	814769.71	827772.47	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_8H87	814769.87	827765.97	VOLUME	5.30	2.50	1.163	2.326	2.363E-05	8.984E-06	7.310E-07	6.748E-07
NFI_9H71	814729.78	827815.67	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H72	814729.94	827809.67	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H73	814730.10	827803.67	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H74	814730.25	827797.67	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H75	814730.41	827792.68	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H76	814730.57	827787.68	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H77	814730.73	827782.68	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H78	814730.88	827776.68	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H79	814731.04	827770.69	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H80	814731.20	827764.69	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H81	814768.93	827799.96	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H82	814769.08	827794.96	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H83	814769.24	827789.96	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H84	814769.40	827784.96	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H85	814769.56	827778.97	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H86	814769.71	827772.47	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07
NFI_9H87	814769.87	827765.97	VOLUME	5.30	2.50	1.163	2.326	1.340E-05	4.678E-06	4.088E-07	3.777E-07

Notes:

(a) For the spread distance of Open-Area PTI, release height is referenced from Appendix J.3.3 of "Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas" (2013) from USEPA. Release Height = Average Vehicle Height × 1.7 + 2.15.

(b) For Covered-Area PTI, Initial Lateral Dimension Coefficient, Initial Vertical Dimension Coefficient and Release Height are referenced from Table 3-2 in the USEPA's "User's Guide for the AMS/EPA Regulatory Model (AERMOD)". Initial Lateral Dimension Coefficient = Length of Portal + 4.3; Initial Vertical Dimension Coefficient = Length of Portal + 2.15; Release Height = Length of Portal + 2.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Running and Start Emission Extracted from EMFAC-HK v4.3

Running Emissions (g/km)

Pollutant	HGV7	HGV8	HGV9	PLB_DSL	PLB_LPG	FBDD
NOX	2.0845	3.9329	4.2458	0.8895	1.9497	8.8815
NO2	0.6577	1.0915	1.1076	0.2491	0.0098	0.6429
NO	1.4268	2.8414	3.1382	0.6404	1.9399	8.2386
RSP	0.0563	0.1073	0.1188	0.0582	0.0000	0.3157
FSP	0.0518	0.0987	0.1093	0.0535	0.0000	0.2904

EMFAC-HK Model Parameters

Temperature	6	°C
Relative Humidity	16	%
Speed	12	km/h

NOx Start Emissions (g/trips)

Vehicle Type (minute)	HGV7	HGV8	HGV9	PLB_DSL	PLB_LPG	FBDD
5	0.1142	0.1451	0.1511	0.0615	1.8195	0.6740
10	0.2055	0.2612	0.2720	0.1106	2.7415	1.2131
20	0.2741	0.3482	0.3627	0.1475	4.3607	1.6175
30	0.3882	0.4933	0.5138	0.2090	5.6801	2.2915
40	0.4796	0.6094	0.6347	0.2582	6.6997	2.8307
50	0.6395	0.8125	0.8463	0.3442	7.4195	3.7742
60	0.9363	1.1898	1.2392	0.5040	7.8395	5.5265
120	1.1647	1.4799	1.5415	0.6270	8.0617	6.8744
180	1.7128	2.1764	2.2669	0.9220	8.0321	10.1095
240	2.2381	2.8438	2.9621	1.2047	7.9868	13.2097
300	2.5121	3.1920	3.3248	1.3523	7.9259	14.8272
360	2.9689	3.7724	3.9293	1.5981	7.8494	17.5231
420	3.2658	4.1496	4.3222	1.7580	7.7572	19.2754
480	3.4256	4.3528	4.5338	1.8440	7.6494	20.2190
540	3.5170	4.4688	4.6547	1.8932	7.5259	20.7581
600	3.6083	4.5849	4.7756	1.9424	7.3868	21.2973
660	3.6540	4.6430	4.8361	1.9669	7.2321	21.5669
720	3.6540	4.6430	4.8361	1.9669	7.0617	21.5669
MAX	3.6540	4.6430	4.8361	1.9669	8.0617	21.5669

NO2 Start Emissions (g/trips)

Vehicle Type (minute)	HGV7	HGV8	HGV9	PLB_DSL	PLB_LPG	FBDD
5	0.0369	0.0370	0.0358	0.0172	0.0091	0.0554
10	0.0664	0.0665	0.0644	0.0310	0.0137	0.0996
20	0.0886	0.0887	0.0859	0.0413	0.0218	0.1329
30	0.1255	0.1257	0.1216	0.0585	0.0284	0.1882
40	0.1550	0.1553	0.1503	0.0723	0.0335	0.2325
50	0.2067	0.2070	0.2003	0.0964	0.0371	0.3100
60	0.3027	0.3032	0.2934	0.1411	0.0392	0.4540
120	0.3765	0.3771	0.3649	0.1755	0.0403	0.5647
180	0.5537	0.5545	0.5366	0.2582	0.0402	0.8304
240	0.7235	0.7246	0.7012	0.3373	0.0399	1.0851
300	0.8121	0.8133	0.7870	0.3786	0.0396	1.2179
360	0.9598	0.9612	0.9301	0.4475	0.0393	1.4394
420	1.0558	1.0573	1.0232	0.4922	0.0388	1.5833
480	1.1075	1.1091	1.0732	0.5163	0.0383	1.6608
540	1.1370	1.1387	1.1019	0.5301	0.0376	1.7051
600	1.1665	1.1682	1.1305	0.5439	0.0369	1.7494
660	1.1813	1.1830	1.1448	0.5507	0.0362	1.7715
720	1.1813	1.1830	1.1448	0.5507	0.0353	1.7715
MAX	1.1813	1.1830	1.1448	0.5507	0.0403	1.7715

NO (NOx-NO2) Start Emissions (g/trips)

Vehicle Type (minute)	HGV7	HGV8	HGV9	PLB_DSL	PLB_LPG	FBDD
5	0.0773	0.1081	0.1153	0.0443	1.8104	0.6186
10	0.1391	0.1947	0.2076	0.0796	2.7278	1.1135
20	0.1855	0.2595	0.2768	0.1062	4.3389	1.4846
30	0.2627	0.3676	0.3922	0.1505	5.6517	2.1033
40	0.3246	0.4541	0.4844	0.1859	6.6662	2.5982
50	0.4328	0.6055	0.6460	0.2478	7.3824	3.4642
60	0.6336	0.8866	0.9458	0.3629	7.8003	5.0725
120	0.7882	1.1028	1.1766	0.4515	8.0214	6.3097
180	1.1591	1.6219	1.7303	0.6638	7.9919	9.2791
240	1.5146	2.1192	2.2609	0.8674	7.9469	12.1246
300	1.7000	2.3787	2.5378	0.9737	7.8863	13.6093
360	2.0091	2.8112	2.9992	1.1506	7.8101	16.0837
420	2.2100	3.0923	3.2990	1.2658	7.7184	17.6921
480	2.3181	3.2437	3.4606	1.3277	7.6111	18.5582
540	2.3800	3.3301	3.5528	1.3631	7.4883	19.0530
600	2.4418	3.4167	3.6451	1.3985	7.3499	19.5479
660	2.4727	3.4600	3.6913	1.4162	7.1959	19.7954
720	2.4727	3.4600	3.6913	1.4162	7.0264	19.7954
MAX	2.4727	3.4600	3.6913	1.4162	8.0214	19.7954

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Running and Start Emission Extracted from EMFAC-HK v4.3

RSP Start Emissions (g/trips)

Vehicle Type (minute)	HGV7	HGV8	HGV9	PLB_DSL	PLB_LPG	FBDD
5	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
40	0	0	0	0	0	0
50	0	0	0	0	0	0
60	0	0	0	0	0	0
120	0	0	0	0	0	0
180	0	0	0	0	0	0
240	0	0	0	0	0	0
300	0	0	0	0	0	0
360	0	0	0	0	0	0
420	0	0	0	0	0	0
480	0	0	0	0	0	0
540	0	0	0	0	0	0
600	0	0	0	0	0	0
660	0	0	0	0	0	0
720	0	0	0	0	0	0
MAX	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

FSP Start Emissions (g/trips)

Vehicle Type (minute)	HGV7	HGV8	HGV9	PLB_DSL	PLB_LPG	FBDD
5	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
40	0	0	0	0	0	0
50	0	0	0	0	0	0
60	0	0	0	0	0	0
120	0	0	0	0	0	0
180	0	0	0	0	0	0
240	0	0	0	0	0	0
300	0	0	0	0	0	0
360	0	0	0	0	0	0
420	0	0	0	0	0	0
480	0	0	0	0	0	0
540	0	0	0	0	0	0
600	0	0	0	0	0	0
660	0	0	0	0	0	0
720	0	0	0	0	0	0
MAX	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Model Year Population Extracted from EMFAC-HK

Type	Petrol	Diesel	LPG
PC	712312.1	11447	0
TAXI	1.013703	0	18302.98
LGV3	20.66068	585.3877	0
LGV4	1449.769	56575.07	0
LGV6	0	20836.1	0
HGV7	0	13406.68	0
HGV8	0	26355.62	0
PLB	0	3444.466	878.5344
PV4	62.3246	450.6754	0
PV5	3.011825	3644.515	357.4738
NFB6	0	2547	0
NFB7	0	1767	0
NFB8	0	3879	0
FBSD	0	275	0
FBDD	0	5843.001	0
MC	73422.05	0	0
HGV9	0	6885.261	0
NFB9	0	2	0

PLB Fuel Ratio	
Diesel %	LPG %
79.68%	20.32%

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Idling Emission Factors

FBDD	Population	Emission Factor				Mass Factor [9]	Air-Con Factor [10]	Average Emission Factor (g/min)									
		Cold Idling		Hot Idling (PIARC: HGV)				Cold Idling				Hot Idling					
		NOx (g/s) [2]	PM (g/hr) [3]	NOx (g/hr) [5]	PM (g/hr) [5]			NOx	NO	NO2	PM	NOx	NO	NO2	PM		
Euro Emission Standard	%																
Euro IV	0.00%	0.1535	0.20	7.51	0.20	1.0	1.3	5.820E+00	5.399E+00	4.213E-01	1.326E-03	1.606E-01	1.490E-01	1.163E-02	1.326E-03		
Euro V	56.87%	0.1535	0.10	11.71	0.10	*FBDD Max. 24t, 1.0 is used. [11] Residual NOx Ratio [1]= 0.928 NO2 Ratio [1]= 0.072											
Euro VI	43.13%	0.0225	0.01	1.75	0.01												

PLB DIESEL	Population	Emission Factor				Mass Factor [9]	Air-Con Factor [10]	Average Emission Factor (g/min)									
		Cold Idling		Hot Idling (PIARC: LCV)				Cold Idling				Hot Idling					
		NOx (g/s) [2][4]	PM (g/hr) [3]	NOx (g/hr) [6]	PM (g/hr) [6]			NOx	NO	NO2	PM	NOx	NO	NO2	PM		
Euro Emission Standard	%																
Euro IV	0.00%	0.0010	0.16	3.62	0.16	n/a	1.3	6.000E-02	4.320E-02	1.680E-02	4.333E-04	3.290E-02	2.368E-02	9.212E-03	4.333E-04		
Euro V	10.27%	0.0010	0.02	3.60	0.02	Residual NOx Ratio [1]= 0.720 NO2 Ratio [1]= 0.280											
Euro VI	89.73%	0.0010	0.02	1.28	0.02												

PLB LPG	Population	Emission Factor				Mass Factor [9]	Air-Con Factor [10]	Average Emission Factor (g/min)									
		Cold Idling		Hot Idling (PIARC: LCV)				Cold Idling				Hot Idling					
		NOx (g/s) [2]	PM (g/hr) [3]	NOx (g/hr) [7]	PM (g/hr) [6]			NOx	NO	NO2	PM	NOx	NO	NO2	PM		
Euro Emission Standard	%																
Euro III	2.27%	0.0092	0.10	33.12	0.10	n/a	1.3	2.412E-01	2.400E-01	1.212E-03	5.348E-04	3.136E-01	3.120E-01	1.576E-03	5.348E-04		
Euro IV	2.05%	0.0039	0.16	14.04	0.16	Residual NOx Ratio [1]= 0.995 NO2 Ratio [1]= 0.005											
Euro V	95.68%	0.0039	0.02	14.04	0.02												
Euro VI	0.00%	0.0039	0.02	14.04	0.02												

HGV7	Population	Emission Factor				Mass Factor [9]	Air-Con Factor [10]	Average Emission Factor (g/min)									
		Cold Idling		Hot Idling (PIARC: HGV)				Cold Idling				Hot Idling					
		NOx (g/s) [2][4][8]	PM (g/hr) [3]	NOx (g/hr) [5]	PM (g/hr) [5]			NOx	NO	NO2	PM	NOx	NO	NO2	PM		
Euro Emission Standard	%																
Euro IV	0.00%	0.0059	0.20	7.51	0.20	0.9	1.3	3.540E-01	2.423E-01	1.117E-01	4.794E-04	6.560E-02	4.490E-02	2.070E-02	4.794E-04		
Euro V SCR	16.20%	0.0059	0.10	11.71	0.10	*HGV7 Max. 16t, 0.9 is used. [11] Residual NOx Ratio [1]= 0.684 NO2 Ratio [1]= 0.316											
Euro VI	83.80%	0.0059	0.01	1.75	0.01												

HGV8	Population	Emission Factor				Mass Factor [9]	Air-Con Factor [10]	Average Emission Factor (g/min)									
		Cold Idling		Hot Idling (PIARC: HGV)				Cold Idling				Hot Idling					
		NOx (g/s) [2][4]	PM (g/hr) [3]	NOx (g/hr) [5]	PM (g/hr) [5]			NOx	NO	NO2	PM	NOx	NO	NO2	PM		
Euro Emission Standard	%																
Euro IV	0.00%	0.0144	0.20	7.51	0.20	1.0	1.3	3.631E-01	2.623E-01	1.008E-01	4.543E-04	6.421E-02	4.639E-02	1.782E-02	4.543E-04		
Euro V	12.19%	0.0230	0.10	11.71	0.10	*HGV8 Max. 24t, 1.0 is used. [11] Residual NOx Ratio [1]= 0.722 NO2 Ratio [1]= 0.278											
Euro VI	87.81%	0.0037	0.01	1.75	0.01												

HGV9	Population	Emission Factor				Mass Factor [9]	Air-Con Factor [10]	Average Emission Factor (g/min)									
		Cold Idling		Hot Idling (PIARC: HGV)				Cold Idling				Hot Idling					
		NOx (g/s) [2][4]	PM (g/hr) [3]	NOx (g/hr) [5]	PM (g/hr) [5]			NOx	NO	NO2	PM	NOx	NO	NO2	PM		
Euro Emission Standard	%																
Euro IV	0.00%	0.0144	0.20	7.51	0.20	1.2	1.3	4.042E-01	2.988E-01	1.054E-01	6.282E-04	8.625E-02	6.375E-02	2.250E-02	6.282E-04		
Euro V	15.73%	0.0230	0.10	11.71	0.10	*HGV9 Max. 30t, 1.2 is used. [11] Residual NOx Ratio [1]= 0.739 NO2 Ratio [1]= 0.261											
Euro VI	84.27%	0.0037	0.01	1.75	0.01												

Notes:

- In this section, *Road Tunnels: Vehicle Emissions and Air Demand for Ventilation (2019R02EN)* published by World Road Association is used as reference on hot idling (with Gradient 0%, v=0kph) (hereinafter PIARC-VEADV).
- [1] Residual NOx and NO2 ratio was calculated based on Running Emission Factors extracted from EMFAC-HK.
- [2] For NOx cold idling, referenced from *Calculation of Start Emissions in Air Quality Impact Assessment (2021)* published by EPD.
- [3] For PM cold idling, referenced to hot idling emission factors from PIARC-VEADV to its respective fuels (i.e. FBDD = HGV; PLB = LCV).
- [4] For cold idling which not in listed in *Calculation of Start Emissions in Air Quality Impact Assessment (2021)* published by EPD, hot idling of its respective Euro Emission Standard, Fuel Type and Vehicle Type is used.
- [5] For hot idling on FBDD, reference made to Table 45 and 46 of PIARC-VEADV.
- [6] For hot idling on PLB, reference made to Table 42 and 43 of PIARC-VEADV. Idling emission factors of diesel vehicles were assumed for LPG vehicles as a conservative approach.
- [7] For hot idling on LPG, assume the same as cold idling emission factors.
- [8] For cold idling in HGV7, Euro V cold idling emission factor were assumed for Euro VI cold idling emission factor as a conservative approach.
- [9] For mass factor, reference made to Table 27 of PIARC-VEADV. Only applicable on HGV vehicles.
- [10] A factor of 1.3 has been applied to account for the additional A/C loading, reference from Appendix 3.10b and 3.10c of Liantang/Heung Yuen Wai Cross-boundary Control Point EIA (EIA/190/2010).
- [11] With reference to Part II Maximum Weights for Rigid Vehicles of Cap.374A Road Traffic (Construction and Maintenance of Vehicles) Regulation, maximum of 2-axle, 3-axle and 4-axle vehicles should have maximum gross vehicle weight of 16, 24 and 30 tonnes respectively.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Lung Mun Oasis Bus Terminus

PTI Type: **Semi-Confined**

Assessment Vehicle: **FBDD**

PART 1 - Running Emission

Parameters

Average Travelling Distance from PTI Ingress to Start Point	372	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to PTI Egress	126	m	(Section 2 - Egress)
Total Travelling Distance in PTI	0.438	km	(1km = 1000m)
Travelling Speed	12	kph	

Hour	Total	A											
		Running Emission Factor (g/km-vehicle)				Running Emission Within PTI (g)				Running Emission Within PTI (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	5	8.2386	0.6429	0.3157	0.2904	1.80E+01	1.41E+00	6.91E-01	6.36E-01	5.01E-03	3.91E-04	1.92E-04	1.77E-04
0100-0200	5	8.2386	0.6429	0.3157	0.2904	1.80E+01	1.41E+00	6.91E-01	6.36E-01	5.01E-03	3.91E-04	1.92E-04	1.77E-04
0200-0300	4	8.2386	0.6429	0.3157	0.2904	1.44E+01	1.13E+00	5.53E-01	5.09E-01	4.01E-03	3.13E-04	1.54E-04	1.41E-04
0300-0400	1	8.2386	0.6429	0.3157	0.2904	3.61E+00	2.82E-01	1.38E-01	1.27E-01	1.00E-03	7.82E-05	3.84E-05	3.53E-05
0400-0500	3	8.2386	0.6429	0.3157	0.2904	1.08E+01	8.45E-01	4.15E-01	3.82E-01	3.01E-03	2.35E-04	1.15E-04	1.06E-04
0500-0600	8	8.2386	0.6429	0.3157	0.2904	2.89E+01	2.25E+00	1.11E+00	1.02E+00	8.02E-03	6.26E-04	3.07E-04	2.83E-04
0600-0700	16	8.2386	0.6429	0.3157	0.2904	5.77E+01	4.51E+00	2.21E+00	2.04E+00	1.60E-02	1.25E-03	6.15E-04	5.65E-04
0700-0800	41	8.2386	0.6429	0.3157	0.2904	1.48E+02	1.15E+01	5.67E+00	5.22E+00	4.11E-02	3.21E-03	1.57E-03	1.45E-03
0800-0900	23	8.2386	0.6429	0.3157	0.2904	8.30E+01	6.48E+00	3.18E+00	2.93E+00	2.31E-02	1.80E-03	8.83E-04	8.13E-04
0900-1000	7	8.2386	0.6429	0.3157	0.2904	2.53E+01	1.97E+00	9.68E-01	8.90E-01	7.02E-03	5.48E-04	2.69E-04	2.47E-04
1000-1100	7	8.2386	0.6429	0.3157	0.2904	2.53E+01	1.97E+00	9.68E-01	8.90E-01	7.02E-03	5.48E-04	2.69E-04	2.47E-04
1100-1200	9	8.2386	0.6429	0.3157	0.2904	3.25E+01	2.53E+00	1.24E+00	1.14E+00	9.02E-03	7.04E-04	3.46E-04	3.18E-04
1200-1300	6	8.2386	0.6429	0.3157	0.2904	2.17E+01	1.69E+00	8.30E-01	7.63E-01	6.01E-03	4.69E-04	2.30E-04	2.12E-04
1300-1400	7	8.2386	0.6429	0.3157	0.2904	2.53E+01	1.97E+00	9.68E-01	8.90E-01	7.02E-03	5.48E-04	2.69E-04	2.47E-04
1400-1500	7	8.2386	0.6429	0.3157	0.2904	2.53E+01	1.97E+00	9.68E-01	8.90E-01	7.02E-03	5.48E-04	2.69E-04	2.47E-04
1500-1600	5	8.2386	0.6429	0.3157	0.2904	1.80E+01	1.41E+00	6.91E-01	6.36E-01	5.01E-03	3.91E-04	1.92E-04	1.77E-04
1600-1700	8	8.2386	0.6429	0.3157	0.2904	2.89E+01	2.25E+00	1.11E+00	1.02E+00	8.02E-03	6.26E-04	3.07E-04	2.83E-04
1700-1800	8	8.2386	0.6429	0.3157	0.2904	2.89E+01	2.25E+00	1.11E+00	1.02E+00	8.02E-03	6.26E-04	3.07E-04	2.83E-04
1800-1900	10	8.2386	0.6429	0.3157	0.2904	3.61E+01	2.82E+00	1.38E+00	1.27E+00	1.00E-02	7.82E-04	3.84E-04	3.53E-04
1900-2000	16	8.2386	0.6429	0.3157	0.2904	5.77E+01	4.51E+00	2.21E+00	2.04E+00	1.60E-02	1.25E-03	6.15E-04	5.65E-04
2000-2100	21	8.2386	0.6429	0.3157	0.2904	7.58E+01	5.91E+00	2.90E+00	2.67E+00	2.10E-02	1.64E-03	8.07E-04	7.42E-04
2100-2200	9	8.2386	0.6429	0.3157	0.2904	3.25E+01	2.53E+00	1.24E+00	1.14E+00	9.02E-03	7.04E-04	3.46E-04	3.18E-04
2200-2300	11	8.2386	0.6429	0.3157	0.2904	3.97E+01	3.10E+00	1.52E+00	1.40E+00	1.10E-02	8.60E-04	4.23E-04	3.89E-04
2300-2400	5	8.2386	0.6429	0.3157	0.2904	1.80E+01	1.41E+00	6.91E-01	6.36E-01	5.01E-03	3.91E-04	1.92E-04	1.77E-04

PART 2 - Start Emission (only for Terminating Vehicles)

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.6186	1.1135	1.4846	2.1033	2.5982	3.4642	5.0725	6.3097	9.2791	12.1246	13.6093	16.0837	17.6921	18.5582	19.0530	19.5479	19.7954	19.7954
NO ₂	0.0554	0.0996	0.1329	0.1882	0.2325	0.3100	0.4540	0.5647	0.8304	1.0851	1.2179	1.4394	1.5833	1.6608	1.7051	1.7494	1.7715	1.7715
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations (only applicable for Terminating Vehicles)

Hour	Terminating Vehicles	Number of Trips																Start Emission (g)					
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	1				1															2.10E+00	1.88E-01	0	0
0100-0200	1			1																1.48E+00	1.33E-01	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	1			1																1.48E+00	1.33E-01	0	0
0400-0500	3		1					1	1											1.67E+01	1.49E+00	0	0
0500-0600	8	2		4	1						1									2.29E+01	2.05E+00	0	0
0600-0700	15	2	2	6	3							1	1							5.25E+01	4.69E+00	0	0
0700-0800	27	12	6	9										1						2.75E+01	2.46E+00	0	0
0800-0900	21	4	10	7																2.40E+01	2.15E+00	0	0
0900-1000	7	1	1	5																9.16E+00	8.20E-01	0	0
1000-1100	7	2		1	3			1												1.53E+01	1.37E+00	0	0
1100-1200	6				3			1	2											2.40E+01	2.15E+00	0	0
1200-1300	6	1	2		1	1			1											1.39E+01	1.24E+00	0	0
1300-1400	7	2	1	2	1	1			1											1.37E+01	1.23E+00	0	0
1400-1500	5	1	1	1		1			1											1.21E+01	1.09E+00	0	0
1500-1600	5	1		2	1	1														8.29E+00	7.42E-01	0	0
1600-1700	7			5	2															1.16E+01	1.04E+00	0	0
1700-1800	8	2	3	1	2															1.03E+01	9.19E-01	0	0
1800-1900	8	2	1	5																9.77E+00	8.75E-01	0	0
1900-2000	9	3	5	1																8.91E+00	7.97E-01	0	0
2000-2100	9	2	2	2	2			1												1.69E+01	1.52E+00	0	0
2100-2200	5		1			1		3												2.26E+01	2.03E+00	0	0
2200-2300	5							4	1											3.45E+01	3.09E+00	0	0
2300-2400	3					1		2												1.52E+01	1.36E+00	0	0

Remark: Number of trips were derived based on on-site observations at the PTI.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Lung Mun Oasis Bus Terminus

PTI Type: **Semi-Confined**

Assessment Vehicle: **PLB**
Fuel: **DIESEL**

PART 3 - Idling Emission (Terminating Vehicles)

Parameters

Idling Time for Terminating Vehicles **1.1** min(s) *As On-Site observations

Calculations (only applicable for Terminating Vehicles)

*Cold Idling = 60-720min; Hot idling = 5-50min.

*Total Idling Emission = Cold Idling + Hot idling

Hour	Trips (60-720min)	Cold Idling Emission Factor (g/min)				Cold Idling Emission (g)				Trips (5-50min)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Total Idling Emission within PTI (g)				Total Idling Emission within PTI (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
		2400-0100	0	4.32E-02	1.68E-02	4.33E-04	4.33E-04	0.00E+00	0.00E+00		0.00E+00	0.00E+00	0	2.37E-02	9.21E-03	4.33E-04	4.33E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Parameters

Maximum Duration for adjusting Start Emission **1** min(s) *Per EPD Guideline
 Travelling Distance from Start Point to PTI Egress **380** m (Section 2)
 Travelling Distance from PTI Egress to Open Road **320** m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Hour	Emission for Adjusting Start Emission (g)				Adjusted Start Emission Within PTI (Section 2) (g)				Adjusted Start Emission Outside PTI (Section 2) (g/s)				Adjusted Start Emission Outside PTI (Section 3) (g)				Adjusted Start Emission Outside PTI (Section 3) (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
	2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Lung Mun Oasis Bus Terminus

PTI Type:

Assessment Vehicle:
 Fuel:

PART 4 - Idling Emission (Bypass Vehicles)

Parameters (NO PASSBY VEHICLES)
 Idling Time for Bypass Vehicles = min(s) *As On-Site observations

Hour	Bypass Vehicle	Bypass Vehicle (in fuel type)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				D Hot Idling Emission within PTI (g/s)				
			NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	
			2400-0100	0	0.00	2.37E-02	9.21E-03	4.33E-04	4.33E-04	0.00E+00	0	0	0	0	0

PART 5 - Sum up all above parts

Hour	Calculations Within PTI (Section 1 + Section 2): A+B+C+D				Outside PTI Spread Distance (Section 3): E to Lung Mun Road Southbound (LMR SB)			
	Total Emission (g/s)				Total Emission Factor (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0

Hour	Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
	2400-0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Lung Mun Oasis Bus Terminus

PTI Type: **Semi-Confined**

Assessment Vehicle: **PLB**
 Fuel: **LPG**

PART 1 - Running Emission

Parameters		Population Ratio Extracted from EMFAC	
Average Travelling Distance from PTI Ingress to Start Point	60 m	(Section 1 - Ingress)	Diesel % LPG %
Average Travelling Distance from Start Point to PTI Egress	380 m	(Section 2 - Egress)	79.68% 20.32%
Total Travelling Distance in PTI	0.440 km	(1km = 1000m)	
Travelling Speed	12 kph		

Calculations

Hour	Total	Total (in Fuel Type)	A											
			Within PTI (Section 1)+(Section 2)								Running Emission Within PTI (g/s)			
			Running Emission Factor (g/km-vehicle)				Running Emission Within PTI (g)				Running Emission Within PTI (g/s)			
NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP			
2400-0100	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0
0100-0200	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0
0200-0300	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0
0300-0400	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0
0400-0500	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0
0500-0600	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0
0600-0700	6	1.22	1.9399	0.0098	0	0	1.04E+00	5.26E-03	0	0	2.89E-04	1.46E-06	0	0
0700-0800	6	1.22	1.9399	0.0098	0	0	1.04E+00	5.26E-03	0	0	2.89E-04	1.46E-06	0	0
0800-0900	6	1.22	1.9399	0.0098	0	0	1.04E+00	5.26E-03	0	0	2.89E-04	1.46E-06	0	0
0900-1000	5	1.02	1.9399	0.0098	0	0	8.67E-01	4.38E-03	0	0	2.41E-04	1.22E-06	0	0
1000-1100	4	0.81	1.9399	0.0098	0	0	6.94E-01	3.51E-03	0	0	1.93E-04	9.74E-07	0	0
1100-1200	4	0.81	1.9399	0.0098	0	0	6.94E-01	3.51E-03	0	0	1.93E-04	9.74E-07	0	0
1200-1300	3	0.61	1.9399	0.0098	0	0	5.20E-01	2.63E-03	0	0	1.45E-04	7.30E-07	0	0
1300-1400	3	0.61	1.9399	0.0098	0	0	5.20E-01	2.63E-03	0	0	1.45E-04	7.30E-07	0	0
1400-1500	4	0.81	1.9399	0.0098	0	0	6.94E-01	3.51E-03	0	0	1.93E-04	9.74E-07	0	0
1500-1600	4	0.81	1.9399	0.0098	0	0	6.94E-01	3.51E-03	0	0	1.93E-04	9.74E-07	0	0
1600-1700	5	1.02	1.9399	0.0098	0	0	8.67E-01	4.38E-03	0	0	2.41E-04	1.22E-06	0	0
1700-1800	6	1.22	1.9399	0.0098	0	0	1.04E+00	5.26E-03	0	0	2.89E-04	1.46E-06	0	0
1800-1900	6	1.22	1.9399	0.0098	0	0	1.04E+00	5.26E-03	0	0	2.89E-04	1.46E-06	0	0
1900-2000	6	1.22	1.9399	0.0098	0	0	1.04E+00	5.26E-03	0	0	2.89E-04	1.46E-06	0	0
2000-2100	4	0.81	1.9399	0.0098	0	0	6.94E-01	3.51E-03	0	0	1.93E-04	9.74E-07	0	0
2100-2200	3	0.61	1.9399	0.0098	0	0	5.20E-01	2.63E-03	0	0	1.45E-04	7.30E-07	0	0
2200-2300	3	0.61	1.9399	0.0098	0	0	5.20E-01	2.63E-03	0	0	1.45E-04	7.30E-07	0	0
2300-2400	2	0.41	1.9399	0.0098	0	0	3.47E-01	1.75E-03	0	0	9.64E-05	4.87E-07	0	0

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	1.8104	2.7278	4.3389	5.6517	6.6662	7.3824	7.8003	8.0214	7.9919	7.9469	7.8863	7.8101	7.7184	7.6111	7.4883	7.3499	7.1959	7.0264
NO ₂	0.0091	0.0137	0.0218	0.0284	0.0335	0.0371	0.0392	0.0403	0.0402	0.0399	0.0396	0.0393	0.0388	0.0383	0.0376	0.0369	0.0362	0.0353
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Terminating Vehicles	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	0																			0.00E+00	0.00E+00	0	0
0600-0700	6	4																		4.63E+00	2.33E-02	0	0
0700-0800	6	6											1	1						2.21E+00	1.11E-02	0	0
0800-0900	6	6																		2.21E+00	1.11E-02	0	0
0900-1000	5	5																		1.84E+00	9.25E-03	0	0
1000-1100	4	4																		1.47E+00	7.40E-03	0	0
1100-1200	4	4																		1.47E+00	7.40E-03	0	0
1200-1300	3	3																		1.10E+00	5.55E-03	0	0
1300-1400	3	3																		1.10E+00	5.55E-03	0	0
1400-1500	4	4																		1.47E+00	7.40E-03	0	0
1500-1600	4	4																		1.47E+00	7.40E-03	0	0
1600-1700	5	5																		1.84E+00	9.25E-03	0	0
1700-1800	6	6																		2.21E+00	1.11E-02	0	0
1800-1900	6	6																		2.21E+00	1.11E-02	0	0
1900-2000	6	6																		2.21E+00	1.11E-02	0	0
2000-2100	4	4																		1.47E+00	7.40E-03	0	0
2100-2200	3	3																		1.10E+00	5.55E-03	0	0
2200-2300	3	3																		1.10E+00	5.55E-03	0	0
2300-2400	2	2																		7.36E-01	3.70E-03	0	0

Remark: Number of trips were derived based on on-site observations at the PTI.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Lung Mun Oasis Bus Terminus

PTI Type:

Assessment Vehicle:
 Fuel:

PART 4 - Idling Emission (Bypass Vehicles)

Parameters (NO PASSBY VEHICLES)
 Idling Time for Bypass Vehicles: min(s) *As On-Site observations

Hour	Bypass Vehicle	Bypass Vehicle (in fuel type)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Hot Idling Emission within PTI (g/s)			
			NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
			2400-0100	0	0.00	3.12E-01	1.58E-03	5.35E-04	5.35E-04	0	0	0	0	0

PART 5 - Sum up all above parts

Hour	Within PTI (Section 1 + Section 2): A+B+C+D				Outside PTI Spread Distance (Section 3): E to Lung Mun Road Southbound (LMR SB)			
	Total Emission (g/s)				Total Emission Factor (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0	0

Hour	Hourly Profile Ratio (0800-0900 as Baseline)			
	NO	NO ₂	RSP	FSP
	2400-0100	0.0000	0.0000	0.0000

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Yau Oi (South) Bus Terminus

PTI Type: **Open Area**

Assessment Vehicle: **FBDD**

PART 1 - Running Emission

Parameters

Average Travelling Distance from PTI Ingress to Start Point	56	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to PTI Egress	47	m	(Section 2 - Egress)
Total Travelling Distance in PTI	0.103	km	(1km = 1000m)
Travelling Speed	12	kph	

Hour	Total	A											
		Running Emission Factor (g/km-vehicle)				Within PTI (Section 1)+(Section 2)				Running Emission Within PTI (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	8.2386	0.6429	0.3157	0.2904	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	8.2386	0.6429	0.3157	0.2904	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	8.2386	0.6429	0.3157	0.2904	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	8.2386	0.6429	0.3157	0.2904	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	8.2386	0.6429	0.3157	0.2904	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	2	8.2386	0.6429	0.3157	0.2904	1.70E+00	1.32E-01	6.50E-02	5.98E-02	4.71E-04	3.68E-05	1.81E-05	1.66E-05
0600-0700	5	8.2386	0.6429	0.3157	0.2904	4.24E+00	3.31E-01	1.63E-01	1.50E-01	1.18E-03	9.20E-05	4.52E-05	4.15E-05
0700-0800	10	8.2386	0.6429	0.3157	0.2904	8.49E+00	6.62E-01	3.25E-01	2.99E-01	2.36E-03	1.84E-04	9.03E-05	8.31E-05
0800-0900	7	8.2386	0.6429	0.3157	0.2904	5.94E+00	4.64E-01	2.28E-01	2.09E-01	1.65E-03	1.29E-04	6.32E-05	5.82E-05
0900-1000	5	8.2386	0.6429	0.3157	0.2904	4.24E+00	3.31E-01	1.63E-01	1.50E-01	1.18E-03	9.20E-05	4.52E-05	4.15E-05
1000-1100	5	8.2386	0.6429	0.3157	0.2904	4.24E+00	3.31E-01	1.63E-01	1.50E-01	1.18E-03	9.20E-05	4.52E-05	4.15E-05
1100-1200	7	8.2386	0.6429	0.3157	0.2904	5.94E+00	4.64E-01	2.28E-01	2.09E-01	1.65E-03	1.29E-04	6.32E-05	5.82E-05
1200-1300	6	8.2386	0.6429	0.3157	0.2904	5.09E+00	3.97E-01	1.95E-01	1.79E-01	1.41E-03	1.10E-04	5.42E-05	4.99E-05
1300-1400	4	8.2386	0.6429	0.3157	0.2904	3.39E+00	2.65E-01	1.30E-01	1.20E-01	9.43E-04	7.36E-05	3.61E-05	3.32E-05
1400-1500	4	8.2386	0.6429	0.3157	0.2904	3.39E+00	2.65E-01	1.30E-01	1.20E-01	9.43E-04	7.36E-05	3.61E-05	3.32E-05
1500-1600	4	8.2386	0.6429	0.3157	0.2904	3.39E+00	2.65E-01	1.30E-01	1.20E-01	9.43E-04	7.36E-05	3.61E-05	3.32E-05
1600-1700	6	8.2386	0.6429	0.3157	0.2904	5.09E+00	3.97E-01	1.95E-01	1.79E-01	1.41E-03	1.10E-04	5.42E-05	4.99E-05
1700-1800	6	8.2386	0.6429	0.3157	0.2904	5.09E+00	3.97E-01	1.95E-01	1.79E-01	1.41E-03	1.10E-04	5.42E-05	4.99E-05
1800-1900	4	8.2386	0.6429	0.3157	0.2904	3.39E+00	2.65E-01	1.30E-01	1.20E-01	9.43E-04	7.36E-05	3.61E-05	3.32E-05
1900-2000	7	8.2386	0.6429	0.3157	0.2904	5.94E+00	4.64E-01	2.28E-01	2.09E-01	1.65E-03	1.29E-04	6.32E-05	5.82E-05
2000-2100	4	8.2386	0.6429	0.3157	0.2904	3.39E+00	2.65E-01	1.30E-01	1.20E-01	9.43E-04	7.36E-05	3.61E-05	3.32E-05
2100-2200	3	8.2386	0.6429	0.3157	0.2904	2.55E+00	1.99E-01	9.76E-02	8.97E-02	7.07E-04	5.52E-05	2.71E-05	2.49E-05
2200-2300	3	8.2386	0.6429	0.3157	0.2904	2.55E+00	1.99E-01	9.76E-02	8.97E-02	7.07E-04	5.52E-05	2.71E-05	2.49E-05
2300-2400	4	8.2386	0.6429	0.3157	0.2904	3.39E+00	2.65E-01	1.30E-01	1.20E-01	9.43E-04	7.36E-05	3.61E-05	3.32E-05

PART 2 - Start Emission (only for Terminating Vehicles)

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.6186	1.1135	1.4846	2.1033	2.5982	3.4642	5.0725	6.3097	9.2791	12.1246	13.6093	16.0837	17.6921	18.5582	19.0530	19.5479	19.7954	19.7954
NO ₂	0.0554	0.0996	0.1329	0.1882	0.2325	0.3100	0.4540	0.5647	0.8304	1.0851	1.2179	1.4394	1.5833	1.6608	1.7051	1.7494	1.7715	1.7715
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations (only applicable for Terminating Vehicles)

Hour	Terminating Vehicles	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	2	1	1																	1.73E+00	1.55E-01	0	0
0600-0700	4	4																		2.47E+00	2.22E-01	0	0
0700-0800	6	1		3	1											1				2.33E+01	2.08E+00	0	0
0800-0900	5	1	2	1	1															6.43E+00	5.76E-01	0	0
0900-1000	5	1		2	2															7.79E+00	6.98E-01	0	0
1000-1100	5	1	1	1			1													1.30E+01	1.16E+00	0	0
1100-1200	7	1	2					1												2.81E+01	2.51E+00	0	0
1200-1300	6			1		1		1	3											2.81E+01	2.51E+00	0	0
1300-1400	4			3		1														7.92E+00	7.09E-01	0	0
1400-1500	4					1				2	1									3.33E+01	2.98E+00	0	0
1500-1600	4		1	1	2															6.80E+00	6.09E-01	0	0
1600-1700	6	1						2	1	1		1								4.00E+01	3.58E+00	0	0
1700-1800	6	1		2			1	1			1									2.42E+01	2.17E+00	0	0
1800-1900	4	1		2																7.05E+00	6.31E-01	0	0
1900-2000	7	3	3	1																6.68E+00	5.98E-01	0	0
2000-2100	4	1	1	1	1															5.32E+00	4.76E-01	0	0
2100-2200	3								3											1.89E+01	1.69E+00	0	0
2200-2300	3				1				1	1										1.77E+01	1.58E+00	0	0
2300-2400	4	1	1			1			1											1.06E+01	9.52E-01	0	0

Remark: Number of trips were derived based on on-site observations at the PTI.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Yau Oi (South) Bus Terminus

PTI Type:

Assessment Vehicle:

PART 4 - Idling Emission (Bypass Vehicles)

Parameters

Idling Time for Bypass Vehicles = min(s) *As On-Site observations

Calculations (only applicable for Bypass Vehicles)

*Only Hot idling occur

Hour	Bypass Vehicles	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				D Hot Idling Emission within PTI (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
		2400-0100	0	1.49E-01	1.16E-02	1.33E-03	1.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	1.49E-01	1.16E-02	1.33E-03	1.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 5 - Sum up all above parts

Hour	Within PTI (Section 1 + Section 2): A+B+C+D Within PTI (Section 1 + Section 2)				Outside PTI Spread Distance (Section 3): E to Hoi Chu Road Westbound (HCR WB)			
	Total Emission (g/s)				Total Emission Factor (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0
0800-0900	2.22E-03	1.75E-04	6.73E-05	6.23E-05	1.47E-03	1.34E-04	0	0
2300-2400	3.57E-03	2.81E-04	3.84E-05	3.55E-05	1.24E-03	1.29E-04	0	0

Hour	Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
0800-0900	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0	0
2300-2400	1.6069	1.6073	0.5706	0.5706	0.8428	0.9584	0	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Sam Shing Bus Terminus PTI Type: Assessment Vehicle:
 Fuel:

PART 4 - Idling Emission (Bypass Vehicles)

Parameters
 Idling Time for Bypass Vehicles min(s) *As On-Site observations

Hour	Bypass Vehicle	Bypass Vehicle (in fuel type)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Hot Idling Emission within PTI (g/s)					
			NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP		
			2400-0100	0	0.00	3.12E-01	1.58E-03	5.35E-04	5.35E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 5 - Sum up all above parts

Hour	Within PTI (Section 1 + Section 2): A+B+C+D				Outside PTI Spread Distance (Section 3): E			
	Total Emission (g/s)				Total Emission Factor (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0
0800-0900	6.73E-04	3.39E-06	3.86E-07	3.86E-07	6.49E-04	3.26E-06	0	0

Hour	Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0
0800-0900	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Castle Peak Bay Bus Terminus

PTI Type:

Assessment Vehicle:

PART 3 - Idling Emission (Terminating Vehicles)

Parameters

Idling Time for Terminating Vehicles min(s) *As On-Site observations

Calculations (only applicable for Terminating Vehicles)

*Cold Idling = 60-720min; Hot idling = 5-50min.

*Total Idling Emission = Cold Idling + Hot idling

Hour	Trips (60-720min)	Cold Idling Emission Factor (g/min)				Cold Idling Emission (g)				Trips (5-50min)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Total Idling Emission within PTI (g)				Total Idling Emission within PTI (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
		2400-0100	0	5.40E+00	4.21E-01	1.33E-03	1.33E-03	0	0		0	0	0	1.49E-01	1.16E-02	1.33E-03	1.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Parameters

Maximum Duration for adjusting Start Emission min(s) *Per EPD Guideline
 Travelling Distance from Start Point to PTI Egress m (Section 2)
 Travelling Distance from PTI Egress to Open Road m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Hour	Emission for Adjusting Start Emission (g)				Adjusted Start Emission Within PTI (Section 2) (g)				Adjusted Start Emission Within PTI (Section 2) (g/s)				Adjusted Start Emission Outside PTI (Section 3) (g)				Adjusted Start Emission Outside PTI (Section 3) (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
	2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Sun Tuen Mun Centre Bus Terminus

PTI Type:

Assessment Vehicle:

PART 3 - Idling Emission (Terminating Vehicles)

Parameters

Idling Time for Terminating Vehicles min(s) *As On-Site observations

Calculations (only applicable for Terminating Vehicles)

*Cold Idling = 60-720min; Hot idling = 5-50min.

*Total Idling Emission = Cold Idling + Hot idling

Hour	Trips (60-720min)	Cold Idling Emission Factor (g/min)				Cold Idling Emission (g)				Trips (5-50min)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Total Idling Emission within PTI (g)				Total Idling Emission within PTI (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
		2400-0100	0	5.40E+00	4.21E-01	1.33E-03	1.33E-03	0	0		0	0	0	1.49E-01	1.16E-02	1.33E-03	1.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Parameters

Maximum Duration for adjusting Start Emission min(s)
 Travelling Distance from Start Point to PTI Egress m
 Travelling Distance from PTI Egress to Open Road m

*Per EPD Guideline (Section 2)
 (Section 3A) *(Section 2)+(Section 3A) = 700m Spread Distance per EPD Guideline
 (Section 3B) *(Section 2)+(Section 3B) = 560m Distance from Egress to Lung Mun Oasis Ingress (This only applicable to routes via Lung Mun Oasis B/T) (The spread distance 560m will spread the whole 700m start emission evenly.)

Adjusted Calculations for Idling Emission

Hour	Emission for Adjusting Start Emission (g)				Adjusted Start Emission Within PTI (Section 2) (g)				Adjusted Start Emission Outside PTI (Section 2) (g/s)				Adjusted Start Emission Outside PTI (Section 3A) and (Section 3B) (g)				Adjusted Start Emission Outside PTI (Section 3A) and (Section 3B) (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
	2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Siu Lun Street Court Terminus

PTI Type:

Assessment Vehicle:

PART 3 - Idling Emission (Terminating Vehicles)

Parameters

Idling Time for Terminating Vehicles min(s) *As On-Site observations

Calculations (only applicable for Terminating Vehicles)

*Cold Idling = 60-720min; Hot idling = 5-50min.

*Total Idling Emission = Cold Idling + Hot idling

Hour	Trips (60-720min)	Cold Idling Emission Factor (g/min)								Hot Idling Emission Factor (g/min)								Total Idling Emission within PTI (g)								Total Idling Emission within PTI (g/s)																							
		NO				NO ₂				RSP				FSP				NO				NO ₂				RSP				FSP				NO				NO ₂				RSP				FSP			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP												
2400-0100	0	5.40E+00	4.21E-01	1.33E-03	1.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-01	1.16E-02	1.33E-03	1.33E-03	3.87E+00	3.02E-01	3.45E-02	3.45E-02	3.87E+00	3.02E-01	3.45E-02	3.45E-02	1.08E-03	8.40E-05	9.57E-06	9.57E-06	1.08E-03	8.40E-05	9.57E-06	9.57E-06	1.08E-03	8.40E-05	9.57E-06	9.57E-06																

Parameters

Maximum Duration for adjusting Start Emission min(s) *Per EPD Guideline
 Travelling Distance from Start Point to PTI Egress m (Section 2)
 Travelling Distance from PTI Egress to Open Road m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Hour	Emission for Adjusting Start Emission (g)				Adjusted Start Emission Within PTI (Section 2) (g)				Adjusted Start Emission Within PTI (Section 2) (g/s)				Adjusted Start Emission Outside PTI (Section 3) (g)				Adjusted Start Emission Outside PTI (Section 3) (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
	2400-0100	1.94E+00	1.51E-01	1.72E-02	1.72E-02	8.96E-02	8.17E-03	0	0	2.49E-05	2.27E-06	0	0	1.24E+01	1.14E+00	0	0	3.46E-03	3.15E-04	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Siu Lun Court GMB Terminus

PTI Type:

Assessment Vehicle:

Fuel:

PART 1 - Running Emission

Parameters
 Average Travelling Distance from PTI Ingress to Start Point
 Average Travelling Distance from Start Point to PTI Egress
 Total Travelling Distance in PTI
 Travelling Speed

5	m	(Section 1 - Ingress)
5	m	(Section 2 - Egress)
0.010	km	(1km = 1000m)
12	kph	

Population Ratio Extracted from EMFAC

Diesel %	LPG %
79.68%	20.32%

Hour	Total	Total (in Fuel Type)	Within PTI (Section 1)+(Section 2)														
			Running Emission Factor (g/km-vehicle)				Running Emission Within PTI (g)				Running Emission Within PTI (g/s)						
			NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP			
			2400-0100	0	0.00	0.6404	0.2491	0.0582	0.0535	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	0.00	0.6404	0.2491	0.0582	0.0535	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.0443	0.0796	0.1062	0.1505	0.1859	0.2478	0.3629	0.4515	0.6638	0.8674	0.9737	1.1506	1.2658	1.3277	1.3631	1.3985	1.4162	1.4162
NO ₂	0.0172	0.031	0.0413	0.0585	0.0723	0.0964	0.1411	0.1755	0.2582	0.3373	0.3786	0.4475	0.4922	0.5163	0.5301	0.5439	0.5507	0.5507
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Terminating Vehicles	Number of Trips																Start Emission (g)					
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
		2400-0100	0																			0.00E+00	0.00E+00
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the PTI.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Siu Lun Court GMB Terminus

PTI Type: **Open Area**

Assessment Vehicle: **PLB**
Fuel: **DIESEL**

PART 3 - Idling Emission (Terminating Vehicles)

Parameters

Idling Time for Terminating Vehicles **2** min(s) *As On-Site observations

Calculations (only applicable for Terminating Vehicles)

*Cold Idling = 60-720min; Hot idling = 5-50min.

*Total Idling Emission = Cold Idling + Hot idling

Hour	Trips (60-720min)	Cold Idling Emission Factor (g/min)				Cold Idling Emission (g)				Trips (5-50min)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Total Idling Emission within PTI (g)				Total Idling Emission within PTI (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
		2400-0100	0	4.32E-02	1.68E-02	4.33E-04	4.33E-04	0	0		0	0	0	2.37E-02	9.21E-03	4.33E-04	4.33E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Parameters

Maximum Duration for adjusting Start Emission **1** min(s) *Per EPD Guideline
 Travelling Distance from Start Point to PTI Egress **5** m (Section 2)
 Travelling Distance from PTI Egress to Open Road **695** m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Hour	Emission for Adjusting Start Emission (g)				Adjusted Start Emission Within PTI (Section 2) (g)				Adjusted Start Emission Outside PTI (Section 2) (g/s)				Adjusted Start Emission Outside PTI (Section 3) (g)				Adjusted Start Emission Outside PTI (Section 3) (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
	2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Siu Lun Court GMB Terminus

PTI Type: Open Area

Assessment Vehicle: PLB

Fuel: LPG

PART 1 - Running Emission

Parameters		Population Ratio Extracted from EMFAC		
Average Travelling Distance from PTI Ingress to Start Point	5 m (Section 1 - Ingress)	Diesel %	LPG %	
Average Travelling Distance from Start Point to PTI Egress	5 m (Section 2 - Egress)	79.68%	20.32%	
Total Travelling Distance in PTI	0.010 km (1km = 1000m)			
Travelling Speed	12 kph			

Hour	Total	Total (in Fuel Type)	Within PTI (Section 1)+(Section 2)											
			Running Emission Factor (g/km-vehicle)				Running Emission Within PTI (g)				Running Emission Within PTI (g/s)			
			NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0
0100-0200	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0
0200-0300	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0
0300-0400	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0
0400-0500	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0
0500-0600	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0
0600-0700	5	1.02	1.9399	0.0098	0	0	1.97E-02	9.96E-05	0.00E+00	0.00E+00	5.48E-06	2.77E-08	0	0
0700-0800	5	1.02	1.9399	0.0098	0	0	1.97E-02	9.96E-05	0.00E+00	0.00E+00	5.48E-06	2.77E-08	0	0
0800-0900	4	0.81	1.9399	0.0098	0	0	1.58E-02	7.97E-05	0.00E+00	0.00E+00	4.38E-06	2.21E-08	0	0
0900-1000	5	1.02	1.9399	0.0098	0	0	1.97E-02	9.96E-05	0.00E+00	0.00E+00	5.48E-06	2.77E-08	0	0
1000-1100	5	1.02	1.9399	0.0098	0	0	1.97E-02	9.96E-05	0.00E+00	0.00E+00	5.48E-06	2.77E-08	0	0
1100-1200	4	0.81	1.9399	0.0098	0	0	1.58E-02	7.97E-05	0.00E+00	0.00E+00	4.38E-06	2.21E-08	0	0
1200-1300	5	1.02	1.9399	0.0098	0	0	1.97E-02	9.96E-05	0.00E+00	0.00E+00	5.48E-06	2.77E-08	0	0
1300-1400	4	0.81	1.9399	0.0098	0	0	1.58E-02	7.97E-05	0.00E+00	0.00E+00	4.38E-06	2.21E-08	0	0
1400-1500	5	1.02	1.9399	0.0098	0	0	1.97E-02	9.96E-05	0.00E+00	0.00E+00	5.48E-06	2.77E-08	0	0
1500-1600	5	1.02	1.9399	0.0098	0	0	1.97E-02	9.96E-05	0.00E+00	0.00E+00	5.48E-06	2.77E-08	0	0
1600-1700	4	0.81	1.9399	0.0098	0	0	1.58E-02	7.97E-05	0.00E+00	0.00E+00	4.38E-06	2.21E-08	0	0
1700-1800	5	1.02	1.9399	0.0098	0	0	1.97E-02	9.96E-05	0.00E+00	0.00E+00	5.48E-06	2.77E-08	0	0
1800-1900	5	1.02	1.9399	0.0098	0	0	1.97E-02	9.96E-05	0.00E+00	0.00E+00	5.48E-06	2.77E-08	0	0
1900-2000	5	1.02	1.9399	0.0098	0	0	1.97E-02	9.96E-05	0.00E+00	0.00E+00	5.48E-06	2.77E-08	0	0
2000-2100	5	1.02	1.9399	0.0098	0	0	1.97E-02	9.96E-05	0.00E+00	0.00E+00	5.48E-06	2.77E-08	0	0
2100-2200	4	0.81	1.9399	0.0098	0	0	1.58E-02	7.97E-05	0.00E+00	0.00E+00	4.38E-06	2.21E-08	0	0
2200-2300	2	0.41	1.9399	0.0098	0	0	7.88E-03	3.98E-05	0.00E+00	0.00E+00	2.19E-06	1.11E-08	0	0
2300-2400	0	0.00	1.9399	0.0098	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0

PART 2 - Start Emission

Minute	Start Emission Factor Extracted from EMFAC (g/trip)																	
	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	1.8104	2.7278	4.3389	5.6517	6.6662	7.3824	7.8003	8.0214	7.9919	7.9469	7.8863	7.8101	7.7184	7.6111	7.4883	7.3499	7.1959	7.0264
NO ₂	0.0091	0.0137	0.0218	0.0284	0.0335	0.0371	0.0392	0.0403	0.0402	0.0399	0.0396	0.0393	0.0388	0.0383	0.0376	0.0369	0.0362	0.0353
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Hour	Terminating Vehicles	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	0																			0.00E+00	0.00E+00	0	0
0600-0700	5			5																4.41E+00	2.22E-02	0	0
0700-0800	5			5																4.41E+00	2.22E-02	0	0
0800-0900	4			4																3.53E+00	1.77E-02	0	0
0900-1000	5			5																4.41E+00	2.22E-02	0	0
1000-1100	5			5																4.41E+00	2.22E-02	0	0
1100-1200	4			4																3.53E+00	1.77E-02	0	0
1200-1300	5			5																4.41E+00	2.22E-02	0	0
1300-1400	4			4																3.53E+00	1.77E-02	0	0
1400-1500	5			5																4.41E+00	2.22E-02	0	0
1500-1600	5			5																4.41E+00	2.22E-02	0	0
1600-1700	4			4																3.53E+00	1.77E-02	0	0
1700-1800	5			5																4.41E+00	2.22E-02	0	0
1800-1900	5			5																4.41E+00	2.22E-02	0	0
1900-2000	5			5																4.41E+00	2.22E-02	0	0
2000-2100	5			5																4.41E+00	2.22E-02	0	0
2100-2200	4			4																3.53E+00	1.77E-02	0	0
2200-2300	2				2															2.30E+00	1.15E-02	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the PTI.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Siu Lun Court GMB Terminus

PTI Type:

Assessment Vehicle:
 Fuel:

PART 3 - Idling Emission (Terminating Vehicles)

Parameters

Idling Time for Terminating Vehicles min(s) *As On-Site observations

Calculations (only applicable for Terminating Vehicles)

*Cold Idling = 60-720min; Hot idling = 5-50min.

*Total Idling Emission = Cold Idling + Hot idling

Hour	Trips (240-720min)	Cold Idling Emission Factor (g/min)				Cold Idling Emission (g)				Trips (5-180min)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Total Idling Emission within PTI (g)				Total Idling Emission within PTI (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
		2400-0100	0	2.40E-01	1.21E-03	5.35E-04	5.35E-04	0	0		0	0	0	3.12E-01	1.58E-03	5.35E-04	5.35E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	2.40E-01	1.21E-03	5.35E-04	5.35E-04	0	0	0	0	0	3.12E-01	1.58E-03	5.35E-04	5.35E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

Parameters

Maximum Duration for adjusting Start Emission min(s) *Per EPD Guideline
 Travelling Distance from Start Point to PTI Egress m (Section 2)
 Travelling Distance from PTI Egress to Open Road m (Section 3) *(Section 2)+(Section 3) = 150m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Hour	Emission for Adjusting Start Emission (g)				Adjusted Start Emission Within PTI (Section 2) (g)				Adjusted Start Emission Outside PTI (Section 2) (g/s)				Adjusted Start Emission Outside PTI (Section 3) (g)				Adjusted Start Emission Outside PTI (Section 3) (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
	2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0
2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Siu Lun Court GMB Terminus

PTI Type:

Assessment Vehicle:
 Fuel:

PART 4 - Idling Emission (Bypass Vehicles)

Parameters (NO PASSBY VEHICLES)
 Idling Time for Bypass Vehicles min(s) *As On-Site observations

Hour	Bypass Vehicle	Bypass Vehicle (in fuel type)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Hot Idling Emission within PTI (g/s)			
			NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
			2400-0100	0	0.00	3.12E-01	1.58E-03	5.35E-04	5.35E-04	0	0	0	0	0

PART 5 - Sum up all above parts

Hour	Within PTI (Section 1 + Section 2): A+B+C+D				Outside PTI Spread Distance (Section 3): E			
	Total Emission (g/s)				Total Emission Factor (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0

Hour	Hourly Profile Ratio (0800-0900 as Baseline)			
	NO	NO ₂	RSP	FSP
2400-0100	0.0000	0.0000	0.0000	0.0000

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Tuen Mun (Chi Lok Fa Yuen) Bus Terminus
PART 1 - Running Emission

PTI Type: Open Area

Assessment Vehicle: FBDD

Parameters

Average Travelling Distance from PTI Ingress to Start Point

5 m

(Section 1 - Ingress)

Average Travelling Distance from Start Point to PTI Egress

5 m

(Section 2 - Egress)

Total Travelling Distance in PTI

0.010 km

(1km = 1000m)

Travelling Speed

12 kph

Calculations table with columns for Hour, Total, and Running Emission Factor (g/km-vehicle) for NO, NO2, RSP, FSP. It also includes Running Emission Within PTI (g) for the same pollutants and Running Emission Within PTI (g/s) for NO, NO2, RSP, FSP. The table contains data for various hours of the day, from 2400-0100 to 2300-2400.

PART 2 - Start Emission (only for Terminating Vehicles)

Start Emission Factor Extracted from EMFAC (g/trip)

Table showing Start Emission Factor for various pollutants (NO, NO2, RSP, FSP) across different trip durations (5, 10, 20, 30, 40, 50, 60, 120, 180, 240, 300, 360, 420, 480, 540, 600, 660, 720 minutes).

Calculations (only applicable for Terminating Vehicles)

Calculations table showing Start Emission (g) for various pollutants (NO, NO2, RSP, FSP) for different hours of the day and number of trips. It includes columns for Hour, Terminating Vehicles, and Start Emission (g) for each pollutant.

Remark: Number of trips were derived based on on-site observations at the PTI.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Tuen Mun (Chi Lok Fa Yuen) Bus Terminus

PTI Type:

Assessment Vehicle:

PART 3 - Idling Emission (Terminating Vehicles)

Parameters

Idling Time for Terminating Vehicles min(s) *As On-Site observations

Calculations (only applicable for Terminating Vehicles)

*Cold Idling = 60-720min; Hot idling = 5-50min.

*Total Idling Emission = Cold Idling + Hot idling

Hour	Trips (60-720min)	Cold Idling Emission Factor (g/min)				Cold Idling Emission (g)				Trips (5-50min)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Total Idling Emission within PTI (g)				Total Idling Emission within PTI (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
		2400-0100	0	5.40E+00	4.21E-01	1.33E-03	1.33E-03	0	0		0	0	0	1.49E-01	1.16E-02	1.33E-03	1.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Parameters

Maximum Duration for adjusting Start Emission min(s) *Per EPD Guideline
 Travelling Distance from Start Point to PTI Egress m (Section 2)
 Travelling Distance from PTI Egress to Open Road m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Hour	Emission for Adjusting Start Emission (g)				Adjusted Start Emission Within PTI (Section 2) (g)				Adjusted Start Emission Outside PTI (Section 2) (g/s)				Adjusted Start Emission Outside PTI (Section 3) (g)				Adjusted Start Emission Outside PTI (Section 3) (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
	2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Tuen Mun (Chi Lok Fa Yuen) Bus Terminus

PTI Type:

Assessment Vehicle:

PART 4 - Idling Emission (Bypass Vehicles)

Parameters (NO PASSBY VEHICLES)
 Idling Time for Bypass Vehicles = min(s) *As On-Site observations

Hour	Bypass Vehicles	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				D Hot Idling Emission within PTI (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
		2400-0100	0	1.49E-01	1.16E-02	1.33E-03	1.33E-03	0	0	0	0	0	0
0100-0200	0	1.49E-01	1.16E-02	1.33E-03	1.33E-03	0	0	0	0	0	0	0	0
2300-2400	0	1.49E-01	1.16E-02	1.33E-03	1.33E-03	0	0	0	0	0	0	0	0

PART 5 - Sum up all above parts

Hour	Within PTI (Section 1 + Section 2): A+B+C+D				Outside PTI Spread Distance (Section 3): E			
	Within PTI (Section 1 + Section 2)				to Castle Peak Road - Castle Peak Bay Southbound (CPR SB)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0
0800-0900	6.48E-04	5.08E-05	9.68E-06	9.26E-06	2.01E-03	1.82E-04	0	0
2300-2400	2.19E-04	1.72E-05	3.23E-06	3.09E-06	1.08E-03	9.74E-05	0	0

Hour	Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0
0800-0900	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0	0
2300-2400	0.3379	0.3385	0.3333	0.3333	0.5375	0.5342	0	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Tuen Mun MTR Depot

Carpark Type: **Open Area**

Assessment Vehicle: **FBDD**

(MTR Buses are treated as FBDD instead of NFB8, for a conservative estimation.)

PART 3 - Idling Emission

Parameters

Idling Time for Terminating Vehicles: **1** min(s) *As On-Site observations

Calculations *Cold Idling = 60-720min; Hot idling = 5-50min.

Hour	Trips (60-720min)	Cold Idling Emission Factor (g/min)								Trips (5-50min)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Total Idling Emission = Cold Idling + Hot idling							
		NO				NO ₂					NO				NO ₂				Total Idling Emission within Carpark (g)				Total Idling Emission within Carpark (g/s)			
		RSP	FSP	RSP	FSP	RSP	FSP	RSP	FSP		RSP	FSP	RSP	FSP	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP		
2400-0100	0	5.40E+00	4.21E-01	1.33E-03	1.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9	1.49E-01	1.16E-02	1.33E-03	1.33E-03	1.34E+00	1.05E-01	1.19E-02	1.19E-02	1.34E+00	1.05E-01	1.19E-02	1.19E-02	3.73E-04	2.91E-05	3.31E-06	3.31E-06

Parameters

Maximum Duration for adjusting Start Emission: **1** min(s) *Per EPD Guideline
 Travelling Distance from Start Point to Carpark Egress: **117** m (Section 2)
 Travelling Distance from Carpark Egress to Open Road: **583** m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Hour	Emission for Adjusting Start Emission (g)				Adjusted Start Emission Within Carpark (Section 2) (g)				Adjusted Start Emission Within Carpark (Section 2) (g/s)				Adjusted Start Emission Outside Carpark (Section 3) (g)				Adjusted Start Emission Outside Carpark (Section 3) (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
	2400-0100	1.34E+00	1.05E-01	1.19E-02	1.19E-02	2.05E+00	1.86E-01	0	0	5.70E-04	5.17E-05	0	0	1.02E+01	9.27E-01	0	0	2.84E-03	2.58E-04	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Tuen Mun MTR Depot

Carpark Type:

Assessment Vehicle:

(MTR Buses are treated as FBDD instead of NFB8, for a conservative estimation.)

PART 4 - Sum up all above parts

Hour	Within Carpark (Section 1 + Section 2): A+B+C				Outside PTI Spread Distance (Section 3): E to Lung Mun Road Northbound (LMR NB)				Outside PTI Spread Distance (Section 3): E to Lung Mun Road Southbound (LMR SB)					
	Within Carpark (Section 1 + Section 2)				Total Emission Factor (g/s)				Total Emission Factor (g/s)					
	NO	NO ₂	RSP	FSP	Ratio %	NO	NO ₂	RSP	FSP	Ratio %	NO	NO ₂	RSP	FSP
2400-0100	5.76E-03	4.57E-04	1.88E-04	1.73E-04	50.00%	1.42E-03	1.29E-04	0	0	50.00%	1.42E-03	1.29E-04	0	0
0100-0200	3.41E-03	2.71E-04	6.27E-05	5.77E-05	50.00%	5.43E-04	5.62E-05	0	0	50.00%	5.43E-04	5.62E-05	0	0
0200-0300	6.39E-04	5.06E-05	2.09E-05	1.92E-05	50.00%	1.54E-04	1.40E-05	0	0	50.00%	1.54E-04	1.40E-05	0	0
0300-0400	2.35E-03	1.90E-04	2.09E-05	1.92E-05	50.00%	7.78E-04	7.68E-05	0	0	50.00%	7.78E-04	7.68E-05	0	0
0400-0500	5.99E-04	4.71E-05	2.09E-05	1.92E-05	50.00%	5.43E-05	5.06E-06	0	0	50.00%	5.43E-05	5.06E-06	0	0
0500-0600	2.20E-02	1.79E-03	2.30E-04	2.12E-04	50.00%	9.99E-03	9.52E-04	0	0	50.00%	9.99E-03	9.52E-04	0	0
0600-0700	5.16E-02	4.20E-03	4.39E-04	4.04E-04	50.00%	2.56E-02	2.43E-03	0	0	50.00%	2.56E-02	2.43E-03	0	0
0700-0800	7.37E-03	5.98E-04	6.27E-05	5.77E-05	50.00%	3.15E-03	3.03E-04	0	0	50.00%	3.15E-03	3.03E-04	0	0
0800-0900	6.22E-04	4.91E-05	2.09E-05	1.92E-05	50.00%	1.12E-04	1.02E-05	0	0	50.00%	1.12E-04	1.02E-05	0	0
0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1100-1200	7.93E-03	6.42E-04	8.36E-05	7.70E-05	50.00%	3.10E-03	2.99E-04	0	0	50.00%	3.10E-03	2.99E-04	0	0
1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1400-1500	1.03E-02	8.39E-04	8.36E-05	7.70E-05	50.00%	5.34E-03	5.07E-04	0	0	50.00%	5.34E-03	5.07E-04	0	0
1500-1600	3.15E-03	2.55E-04	4.18E-05	3.85E-05	50.00%	1.33E-03	1.27E-04	0	0	50.00%	1.33E-03	1.27E-04	0	0
1600-1700	5.14E-03	4.19E-04	4.18E-05	3.85E-05	50.00%	2.66E-03	2.52E-04	0	0	50.00%	2.66E-03	2.52E-04	0	0
1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2100-2200	2.70E-03	2.22E-04	2.09E-05	1.92E-05	50.00%	1.67E-03	1.56E-04	0	0	50.00%	1.67E-03	1.56E-04	0	0
2200-2300	7.15E-03	5.72E-04	8.36E-05	7.70E-05	50.00%	1.16E-03	1.25E-04	0	0	50.00%	1.16E-03	1.25E-04	0	0
2300-2400	6.76E-03	5.51E-04	8.36E-05	7.70E-05	50.00%	3.83E-03	3.57E-04	0	0	50.00%	3.83E-03	3.57E-04	0	0

Hour	Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0300-0400 as Baseline)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	9.2679	9.3041	9.0000	9.0000	12.7199	12.6557	0	0	12.7199	12.6557	0	0
0100-0200	5.4803	5.5271	3.0000	3.0000	4.8685	5.5193	0	0	4.8685	5.5193	0	0
0200-0300	1.0277	1.0315	1.0000	1.0000	1.3848	1.3785	0	0	1.3848	1.3785	0	0
0300-0400	3.7760	3.8620	1.0000	1.0000	6.9734	7.5456	0	0	6.9734	7.5456	0	0
0400-0500	0.9630	0.9582	1.0000	1.0000	0.4869	0.4976	0	0	0.4869	0.4976	0	0
0500-0600	35.4254	36.4085	11.0000	11.0000	89.5742	93.5715	0	0	89.5742	93.5715	0	0
0600-0700	82.9319	85.5049	21.0000	21.0000	229.4937	239.2548	0	0	229.4937	239.2548	0	0
0700-0800	11.8546	12.1826	3.0000	3.0000	28.2323	29.8097	0	0	28.2323	29.8097	0	0
0800-0900	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0	0	1.0000	1.0000	0	0
0900-1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1000-1100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1100-1200	12.7530	13.0674	4.0000	4.0000	27.8212	29.4252	0	0	27.8212	29.4252	0	0
1200-1300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1300-1400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1400-1500	16.5453	17.0810	4.0000	4.0000	47.9052	49.8151	0	0	47.9052	49.8151	0	0
1500-1600	5.0624	5.1865	2.0000	2.0000	11.9501	12.4469	0	0	11.9501	12.4469	0	0
1600-1700	8.2634	8.5300	2.0000	2.0000	23.8243	24.7819	0	0	23.8243	24.7819	0	0
1700-1800	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1800-1900	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1900-2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2000-2100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2100-2200	4.3488	4.5110	1.0000	1.0000	14.9267	15.3482	0	0	14.9267	15.3482	0	0
2200-2300	11.4964	11.6437	4.0000	4.0000	10.3754	12.3094	0	0	10.3754	12.3094	0	0
2300-2400	10.8732	11.2209	4.0000	4.0000	34.2907	35.0880	0	0	34.2907	35.0880	0	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Tuen Mun MTR Depot

Carpark Type:

Assessment Vehicle:

PART 1 - Running Emission

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	<input type="text" value="117"/>	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	<input type="text" value="117"/>	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	<input type="text" value="0.234"/>	km	(1km = 1000m)
Travelling Speed	<input type="text" value="12"/>	kph	

Calculations

Hour	Total	A											
		Within Carpark (Section 1)+(Section 2)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	5	2.8414	1.0915	0.1073	0.0987	3.32E+00	1.28E+00	1.26E-01	1.15E-01	9.23E-04	3.55E-04	3.49E-05	3.21E-05
0100-0200	11	2.8414	1.0915	0.1073	0.0987	7.31E+00	2.81E+00	2.76E-01	2.54E-01	2.03E-03	7.80E-04	7.67E-05	7.06E-05
0200-0300	1	2.8414	1.0915	0.1073	0.0987	6.65E-01	2.55E-01	2.51E-02	2.31E-02	1.85E-04	7.09E-05	6.97E-06	6.42E-06
0300-0400	2	2.8414	1.0915	0.1073	0.0987	1.33E+00	5.11E-01	5.02E-02	4.62E-02	3.69E-04	1.42E-04	1.39E-05	1.28E-05
0400-0500	5	2.8414	1.0915	0.1073	0.0987	3.32E+00	1.28E+00	1.26E-01	1.15E-01	9.23E-04	3.55E-04	3.49E-05	3.21E-05
0500-0600	1	2.8414	1.0915	0.1073	0.0987	6.65E-01	2.55E-01	2.51E-02	2.31E-02	1.85E-04	7.09E-05	6.97E-06	6.42E-06
0600-0700	1	2.8414	1.0915	0.1073	0.0987	6.65E-01	2.55E-01	2.51E-02	2.31E-02	1.85E-04	7.09E-05	6.97E-06	6.42E-06
0700-0800	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0800-0900	2	2.8414	1.0915	0.1073	0.0987	1.33E+00	5.11E-01	5.02E-02	4.62E-02	3.69E-04	1.42E-04	1.39E-05	1.28E-05
0900-1000	1	2.8414	1.0915	0.1073	0.0987	6.65E-01	2.55E-01	2.51E-02	2.31E-02	1.85E-04	7.09E-05	6.97E-06	6.42E-06
1000-1100	1	2.8414	1.0915	0.1073	0.0987	6.65E-01	2.55E-01	2.51E-02	2.31E-02	1.85E-04	7.09E-05	6.97E-06	6.42E-06
1100-1200	3	2.8414	1.0915	0.1073	0.0987	1.99E+00	7.66E-01	7.53E-02	6.93E-02	5.54E-04	2.13E-04	2.09E-05	1.92E-05
1200-1300	4	2.8414	1.0915	0.1073	0.0987	2.66E+00	1.02E+00	1.00E-01	9.24E-02	7.39E-04	2.84E-04	2.79E-05	2.57E-05
1300-1400	3	2.8414	1.0915	0.1073	0.0987	1.99E+00	7.66E-01	7.53E-02	6.93E-02	5.54E-04	2.13E-04	2.09E-05	1.92E-05
1400-1500	5	2.8414	1.0915	0.1073	0.0987	3.32E+00	1.28E+00	1.26E-01	1.15E-01	9.23E-04	3.55E-04	3.49E-05	3.21E-05
1500-1600	3	2.8414	1.0915	0.1073	0.0987	1.99E+00	7.66E-01	7.53E-02	6.93E-02	5.54E-04	2.13E-04	2.09E-05	1.92E-05
1600-1700	3	2.8414	1.0915	0.1073	0.0987	1.99E+00	7.66E-01	7.53E-02	6.93E-02	5.54E-04	2.13E-04	2.09E-05	1.92E-05
1700-1800	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1800-1900	1	2.8414	1.0915	0.1073	0.0987	6.65E-01	2.55E-01	2.51E-02	2.31E-02	1.85E-04	7.09E-05	6.97E-06	6.42E-06
1900-2000	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2000-2100	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2100-2200	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2200-2300	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.1081	0.1947	0.2595	0.3676	0.4541	0.6055	0.8866	1.1028	1.6219	2.1192	2.3787	2.8112	3.0923	3.2437	3.3301	3.4167	3.4600	3.4600
NO ₂	0.0370	0.0665	0.0887	0.1257	0.1553	0.2070	0.3032	0.3771	0.5545	0.7246	0.8133	0.9612	1.0573	1.1091	1.1387	1.1682	1.1830	1.1830
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	5			1		1	2	1												2.81E+00	9.61E-01	0	0
0100-0200	11	1		2				8												9.45E+00	3.23E+00	0	0
0200-0300	1	1																		1.08E-01	3.70E-02	0	0
0300-0400	2		1															1		3.65E+00	1.25E+00	0	0
0400-0500	5	1	2		2															1.23E+00	4.21E-01	0	0
0500-0600	1		1																	1.95E-01	6.65E-02	0	0
0600-0700	1					1														4.54E-01	1.55E-01	0	0
0700-0800	0																			0.00E+00	0.00E+00	0	0
0800-0900	2		1								1									2.57E+00	8.80E-01	0	0
0900-1000	1				1															3.68E-01	1.26E-01	0	0
1000-1100	1	1																		1.08E-01	3.70E-02	0	0
1100-1200	3				2														1	4.20E+00	1.43E+00	0	0
1200-1300	4	1	1	2																8.22E-01	2.81E-01	0	0
1300-1400	3							1			1						1			6.64E+00	2.27E+00	0	0
1400-1500	5	1	1	2																4.28E+00	1.46E+00	0	0
1500-1600	3	1	1	1																5.62E-01	1.92E-01	0	0
1600-1700	3			1				1					1							4.45E+00	1.52E+00	0	0
1700-1800	0																			0.00E+00	0.00E+00	0	0
1800-1900	1		1																	1.95E-01	6.65E-02	0	0
1900-2000	0																			0.00E+00	0.00E+00	0	0
2000-2100	0																			0.00E+00	0.00E+00	0	0
2100-2200	0																			0.00E+00	0.00E+00	0	0
2200-2300	0																			0.00E+00	0.00E+00	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Tuen Mun MTR Depot

Carpark Type:

Assessment Vehicle:

PART 4 - Sum up all above parts

Hour	Within Carpark (Section 1 + Section 2): A+B+C				Outside PTI Spread Distance (Section 3): E to Lung Mun Road Northbound (LMR NB)				Outside PTI Spread Distance (Section 3): E to Lung Mun Road Southbound (LMR SB)					
	Within Carpark (Section 1 + Section 2)				Total Emission Factor (g/s)				Total Emission Factor (g/s)					
	NO	NO ₂	RSP	FSP	Ratio %	NO	NO ₂	RSP	FSP	Ratio %	NO	NO ₂	RSP	FSP
2400-0100	1.16E-03	4.39E-04	3.55E-05	3.27E-05	50.00%	2.73E-04	9.13E-05	0	0	50.00%	2.73E-04	9.13E-05	0	0
0100-0200	2.99E-03	1.13E-03	7.81E-05	7.20E-05	50.00%	8.34E-04	2.74E-04	0	0	50.00%	8.34E-04	2.74E-04	0	0
0200-0300	2.00E-04	7.68E-05	7.10E-06	6.54E-06	50.00%	7.14E-06	2.22E-06	0	0	50.00%	7.14E-06	2.22E-06	0	0
0300-0400	6.10E-04	2.27E-04	1.42E-05	1.31E-05	50.00%	3.87E-04	1.31E-04	0	0	50.00%	3.87E-04	1.31E-04	0	0
0400-0500	1.03E-03	3.95E-04	3.55E-05	3.27E-05	50.00%	1.16E-04	3.84E-05	0	0	50.00%	1.16E-04	3.84E-05	0	0
0500-0600	2.04E-04	7.82E-05	7.10E-06	6.54E-06	50.00%	1.72E-05	5.63E-06	0	0	50.00%	1.72E-05	5.63E-06	0	0
0600-0700	2.17E-04	8.23E-05	7.10E-06	6.54E-06	50.00%	4.72E-05	1.59E-05	0	0	50.00%	4.72E-05	1.59E-05	0	0
0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0800-0900	5.60E-04	2.10E-04	1.42E-05	1.31E-05	50.00%	2.62E-04	8.81E-05	0	0	50.00%	2.62E-04	8.81E-05	0	0
0900-1000	2.12E-04	8.09E-05	7.10E-06	6.54E-06	50.00%	3.72E-05	1.25E-05	0	0	50.00%	3.72E-05	1.25E-05	0	0
1000-1100	2.00E-04	7.68E-05	7.10E-06	6.54E-06	50.00%	7.14E-06	2.22E-06	0	0	50.00%	7.14E-06	2.22E-06	0	0
1100-1200	8.31E-04	3.11E-04	2.13E-05	1.96E-05	50.00%	4.44E-04	1.50E-04	0	0	50.00%	4.44E-04	1.50E-04	0	0
1200-1300	8.20E-04	3.13E-04	2.84E-05	2.62E-05	50.00%	7.36E-05	2.42E-05	0	0	50.00%	7.36E-05	2.42E-05	0	0
1300-1400	1.04E-03	3.88E-04	2.13E-05	1.96E-05	50.00%	6.77E-04	2.28E-04	0	0	50.00%	6.77E-04	2.28E-04	0	0
1400-1500	1.23E-03	4.63E-04	3.55E-05	3.27E-05	50.00%	4.43E-04	1.49E-04	0	0	50.00%	4.43E-04	1.49E-04	0	0
1500-1600	6.12E-04	2.34E-04	2.13E-05	1.96E-05	50.00%	4.89E-05	1.60E-05	0	0	50.00%	4.89E-05	1.60E-05	0	0
1600-1700	8.93E-04	3.34E-04	2.13E-05	1.96E-05	50.00%	4.49E-04	1.51E-04	0	0	50.00%	4.49E-04	1.51E-04	0	0
1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1800-1900	2.04E-04	7.82E-05	7.10E-06	6.54E-06	50.00%	1.72E-05	5.63E-06	0	0	50.00%	1.72E-05	5.63E-06	0	0
1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0

Hour	Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0300-0400 as Baseline)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	2.0661	2.0895	2.5000	2.5000	1.0435	1.0367	0	0	1.0435	1.0367	0	0
0100-0200	5.3331	5.3731	5.5000	5.5000	3.1844	3.1155	0	0	3.1844	3.1155	0	0
0200-0300	0.3578	0.3653	0.5000	0.5000	0.0272	0.0252	0	0	0.0272	0.0252	0	0
0300-0400	1.0896	1.0817	1.0000	1.0000	1.4775	1.4857	0	0	1.4775	1.4857	0	0
0400-0500	1.8461	1.8790	2.5000	2.5000	0.4419	0.4365	0	0	0.4419	0.4365	0	0
0500-0600	0.3649	0.3719	0.5000	0.5000	0.0655	0.0640	0	0	0.0655	0.0640	0	0
0600-0700	0.3864	0.3915	0.5000	0.5000	0.1800	0.1806	0	0	0.1800	0.1806	0	0
0700-0800	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0800-0900	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0	0	1.0000	1.0000	0	0
0900-1000	0.3793	0.3849	0.5000	0.5000	0.1418	0.1417	0	0	0.1418	0.1417	0	0
1000-1100	0.3578	0.3653	0.5000	0.5000	0.0272	0.0252	0	0	0.0272	0.0252	0	0
1100-1200	1.4832	1.4797	1.5000	1.5000	1.6956	1.7052	0	0	1.6956	1.7052	0	0
1200-1300	1.4633	1.4907	2.0000	2.0000	0.2809	0.2754	0	0	0.2809	0.2754	0	0
1300-1400	1.8640	1.8469	1.5000	1.5000	2.5839	2.5848	0	0	2.5839	2.5848	0	0
1400-1500	2.1880	2.2005	2.5000	2.5000	1.6929	1.6971	0	0	1.6929	1.6971	0	0
1500-1600	1.0930	1.1140	1.5000	1.5000	0.1868	0.1823	0	0	0.1868	0.1823	0	0
1600-1700	1.5938	1.5906	1.5000	1.5000	1.7148	1.7127	0	0	1.7148	1.7127	0	0
1700-1800	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1800-1900	0.3649	0.3719	0.5000	0.5000	0.0655	0.0640	0	0	0.0655	0.0640	0	0
1900-2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2000-2100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2100-2200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2200-2300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2300-2400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Tuen Mun MTR Depot

Carpark Type: **Open Area**

Assessment Vehicle: **HGV9**

PART 1 - Running Emission

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	117	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	117	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	0.234	km	(1km = 1000m)
Travelling Speed	12	kph	

Calculations

Hour	Total	Within Carpark (Section 1)+(Section 2)											
		Running Emission Factor (g/km-vehicle)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0600-0700	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0700-0800	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0800-0900	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0900-1000	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1000-1100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100-1200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1200-1300	1	3.1382	1.1076	0.1188	0.1093	7.34E-01	2.59E-01	2.78E-02	2.56E-02	2.04E-04	7.20E-05	7.72E-06	7.10E-06
1300-1400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1400-1500	1	3.1382	1.1076	0.1188	0.1093	7.34E-01	2.59E-01	2.78E-02	2.56E-02	2.04E-04	7.20E-05	7.72E-06	7.10E-06
1500-1600	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1600-1700	1	3.1382	1.1076	0.1188	0.1093	7.34E-01	2.59E-01	2.78E-02	2.56E-02	2.04E-04	7.20E-05	7.72E-06	7.10E-06
1700-1800	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1800-1900	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1900-2000	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2000-2100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2100-2200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2200-2300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.1153	0.2076	0.2768	0.3922	0.4844	0.646	0.9458	1.1766	1.7303	2.2609	2.5378	2.9992	3.299	3.4606	3.5528	3.6451	3.6913	3.6913
NO ₂	0.0358	0.0644	0.0859	0.1216	0.1503	0.2003	0.2934	0.3649	0.5366	0.7012	0.787	0.9301	1.0232	1.0732	1.1019	1.1305	1.1448	1.1448
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	0																			0.00E+00	0.00E+00	0	0
0600-0700	0																			0.00E+00	0.00E+00	0	0
0700-0800	0																			0.00E+00	0.00E+00	0	0
0800-0900	0																			0.00E+00	0.00E+00	0	0
0900-1000	0																			0.00E+00	0.00E+00	0	0
1000-1100	0																			0.00E+00	0.00E+00	0	0
1100-1200	0																			0.00E+00	0.00E+00	0	0
1200-1300	1			1																2.77E-01	8.59E-02	0	0
1300-1400	0																			0.00E+00	0.00E+00	0	0
1400-1500	1					1														4.84E-01	1.50E-01	0	0
1500-1600	0																			0.00E+00	0.00E+00	0	0
1600-1700	1														1					3.55E+00	1.10E+00	0	0
1700-1800	0																			0.00E+00	0.00E+00	0	0
1800-1900	0																			0.00E+00	0.00E+00	0	0
1900-2000	0																			0.00E+00	0.00E+00	0	0
2000-2100	0																			0.00E+00	0.00E+00	0	0
2100-2200	0																			0.00E+00	0.00E+00	0	0
2200-2300	0																			0.00E+00	0.00E+00	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Tuen Mun MTR Depot

Carpark Type:

Assessment Vehicle:

PART 4 - Sum up all above parts

Hour	Within Carpark (Section 1 + Section 2): A+B+C				Outside PTI Spread Distance (Section 3): E to Lung Mun Road Northbound (LMR NB)				Outside PTI Spread Distance (Section 3): E to Lung Mun Road Southbound (LMR SB)					
	Within Carpark (Section 1 + Section 2)				Total Emission Factor (g/s)				Total Emission Factor (g/s)					
	NO	NO ₂	RSP	FSP	Ratio %	NO	NO ₂	RSP	FSP	Ratio %	NO	NO ₂	RSP	FSP
2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1200-1300	2.32E-04	8.12E-05	7.90E-06	7.28E-06	50.00%	2.46E-05	7.33E-06	0	0	50.00%	2.46E-05	7.33E-06	0	0
1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1400-1500	2.41E-04	8.42E-05	7.90E-06	7.28E-06	50.00%	4.87E-05	1.48E-05	0	0	50.00%	4.87E-05	1.48E-05	0	0
1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1600-1700	4.38E-04	1.48E-04	7.90E-06	7.28E-06	50.00%	3.76E-04	1.15E-04	0	0	50.00%	3.76E-04	1.15E-04	0	0
1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	50.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0

Hour	Hourly Profile Ratio (1200-1300 as Baseline)				Hourly Profile Ratio (1200-1300 as Baseline)				Hourly Profile Ratio (1200-1300 as Baseline)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0100-0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0200-0300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0300-0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0400-0500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0500-0600	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0600-0700	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0700-0800	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0800-0900	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0900-1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1000-1100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1100-1200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1200-1300	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0	0	1.0000	1.0000	0	0
1300-1400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1400-1500	1.0416	1.0368	1.0000	1.0000	1.9744	2.0158	0	0	1.9744	2.0158	0	0
1500-1600	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1600-1700	1.8916	1.8174	1.0000	1.0000	15.2734	15.7167	0	0	15.2734	15.7167	0	0
1700-1800	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1800-1900	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1900-2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2000-2100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2100-2200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2200-2300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2300-2400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Sam Shing Kai Fu Outdoor Parking Carpark Type: Assessment Vehicle:

PART 3 - Idling Emission

Parameters
 Idling Time for Terminating Vehicles min(s) *As On-Site observations

Hour	Trips (60-720min)	*Cold Idling = 60-720min; Hot idling = 5-50min.								Trips (5-50min)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				*Total Idling Emission = Cold Idling + Hot idling				B			
		Cold Idling Emission Factor (g/min)				Cold Idling Emission (g)					Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Total Idling Emission within Carpark (g)				Total Idling Emission within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	2.62E-01	1.01E-01	4.54E-04	4.54E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	4.64E-02	1.78E-02	4.54E-04	4.54E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	2.62E-01	1.01E-01	4.54E-04	4.54E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	4.64E-02	1.78E-02	4.54E-04	4.54E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Parameters
 Maximum Duration for adjusting Start Emission min(s) *Per EPD Guideline
 Travelling Distance from Start Point to Carpark Egress m (Section 2)
 Travelling Distance from Carpark Egress to Open Road m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Hour	Emission for Adjusting Start Emission (g)				Adjusted Start Emission Within Carpark (Section 2) (g)				Adjusted Start Emission Within Carpark (Section 2) (g/s)				Adjusted Start Emission Outside Carpark (Section 3) (g)				Adjusted Start Emission Outside Carpark (Section 3) (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
	2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0
2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Nan Fung Industrial City Carpark

Carpark Type: Semi-confined

Assessment Vehicle: HGV8

PART 3 - Idling Emission

Parameters
 Idling Time for Terminating Vehicles: 1 min(s) *As On-Site observations

Calculations *Cold Idling = 60-720min; Hot idling = 5-50min.

Hour	Trips (60-720min)	Cold Idling Emission Factor (g/min)								Trips (5-50min)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Total Idling Emission = Cold Idling + Hot idling							
		NO				NO ₂					NO		NO ₂		RSP		FSP		Total Idling Emission within Carpark (g)		Total Idling Emission within Carpark (g/s)					
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP				
2400-0100	2	2.62E-01	1.01E-01	4.54E-04	4.54E-04	5.25E-01	2.02E-01	9.09E-04	9.09E-04	3	4.64E-02	1.78E-02	4.54E-04	4.54E-04	1.39E-01	5.35E-02	1.36E-03	1.36E-03	6.64E-01	2.55E-01	2.27E-03	2.27E-03	1.84E-04	7.08E-05	6.31E-07	6.31E-07
2300-2400	1	2.62E-01	1.01E-01	4.54E-04	4.54E-04	2.62E-01	1.01E-01	4.54E-04	4.54E-04	0	4.64E-02	1.78E-02	4.54E-04	4.54E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.62E-01	1.01E-01	4.54E-04	4.54E-04	7.29E-05	2.80E-05	1.26E-07	1.26E-07

Parameters
 Maximum Duration for adjusting Start Emission: 1 min(s) *Per EPD Guideline
 Travelling Distance from Start Point to Carpark Egress: 50 m (Section 2)
 Travelling Distance from Carpark Egress to Open Road: 650 m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Hour	Emission for Adjusting Start Emission (g)				Adjusted Start Emission Within Carpark (Section 2) (g)				Adjusted Start Emission Within Carpark (Section 2) (g/s)				Adjusted Start Emission Outside Carpark (Section 3) (g)				Adjusted Start Emission Outside Carpark (Section 3) (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
	2400-0100	6.64E-01	2.55E-01	2.27E-03	2.27E-03	4.92E-01	1.66E-01	0	0	1.37E-04	4.61E-05	0	0	6.39E+00	2.16E+00	0	0	1.78E-03	6.00E-04	0
2300-2400	2.62E-01	1.01E-01	4.54E-04	4.54E-04	2.28E-01	7.73E-02	0	0	6.34E-05	2.15E-05	0	0	2.97E+00	1.00E+00	0	0	8.25E-04	2.79E-04	0	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Nan Fung Industrial City Carpark

Carpark Type:

Assessment Vehicle:

PART 4 - Sum up all above parts

Hour	Within Carpark (Section 1 + Section 2): A+B+C				Outside PTI Spread Distance (Section 3): E to Tsing Wun Road Southbound (TWR SB)			
	Within Carpark (Section 1 + Section 2)				Total Emission Factor (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	7.16E-04	2.69E-04	1.55E-05	1.43E-05	1.78E-03	6.00E-04	0	0
0100-0200	1.68E-04	6.38E-05	3.11E-06	2.87E-06	2.17E-04	7.13E-05	0	0
0200-0300	3.94E-04	1.47E-04	6.21E-06	5.74E-06	1.18E-03	3.96E-04	0	0
0300-0400	8.08E-04	3.01E-04	1.24E-05	1.15E-05	2.61E-03	8.80E-04	0	0
0400-0500	1.05E-03	3.92E-04	1.55E-05	1.43E-05	3.85E-03	1.30E-03	0	0
0500-0600	8.35E-04	3.10E-04	1.24E-05	1.15E-05	2.96E-03	1.00E-03	0	0
0600-0700	4.23E-04	1.57E-04	6.21E-06	5.74E-06	1.55E-03	5.26E-04	0	0
0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0
0800-0900	4.02E-04	1.53E-04	1.24E-05	1.15E-05	4.49E-04	1.51E-04	0	0
0900-1000	1.47E-03	5.50E-04	2.80E-05	2.58E-05	4.52E-03	1.53E-03	0	0
1000-1100	1.19E-03	4.47E-04	2.80E-05	2.58E-05	2.35E-03	7.91E-04	0	0
1100-1200	1.35E-03	5.07E-04	2.80E-05	2.58E-05	3.73E-03	1.26E-03	0	0
1200-1300	1.36E-03	5.13E-04	3.11E-05	2.87E-05	2.62E-03	8.83E-04	0	0
1300-1400	7.36E-04	2.79E-04	1.86E-05	1.72E-05	8.43E-04	2.81E-04	0	0
1400-1500	9.29E-04	3.52E-04	2.17E-05	2.01E-05	1.39E-03	4.64E-04	0	0
1500-1600	7.06E-04	2.67E-04	1.86E-05	1.72E-05	1.23E-03	4.16E-04	0	0
1600-1700	4.92E-04	1.87E-04	1.55E-05	1.43E-05	4.31E-04	1.45E-04	0	0
1700-1800	5.35E-04	2.03E-04	1.24E-05	1.15E-05	6.22E-04	2.06E-04	0	0
1800-1900	5.59E-04	2.13E-04	1.55E-05	1.43E-05	5.20E-04	1.73E-04	0	0
1900-2000	5.59E-04	2.13E-04	1.55E-05	1.43E-05	5.20E-04	1.73E-04	0	0
2000-2100	2.59E-04	9.86E-05	6.21E-06	5.74E-06	1.99E-04	6.48E-05	0	0
2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0
2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0
2300-2400	2.15E-04	7.98E-05	3.11E-06	2.87E-06	8.25E-04	2.79E-04	0	0

Hour	Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	1.7812	1.7586	1.2500	1.2500	3.9581	3.9634	0	0
0100-0200	0.4193	0.4177	0.2500	0.2500	0.4833	0.4710	0	0
0200-0300	0.9807	0.9632	0.5000	0.5000	2.6206	2.6179	0	0
0300-0400	2.0106	1.9706	1.0000	1.0000	5.8130	5.8156	0	0
0400-0500	2.6253	2.5641	1.2500	1.2500	8.5720	8.5926	0	0
0500-0600	2.0789	2.0321	1.0000	1.0000	6.6089	6.6221	0	0
0600-0700	1.0533	1.0285	0.5000	0.5000	3.4661	3.4749	0	0
0700-0800	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0
0800-0900	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0	0
0900-1000	3.6681	3.6025	2.2500	2.2500	10.0693	10.0966	0	0
1000-1100	2.9540	2.9295	2.2500	2.2500	5.2318	5.2256	0	0
1100-1200	3.3682	3.3174	2.2500	2.2500	8.3159	8.3354	0	0
1200-1300	3.3851	3.3577	2.5000	2.5000	5.8519	5.8352	0	0
1300-1400	1.8312	1.8287	1.5000	1.5000	1.8796	1.8537	0	0
1400-1500	2.3135	2.3031	1.7500	1.7500	3.0965	3.0683	0	0
1500-1600	1.7567	1.7462	1.5000	1.5000	2.7500	2.7511	0	0
1600-1700	1.2252	1.2277	1.2500	1.2500	0.9608	0.9572	0	0
1700-1800	1.3317	1.3292	1.0000	1.0000	1.3857	1.3601	0	0
1800-1900	1.3916	1.3928	1.2500	1.2500	1.1600	1.1434	0	0
1900-2000	1.3916	1.3928	1.2500	1.2500	1.1600	1.1434	0	0
2000-2100	0.6445	0.6454	0.5000	0.5000	0.4443	0.4280	0	0
2100-2200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0
2200-2300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0
2300-2400	0.5357	0.5224	0.2500	0.2500	1.8388	1.8445	0	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Nan Fung Industrial City Carpark

Carpark Type: Semi-confined

Assessment Vehicle: HG9

PART 1 - Running Emission

Parameters

Average Travelling Distance from Carpark Ingress to Start Point 50 m (Section 1 - Ingress)
 Average Travelling Distance from Start Point to Carpark Egress 50 m (Section 2 - Egress)
 Total Travelling Distance in Carpark 0.100 km (1km = 1000m)
 Travelling Speed 12 kph

Hour	Total	A															
		Within Carpark (Section 1)+(Section 2)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)							
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP				
2400-0100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0600-0700	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0700-0800	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0800-0900	2	3.1382	1.1076	0.1188	0.1093	6.28E-01	2.22E-01	2.38E-02	2.19E-02	1.74E-04	6.15E-05	6.60E-06	6.07E-06				
0900-1000	3	3.1382	1.1076	0.1188	0.1093	9.41E-01	3.32E-01	3.56E-02	3.28E-02	2.62E-04	9.23E-05	9.90E-06	9.11E-06				
1000-1100	2	3.1382	1.1076	0.1188	0.1093	6.28E-01	2.22E-01	2.38E-02	2.19E-02	1.74E-04	6.15E-05	6.60E-06	6.07E-06				
1100-1200	3	3.1382	1.1076	0.1188	0.1093	9.41E-01	3.32E-01	3.56E-02	3.28E-02	2.62E-04	9.23E-05	9.90E-06	9.11E-06				
1200-1300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
1300-1400	1	3.1382	1.1076	0.1188	0.1093	3.14E-01	1.11E-01	1.19E-02	1.09E-02	8.72E-05	3.08E-05	3.30E-06	3.04E-06				
1400-1500	4	3.1382	1.1076	0.1188	0.1093	1.26E+00	4.43E-01	4.75E-02	4.37E-02	3.49E-04	1.23E-04	1.32E-05	1.21E-05				
1500-1600	3	3.1382	1.1076	0.1188	0.1093	9.41E-01	3.32E-01	3.56E-02	3.28E-02	2.62E-04	9.23E-05	9.90E-06	9.11E-06				
1600-1700	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
1700-1800	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
1800-1900	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
1900-2000	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
2000-2100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
2100-2200	1	3.1382	1.1076	0.1188	0.1093	3.14E-01	1.11E-01	1.19E-02	1.09E-02	8.72E-05	3.08E-05	3.30E-06	3.04E-06				
2200-2300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
2300-2400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.1153	0.2076	0.2768	0.3922	0.4844	0.646	0.9458	1.1766	1.7303	2.2609	2.5378	2.9992	3.299	3.4606	3.5528	3.6451	3.6913	3.6913
NO ₂	0.0358	0.0644	0.0859	0.1216	0.1503	0.2003	0.2934	0.3649	0.5366	0.7012	0.787	0.9301	1.0232	1.0732	1.1019	1.1305	1.1448	1.1448
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	0																			0.00E+00	0.00E+00	0	0
0600-0700	0																			0.00E+00	0.00E+00	0	0
0700-0800	0																			0.00E+00	0.00E+00	0	0
0800-0900	2				1			1												1.04E+00	3.22E-01	0	0
0900-1000	3				1			1		1										2.21E+00	6.87E-01	0	0
1000-1100	2							1												2.38E+00	7.37E-01	0	0
1100-1200	3				1				1									1		5.81E+00	1.80E+00	0	0
1200-1300	0																			0.00E+00	0.00E+00	0	0
1300-1400	1									1										1.73E+00	5.37E-01	0	0
1400-1500	4						2			1								1		7.24E+00	2.25E+00	0	0
1500-1600	3		1		1	1														1.08E+00	3.36E-01	0	0
1600-1700	0																			0.00E+00	0.00E+00	0	0
1700-1800	0																			0.00E+00	0.00E+00	0	0
1800-1900	0																			0.00E+00	0.00E+00	0	0
1900-2000	0																			0.00E+00	0.00E+00	0	0
2000-2100	0																			0.00E+00	0.00E+00	0	0
2100-2200	1								1											1.18E+00	3.65E-01	0	0
2200-2300	0																			0.00E+00	0.00E+00	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Nan Fung Industrial City Carpark Carpark Type: Semi-confined Assessment Vehicle: HGV9

PART 3 - Idling Emission

Parameters
Idling Time for Terminating Vehicles 1 min(s) *As On-Site observations

Calculations *Cold Idling = 60-720min; Hot idling = 5-50min.

Table with columns for Hour, Trips (60-720min), Cold Idling Emission Factor (g/min), Cold Idling Emission (g), Trips (5-50min), Hot Idling Emission Factor (g/min), Hot Idling Emission (g), Total Idling Emission = Cold Idling + Hot idling, and Total Idling Emission within Carpark (g/s).

Parameters
Maximum Duration for adjusting Start Emission 1 min(s) *Per EPD Guideline
Travelling Distance from Start Point to Carpark Egress 50 m (Section 2)
Travelling Distance from Carpark Egress to Open Road 650 m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Table with columns for Hour, Emission for Adjusting Start Emission (g), Adjusted Start Emission Within Carpark (Section 2) (g), Adjusted Start Emission Outside Carpark (Section 3) (g), and Adjusted Start Emission Outside Carpark (Section 3) (g/s).

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Bo Tao Outdoor Parking

Carpark Type:

Assessment Vehicle:

PART 1 - Running Emission

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	<input type="text" value="60"/>	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	<input type="text" value="60"/>	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	<input type="text" value="0.120"/>	km	(1km = 1000m)
Travelling Speed	<input type="text" value="12"/>	kph	

Calculations

Hour	Total	Within Carpark (Section 1)+(Section 2)											
		Running Emission Factor (g/km-vehicle)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	1	1.4268	0.6577	0.0563	0.0518	1.71E-01	7.89E-02	6.76E-03	6.22E-03	4.76E-05	2.19E-05	1.88E-06	1.73E-06
0200-0300	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	1	1.4268	0.6577	0.0563	0.0518	1.71E-01	7.89E-02	6.76E-03	6.22E-03	4.76E-05	2.19E-05	1.88E-06	1.73E-06
0600-0700	3	1.4268	0.6577	0.0563	0.0518	5.14E-01	2.37E-01	2.03E-02	1.86E-02	1.43E-04	6.58E-05	5.63E-06	5.18E-06
0700-0800	6	1.4268	0.6577	0.0563	0.0518	1.03E+00	4.74E-01	4.05E-02	3.73E-02	2.85E-04	1.32E-04	1.13E-05	1.04E-05
0800-0900	9	1.4268	0.6577	0.0563	0.0518	1.54E+00	7.10E-01	6.08E-02	5.59E-02	4.28E-04	1.97E-04	1.69E-05	1.55E-05
0900-1000	2	1.4268	0.6577	0.0563	0.0518	3.42E-01	1.58E-01	1.35E-02	1.24E-02	9.51E-05	4.38E-05	3.75E-06	3.45E-06
1000-1100	1	1.4268	0.6577	0.0563	0.0518	1.71E-01	7.89E-02	6.76E-03	6.22E-03	4.76E-05	2.19E-05	1.88E-06	1.73E-06
1100-1200	1	1.4268	0.6577	0.0563	0.0518	1.71E-01	7.89E-02	6.76E-03	6.22E-03	4.76E-05	2.19E-05	1.88E-06	1.73E-06
1200-1300	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1300-1400	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1400-1500	1	1.4268	0.6577	0.0563	0.0518	1.71E-01	7.89E-02	6.76E-03	6.22E-03	4.76E-05	2.19E-05	1.88E-06	1.73E-06
1500-1600	1	1.4268	0.6577	0.0563	0.0518	1.71E-01	7.89E-02	6.76E-03	6.22E-03	4.76E-05	2.19E-05	1.88E-06	1.73E-06
1600-1700	1	1.4268	0.6577	0.0563	0.0518	1.71E-01	7.89E-02	6.76E-03	6.22E-03	4.76E-05	2.19E-05	1.88E-06	1.73E-06
1700-1800	2	1.4268	0.6577	0.0563	0.0518	3.42E-01	1.58E-01	1.35E-02	1.24E-02	9.51E-05	4.38E-05	3.75E-06	3.45E-06
1800-1900	1	1.4268	0.6577	0.0563	0.0518	1.71E-01	7.89E-02	6.76E-03	6.22E-03	4.76E-05	2.19E-05	1.88E-06	1.73E-06
1900-2000	1	1.4268	0.6577	0.0563	0.0518	1.71E-01	7.89E-02	6.76E-03	6.22E-03	4.76E-05	2.19E-05	1.88E-06	1.73E-06
2000-2100	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2100-2200	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2200-2300	1	1.4268	0.6577	0.0563	0.0518	1.71E-01	7.89E-02	6.76E-03	6.22E-03	4.76E-05	2.19E-05	1.88E-06	1.73E-06
2300-2400	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.0773	0.1391	0.1855	0.2627	0.3246	0.4328	0.6336	0.7882	1.1591	1.5146	1.7000	2.0091	2.2100	2.3181	2.3800	2.4418	2.4727	2.4727
NO ₂	0.0369	0.0664	0.0886	0.1255	0.1550	0.2067	0.3027	0.3765	0.5537	0.7235	0.8121	0.9598	1.0558	1.1075	1.1370	1.1665	1.1813	1.1813
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	1								1											7.88E-01	3.77E-01	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	1											1								2.01E+00	9.60E-01	0	0
0600-0700	3													3						6.63E+00	3.17E+00	0	0
0700-0800	6														6					1.39E+01	6.65E+00	0	0
0800-0900	9															8				2.14E+01	1.02E+01	0	0
0900-1000	2																2			4.88E+00	2.33E+00	0	0
1000-1100	1																	1		2.47E+00	1.18E+00	0	0
1100-1200	1																		1	2.47E+00	1.18E+00	0	0
1200-1300	0																			0.00E+00	0.00E+00	0	0
1300-1400	0																			0.00E+00	0.00E+00	0	0
1400-1500	1													1						2.21E+00	1.06E+00	0	0
1500-1600	1														1					2.21E+00	1.06E+00	0	0
1600-1700	1															1				2.32E+00	1.11E+00	0	0
1700-1800	2											1								3.99E+00	1.90E+00	0	0
1800-1900	1																		1	2.47E+00	1.18E+00	0	0
1900-2000	1									1										1.16E+00	5.54E-01	0	0
2000-2100	0																			0.00E+00	0.00E+00	0	0
2100-2200	0																			0.00E+00	0.00E+00	0	0
2200-2300	1										1									1.16E+00	5.54E-01	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Bo Tao Outdoor Parking

Carpark Type: Open Area

Assessment Vehicle: HGV8

PART 1 - Running Emission

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	60	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	60	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	0.120	km	(1km = 1000m)
Travelling Speed	12	kph	

Hour	Total	Within Carpark (Section 1)+(Section 2)											
		Running Emission Factor (g/km-vehicle)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	2	2.8414	1.0915	0.1073	0.0987	6.82E-01	2.62E-01	2.58E-02	2.37E-02	1.89E-04	7.28E-05	7.15E-06	6.58E-06
0100-0200	1	2.8414	1.0915	0.1073	0.0987	3.41E-01	1.31E-01	1.29E-02	1.18E-02	9.47E-05	3.64E-05	3.58E-06	3.29E-06
0200-0300	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	3	2.8414	1.0915	0.1073	0.0987	1.02E+00	3.93E-01	3.86E-02	3.55E-02	2.84E-04	1.09E-04	1.07E-05	9.87E-06
0400-0500	1	2.8414	1.0915	0.1073	0.0987	3.41E-01	1.31E-01	1.29E-02	1.18E-02	9.47E-05	3.64E-05	3.58E-06	3.29E-06
0500-0600	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0600-0700	1	2.8414	1.0915	0.1073	0.0987	3.41E-01	1.31E-01	1.29E-02	1.18E-02	9.47E-05	3.64E-05	3.58E-06	3.29E-06
0700-0800	9	2.8414	1.0915	0.1073	0.0987	3.07E+00	1.18E+00	1.16E-01	1.07E-01	8.52E-04	3.27E-04	3.22E-05	2.96E-05
0800-0900	12	2.8414	1.0915	0.1073	0.0987	4.09E+00	1.57E+00	1.55E-01	1.42E-01	1.14E-03	4.37E-04	4.29E-05	3.95E-05
0900-1000	7	2.8414	1.0915	0.1073	0.0987	2.39E+00	9.17E-01	9.01E-02	8.29E-02	6.63E-04	2.55E-04	2.50E-05	2.30E-05
1000-1100	3	2.8414	1.0915	0.1073	0.0987	1.02E+00	3.93E-01	3.86E-02	3.55E-02	2.84E-04	1.09E-04	1.07E-05	9.87E-06
1100-1200	1	2.8414	1.0915	0.1073	0.0987	3.41E-01	1.31E-01	1.29E-02	1.18E-02	9.47E-05	3.64E-05	3.58E-06	3.29E-06
1200-1300	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1300-1400	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1400-1500	1	2.8414	1.0915	0.1073	0.0987	3.41E-01	1.31E-01	1.29E-02	1.18E-02	9.47E-05	3.64E-05	3.58E-06	3.29E-06
1500-1600	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1600-1700	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1700-1800	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1800-1900	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1900-2000	1	2.8414	1.0915	0.1073	0.0987	3.41E-01	1.31E-01	1.29E-02	1.18E-02	9.47E-05	3.64E-05	3.58E-06	3.29E-06
2000-2100	2	2.8414	1.0915	0.1073	0.0987	6.82E-01	2.62E-01	2.58E-02	2.37E-02	1.89E-04	7.28E-05	7.15E-06	6.58E-06
2100-2200	1	2.8414	1.0915	0.1073	0.0987	3.41E-01	1.31E-01	1.29E-02	1.18E-02	9.47E-05	3.64E-05	3.58E-06	3.29E-06
2200-2300	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.1081	0.1947	0.2595	0.3676	0.4541	0.6055	0.8866	1.1028	1.6219	2.1192	2.3787	2.8112	3.0923	3.2437	3.3301	3.4167	3.4600	3.4600
NO ₂	0.0370	0.0665	0.0887	0.1257	0.1553	0.2070	0.3032	0.3771	0.5545	0.7246	0.8133	0.9612	1.0573	1.1091	1.1387	1.1682	1.1830	1.1830
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	2						2													1.21E+00	4.14E-01	0	0
0100-0200	1													1						1.10E+00	3.77E-01	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	3												3							6.36E+00	2.17E+00	0	0
0400-0500	1															1				2.38E+00	8.13E-01	0	0
0500-0600	0																			0.00E+00	0.00E+00	0	0
0600-0700	1																			3.09E+00	1.06E+00	0	0
0700-0800	9														1					2.92E+01	9.98E+00	0	0
0800-0900	12															9				4.00E+01	1.37E+01	0	0
0900-1000	7															12				2.16E+01	7.39E+00	0	0
1000-1100	3																6			4.54E+00	1.55E+00	0	0
1100-1200	1			1																3.46E+00	1.18E+00	0	0
1200-1300	0																			0.00E+00	0.00E+00	0	0
1300-1400	0																			0.00E+00	0.00E+00	0	0
1400-1500	1																			3.46E+00	1.18E+00	0	0
1500-1600	0																			0.00E+00	0.00E+00	0	0
1600-1700	0																			0.00E+00	0.00E+00	0	0
1700-1800	0																			0.00E+00	0.00E+00	0	0
1800-1900	0																			0.00E+00	0.00E+00	0	0
1900-2000	1																			0.00E+00	0.00E+00	0	0
2000-2100	2																			3.46E+00	1.18E+00	0	0
2100-2200	1																			4.56E+00	1.56E+00	0	0
2200-2300	0																			1.62E+00	5.55E-01	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Bo Tao Outdoor Parking

Carpark Type: **Open Area**

Assessment Vehicle: **HGV9**

PART 1 - Running Emission

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	60 m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	60 m	(Section 2 - Egress)
Total Travelling Distance in Carpark	0.120 km	(1km = 1000m)
Travelling Speed	12 kph	

Hour	Total	Within Carpark (Section 1)+(Section 2)											
		Running Emission Factor (g/km-vehicle)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0600-0700	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0700-0800	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0800-0900	1	3.1382	1.1076	0.1188	0.1093	3.77E-01	1.33E-01	1.43E-02	1.31E-02	1.05E-04	3.69E-05	3.96E-06	3.64E-06
0900-1000	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1000-1100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100-1200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1200-1300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1300-1400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1400-1500	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1500-1600	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1600-1700	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1700-1800	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1800-1900	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1900-2000	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2000-2100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2100-2200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2200-2300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.1153	0.2076	0.2768	0.3922	0.4844	0.646	0.9458	1.1766	1.7303	2.2609	2.5378	2.9992	3.299	3.4606	3.5528	3.6451	3.6913	3.6913
NO ₂	0.0358	0.0644	0.0859	0.1216	0.1503	0.2003	0.2934	0.3649	0.5366	0.7012	0.787	0.9301	1.0232	1.0732	1.1019	1.1305	1.1448	1.1448
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	0																			0.00E+00	0.00E+00	0	0
0600-0700	0																			0.00E+00	0.00E+00	0	0
0700-0800	0																			0.00E+00	0.00E+00	0	0
0800-0900	1															1				3.55E+00	1.10E+00	0	0
0900-1000	0																			0.00E+00	0.00E+00	0	0
1000-1100	0																			0.00E+00	0.00E+00	0	0
1100-1200	0																			0.00E+00	0.00E+00	0	0
1200-1300	0																			0.00E+00	0.00E+00	0	0
1300-1400	0																			0.00E+00	0.00E+00	0	0
1400-1500	0																			0.00E+00	0.00E+00	0	0
1500-1600	0																			0.00E+00	0.00E+00	0	0
1600-1700	0																			0.00E+00	0.00E+00	0	0
1700-1800	0																			0.00E+00	0.00E+00	0	0
1800-1900	0																			0.00E+00	0.00E+00	0	0
1900-2000	0																			0.00E+00	0.00E+00	0	0
2000-2100	0																			0.00E+00	0.00E+00	0	0
2100-2200	0																			0.00E+00	0.00E+00	0	0
2200-2300	0																			0.00E+00	0.00E+00	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Bo Tao Outdoor Parking

Carpark Type: Open Area

Assessment Vehicle: HGV9

PART 3 - Idling Emission

Parameters

Idling Time for Terminating Vehicles 1 min(s) *As On-Site observations

Hour	Trips (60-720min)	*Cold Idling = 60-720min; Hot idling = 5-50min.								Trips (5-50min)	*Total Idling Emission = Cold Idling + Hot idling								B							
		Cold Idling Emission Factor (g/min)				Cold Idling Emission (g)					Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				Total Idling Emission within Carpark (g)				Total Idling Emission within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	2.99E-01	1.05E-01	6.28E-04	6.28E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	6.37E-02	2.25E-02	6.28E-04	6.28E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Parameters

Maximum Duration for adjusting Start Emission 1 min(s) *Per EPD Guideline
 Travelling Distance from Start Point to Carpark Egress 60 m (Section 2)
 Travelling Distance from Carpark Egress to Open Road 640 m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Hour	Emission for Adjusting Start Emission (g)				C								E							
					Adjusted Start Emission Within Carpark (Section 2) (g)				Adjusted Start Emission Within Carpark (Section 2) (g/s)				Adjusted Start Emission Outside Carpark (Section 3) (g)				Adjusted Start Emission Outside Carpark (Section 3) (g/s)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0	0.00E+00	0.00E+00	0	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Hung Cheung Road On-Street Parking Space
PART 1 - Running Emission

Carpark Type: **Open Area**

Assessment Vehicle: **HGV7**

Parameters
Average Travelling Distance from Carpark Ingress to Start Point
Average Travelling Distance from Start Point to Carpark Egress
Total Travelling Distance in Carpark
Travelling Speed

87	m	(Section 1 - Ingress)
87	m	(Section 2 - Egress)
0.174	km	(1km = 1000m)
12	kph	

Calculations

Hour	Total	A											
		Within Carpark (Section 1)+(Section 2)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0600-0700	2	1.4268	0.6577	0.0563	0.0518	4.97E-01	2.29E-01	1.96E-02	1.80E-02	1.38E-04	6.36E-05	5.44E-06	5.01E-06
0700-0800	2	1.4268	0.6577	0.0563	0.0518	4.97E-01	2.29E-01	1.96E-02	1.80E-02	1.38E-04	6.36E-05	5.44E-06	5.01E-06
0800-0900	8	1.4268	0.6577	0.0563	0.0518	1.99E+00	9.16E-01	7.84E-02	7.21E-02	5.52E-04	2.54E-04	2.18E-05	2.00E-05
0900-1000	1	1.4268	0.6577	0.0563	0.0518	2.48E-01	1.14E-01	9.80E-03	9.01E-03	6.90E-05	3.18E-05	2.72E-06	2.50E-06
1000-1100	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100-1200	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1200-1300	1	1.4268	0.6577	0.0563	0.0518	2.48E-01	1.14E-01	9.80E-03	9.01E-03	6.90E-05	3.18E-05	2.72E-06	2.50E-06
1300-1400	2	1.4268	0.6577	0.0563	0.0518	4.97E-01	2.29E-01	1.96E-02	1.80E-02	1.38E-04	6.36E-05	5.44E-06	5.01E-06
1400-1500	1	1.4268	0.6577	0.0563	0.0518	2.48E-01	1.14E-01	9.80E-03	9.01E-03	6.90E-05	3.18E-05	2.72E-06	2.50E-06
1500-1600	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1600-1700	1	1.4268	0.6577	0.0563	0.0518	2.48E-01	1.14E-01	9.80E-03	9.01E-03	6.90E-05	3.18E-05	2.72E-06	2.50E-06
1700-1800	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1800-1900	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1900-2000	2	1.4268	0.6577	0.0563	0.0518	4.97E-01	2.29E-01	1.96E-02	1.80E-02	1.38E-04	6.36E-05	5.44E-06	5.01E-06
2000-2100	1	1.4268	0.6577	0.0563	0.0518	2.48E-01	1.14E-01	9.80E-03	9.01E-03	6.90E-05	3.18E-05	2.72E-06	2.50E-06
2100-2200	3	1.4268	0.6577	0.0563	0.0518	7.45E-01	3.43E-01	2.94E-02	2.70E-02	2.07E-04	9.54E-05	8.16E-06	7.51E-06
2200-2300	1	1.4268	0.6577	0.0563	0.0518	2.48E-01	1.14E-01	9.80E-03	9.01E-03	6.90E-05	3.18E-05	2.72E-06	2.50E-06
2300-2400	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.0773	0.1391	0.1855	0.2627	0.3246	0.4328	0.6336	0.7882	1.1591	1.5146	1.7000	2.0091	2.2100	2.3181	2.3800	2.4418	2.4727	2.4727
NO ₂	0.0369	0.0664	0.0886	0.1255	0.1550	0.2067	0.3027	0.3765	0.5537	0.7235	0.8121	0.9598	1.0558	1.1075	1.1370	1.1665	1.1813	1.1813
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	0																			0.00E+00	0.00E+00	0	0
0600-0700	2													2						4.42E+00	2.11E+00	0	0
0700-0800	2													2						4.64E+00	2.22E+00	0	0
0800-0900	8															8				1.90E+01	9.10E+00	0	0
0900-1000	1																1			2.44E+00	1.17E+00	0	0
1000-1100	0																			0.00E+00	0.00E+00	0	0
1100-1200	0																			0.00E+00	0.00E+00	0	0
1200-1300	1										1									1.70E+00	8.12E-01	0	0
1300-1400	2			1						1										9.27E-01	4.43E-01	0	0
1400-1500	1																	1		2.47E+00	1.18E+00	0	0
1500-1600	0																			0.00E+00	0.00E+00	0	0
1600-1700	1									1										7.88E-01	3.77E-01	0	0
1700-1800	0																			0.00E+00	0.00E+00	0	0
1800-1900	0																			0.00E+00	0.00E+00	0	0
1900-2000	2	1		1																2.16E-01	1.03E-01	0	0
2000-2100	1																			7.73E-02	3.69E-02	0	0
2100-2200	3																			2.32E-01	1.11E-01	0	0
2200-2300	1																			2.47E+00	1.18E+00	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Hung Cheung Road
On-Street Parking Space
PART 1 - Running Emission

Carpark Type:

Assessment Vehicle:

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	<input type="text" value="87"/>	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	<input type="text" value="87"/>	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	<input type="text" value="0.174"/>	km	(1km = 1000m)
Travelling Speed	<input type="text" value="12"/>	kph	

Hour	Total	Within Carpark (Section 1)+(Section 2)											
		Running Emission Factor (g/km-vehicle)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	1	2.8414	1.0915	0.1073	0.0987	4.94E-01	1.90E-01	1.87E-02	1.72E-02	1.37E-04	5.28E-05	5.19E-06	4.77E-06
0600-0700	2	2.8414	1.0915	0.1073	0.0987	9.89E-01	3.80E-01	3.73E-02	3.43E-02	2.75E-04	1.06E-04	1.04E-05	9.54E-06
0700-0800	2	2.8414	1.0915	0.1073	0.0987	9.89E-01	3.80E-01	3.73E-02	3.43E-02	2.75E-04	1.06E-04	1.04E-05	9.54E-06
0800-0900	3	2.8414	1.0915	0.1073	0.0987	1.48E+00	5.70E-01	5.60E-02	5.15E-02	4.12E-04	1.58E-04	1.56E-05	1.43E-05
0900-1000	1	2.8414	1.0915	0.1073	0.0987	4.94E-01	1.90E-01	1.87E-02	1.72E-02	1.37E-04	5.28E-05	5.19E-06	4.77E-06
1000-1100	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100-1200	1	2.8414	1.0915	0.1073	0.0987	4.94E-01	1.90E-01	1.87E-02	1.72E-02	1.37E-04	5.28E-05	5.19E-06	4.77E-06
1200-1300	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1300-1400	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1400-1500	1	2.8414	1.0915	0.1073	0.0987	4.94E-01	1.90E-01	1.87E-02	1.72E-02	1.37E-04	5.28E-05	5.19E-06	4.77E-06
1500-1600	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1600-1700	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1700-1800	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1800-1900	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1900-2000	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2000-2100	1	2.8414	1.0915	0.1073	0.0987	4.94E-01	1.90E-01	1.87E-02	1.72E-02	1.37E-04	5.28E-05	5.19E-06	4.77E-06
2100-2200	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2200-2300	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.1081	0.1947	0.2595	0.3676	0.4541	0.6055	0.8866	1.1028	1.6219	2.1192	2.3787	2.8112	3.0923	3.2437	3.3301	3.4167	3.4600	3.4600
NO ₂	0.0370	0.0665	0.0887	0.1257	0.1553	0.2070	0.3032	0.3771	0.5545	0.7246	0.8133	0.9612	1.0573	1.1091	1.1387	1.1682	1.1830	1.1830
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	1											1								2.81E+00	9.61E-01	0	0
0600-0700	2												2							6.18E+00	2.11E+00	0	0
0700-0800	2													2						6.49E+00	2.22E+00	0	0
0800-0900	3														2					9.99E+00	3.42E+00	0	0
0900-1000	1															3				3.42E+00	1.17E+00	0	0
1000-1100	0																1			0.00E+00	0.00E+00	0	0
1100-1200	1		1																	1.95E-01	6.65E-02	0	0
1200-1300	0																			0.00E+00	0.00E+00	0	0
1300-1400	0																			0.00E+00	0.00E+00	0	0
1400-1500	1																1			3.46E+00	1.18E+00	0	0
1500-1600	0																			0.00E+00	0.00E+00	0	0
1600-1700	0																			0.00E+00	0.00E+00	0	0
1700-1800	0																			0.00E+00	0.00E+00	0	0
1800-1900	0																			0.00E+00	0.00E+00	0	0
1900-2000	0																			0.00E+00	0.00E+00	0	0
2000-2100	1																			3.46E+00	1.18E+00	0	0
2100-2200	0																			0.00E+00	0.00E+00	0	0
2200-2300	0																			0.00E+00	0.00E+00	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

San On Street Public Parking

Carpark Type: **Open Area**

Assessment Vehicle: **HGV7**

PART 1 - Running Emission

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	36	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	36	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	0.072	km	(1km = 1000m)
Travelling Speed	12	kph	

Hour	Total	A											
		Within Carpark (Section 1)+(Section 2)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0600-0700	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0700-0800	1	1.4268	0.6577	0.0563	0.0518	1.03E-01	4.74E-02	4.05E-03	3.73E-03	2.85E-05	1.32E-05	1.13E-06	1.04E-06
0800-0900	11	1.4268	0.6577	0.0563	0.0518	1.13E+00	5.21E-01	4.46E-02	4.10E-02	3.14E-04	1.45E-04	1.24E-05	1.14E-05
0900-1000	6	1.4268	0.6577	0.0563	0.0518	6.16E-01	2.84E-01	2.43E-02	2.24E-02	1.71E-04	7.89E-05	6.76E-06	6.22E-06
1000-1100	13	1.4268	0.6577	0.0563	0.0518	1.34E+00	6.16E-01	5.27E-02	4.85E-02	3.71E-04	1.71E-04	1.46E-05	1.35E-05
1100-1200	11	1.4268	0.6577	0.0563	0.0518	1.13E+00	5.21E-01	4.46E-02	4.10E-02	3.14E-04	1.45E-04	1.24E-05	1.14E-05
1200-1300	8	1.4268	0.6577	0.0563	0.0518	8.22E-01	3.79E-01	3.24E-02	2.98E-02	2.28E-04	1.05E-04	9.01E-06	8.29E-06
1300-1400	16	1.4268	0.6577	0.0563	0.0518	1.64E+00	7.58E-01	6.49E-02	5.97E-02	4.57E-04	2.10E-04	1.80E-05	1.66E-05
1400-1500	6	1.4268	0.6577	0.0563	0.0518	6.16E-01	2.84E-01	2.43E-02	2.24E-02	1.71E-04	7.89E-05	6.76E-06	6.22E-06
1500-1600	4	1.4268	0.6577	0.0563	0.0518	4.11E-01	1.89E-01	1.62E-02	1.49E-02	1.14E-04	5.26E-05	4.50E-06	4.14E-06
1600-1700	12	1.4268	0.6577	0.0563	0.0518	1.23E+00	5.68E-01	4.86E-02	4.48E-02	3.42E-04	1.58E-04	1.35E-05	1.24E-05
1700-1800	3	1.4268	0.6577	0.0563	0.0518	3.08E-01	1.42E-01	1.22E-02	1.12E-02	8.56E-05	3.95E-05	3.38E-06	3.11E-06
1800-1900	1	1.4268	0.6577	0.0563	0.0518	1.03E-01	4.74E-02	4.05E-03	3.73E-03	2.85E-05	1.32E-05	1.13E-06	1.04E-06
1900-2000	6	1.4268	0.6577	0.0563	0.0518	6.16E-01	2.84E-01	2.43E-02	2.24E-02	1.71E-04	7.89E-05	6.76E-06	6.22E-06
2000-2100	5	1.4268	0.6577	0.0563	0.0518	5.14E-01	2.37E-01	2.03E-02	1.86E-02	1.43E-04	6.58E-05	5.63E-06	5.18E-06
2100-2200	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2200-2300	2	1.4268	0.6577	0.0563	0.0518	2.05E-01	9.47E-02	8.11E-03	7.46E-03	5.71E-05	2.63E-05	2.25E-06	2.07E-06
2300-2400	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.0773	0.1391	0.1855	0.2627	0.3246	0.4328	0.6336	0.7882	1.1591	1.5146	1.7000	2.0091	2.2100	2.3181	2.3800	2.4418	2.4727	2.4727
NO ₂	0.0369	0.0664	0.0886	0.1255	0.1550	0.2067	0.3027	0.3765	0.5537	0.7235	0.8121	0.9598	1.0558	1.1075	1.1370	1.1665	1.1813	1.1813
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	0																			0.00E+00	0.00E+00	0	0
0600-0700	0																			0.00E+00	0.00E+00	0	0
0700-0800	1			1																1.86E-01	8.86E-02	0	0
0800-0900	11	1			2	3									5					1.35E+01	6.44E+00	0	0
0900-1000	6		1	1					2								2			6.78E+00	3.24E+00	0	0
1000-1100	13	1			2	1	2											5	2	1.91E+01	9.13E+00	0	0
1100-1200	11	2	2		2	1		1	1										2	7.65E+00	3.65E+00	0	0
1200-1300	8	2		1		1			2										2	7.19E+00	3.43E+00	0	0
1300-1400	16		1			2	2		5		1								5	1.95E+01	9.30E+00	0	0
1400-1500	6	2			1			1	1										1	4.31E+00	2.06E+00	0	0
1500-1600	4																		4	9.89E+00	4.73E+00	0	0
1600-1700	12	3	2				1					1							5	1.50E+01	7.17E+00	0	0
1700-1800	3	3																		2.32E-01	1.11E-01	0	0
1800-1900	1																		1	2.47E+00	1.18E+00	0	0
1900-2000	6	6																		4.64E-01	2.21E-01	0	0
2000-2100	5	4																	1	2.78E+00	1.33E+00	0	0
2100-2200	0																			0.00E+00	0.00E+00	0	0
2200-2300	2																		2	4.95E+00	2.36E+00	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

San On Street Public Parking

Carpark Type:

Assessment Vehicle:

PART 3 - Idling Emission

Parameters

Idling Time for Terminating Vehicles min(s) *As On-Site observations

Calculations *Cold Idling = 60-720min; Hot idling = 5-50min.

Table with columns for Hour, Trips, Cold Idling Emission Factor (g/min), Cold Idling Emission (g), Trips (5-50min), Hot Idling Emission Factor (g/min), Hot Idling Emission (g), Total Idling Emission = Cold Idling + Hot idling, and Total Idling Emission within Carpark (g/s).

Parameters

Maximum Duration for adjusting Start Emission min(s) *Per EPD Guideline
Travelling Distance from Start Point to Carpark Egress m (Section 2)
Travelling Distance from Carpark Egress to Open Road m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Adjusted Calculations for Idling Emission table with columns for Hour, Emission for Adjusting Start Emission (g), Adjusted Start Emission Within Carpark (Section 2) (g), Adjusted Start Emission Outside Carpark (Section 3) (g), and Adjusted Start Emission Outside Carpark (Section 3) (g/s).

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

San On Street Public Parking

Carpark Type:

Assessment Vehicle:

PART 1 - Running Emission

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	<input type="text" value="36"/>	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	<input type="text" value="36"/>	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	<input type="text" value="0.072"/>	km	(1km = 1000m)
Travelling Speed	<input type="text" value="12"/>	kph	

Hour	Total	A											
		Within Carpark (Section 1)+(Section 2)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0600-0700	5	2.8414	1.0915	0.1073	0.0987	1.02E+00	3.93E-01	3.86E-02	3.55E-02	2.84E-04	1.09E-04	1.07E-05	9.87E-06
0700-0800	5	2.8414	1.0915	0.1073	0.0987	1.02E+00	3.93E-01	3.86E-02	3.55E-02	2.84E-04	1.09E-04	1.07E-05	9.87E-06
0800-0900	8	2.8414	1.0915	0.1073	0.0987	1.64E+00	6.29E-01	6.18E-02	5.69E-02	4.55E-04	1.75E-04	1.72E-05	1.58E-05
0900-1000	6	2.8414	1.0915	0.1073	0.0987	1.23E+00	4.72E-01	4.64E-02	4.26E-02	3.41E-04	1.31E-04	1.29E-05	1.18E-05
1000-1100	5	2.8414	1.0915	0.1073	0.0987	1.02E+00	3.93E-01	3.86E-02	3.55E-02	2.84E-04	1.09E-04	1.07E-05	9.87E-06
1100-1200	2	2.8414	1.0915	0.1073	0.0987	4.09E-01	1.57E-01	1.55E-02	1.42E-02	1.14E-04	4.37E-05	4.29E-06	3.95E-06
1200-1300	8	2.8414	1.0915	0.1073	0.0987	1.64E+00	6.29E-01	6.18E-02	5.69E-02	4.55E-04	1.75E-04	1.72E-05	1.58E-05
1300-1400	10	2.8414	1.0915	0.1073	0.0987	2.05E+00	7.86E-01	7.73E-02	7.11E-02	5.68E-04	2.18E-04	2.15E-05	1.97E-05
1400-1500	4	2.8414	1.0915	0.1073	0.0987	8.18E-01	3.14E-01	3.09E-02	2.84E-02	2.27E-04	8.73E-05	8.58E-06	7.90E-06
1500-1600	4	2.8414	1.0915	0.1073	0.0987	8.18E-01	3.14E-01	3.09E-02	2.84E-02	2.27E-04	8.73E-05	8.58E-06	7.90E-06
1600-1700	3	2.8414	1.0915	0.1073	0.0987	6.14E-01	2.36E-01	2.32E-02	2.13E-02	1.70E-04	6.55E-05	6.44E-06	5.92E-06
1700-1800	2	2.8414	1.0915	0.1073	0.0987	4.09E-01	1.57E-01	1.55E-02	1.42E-02	1.14E-04	4.37E-05	4.29E-06	3.95E-06
1800-1900	4	2.8414	1.0915	0.1073	0.0987	8.18E-01	3.14E-01	3.09E-02	2.84E-02	2.27E-04	8.73E-05	8.58E-06	7.90E-06
1900-2000	2	2.8414	1.0915	0.1073	0.0987	4.09E-01	1.57E-01	1.55E-02	1.42E-02	1.14E-04	4.37E-05	4.29E-06	3.95E-06
2000-2100	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2100-2200	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2200-2300	1	2.8414	1.0915	0.1073	0.0987	2.05E-01	7.86E-02	7.73E-03	7.11E-03	5.68E-05	2.18E-05	2.15E-06	1.97E-06
2300-2400	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.1081	0.1947	0.2595	0.3676	0.4541	0.6055	0.8866	1.1028	1.6219	2.1192	2.3787	2.8112	3.0923	3.2437	3.3301	3.4167	3.4600	3.4600
NO ₂	0.0370	0.0665	0.0887	0.1257	0.1553	0.2070	0.3032	0.3771	0.5545	0.7246	0.8133	0.9612	1.0573	1.1091	1.1387	1.1682	1.1830	1.1830
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	0																			0.00E+00	0.00E+00	0	0
0600-0700	5						1							3					1	1.33E+01	4.56E+00	0	0
0700-0800	5			1											4					1.32E+01	4.53E+00	0	0
0800-0900	8	2		1		1			2						2					9.80E+00	3.35E+00	0	0
0900-1000	6	1							2							2				1.26E+01	4.31E+00	0	0
1000-1100	5		1			1												3		1.10E+01	3.77E+00	0	0
1100-1200	2					1													1	3.91E+00	1.34E+00	0	0
1200-1300	8	1	2	1		2													2	8.59E+00	2.94E+00	0	0
1300-1400	10	1	1			3	1												4	1.61E+01	5.51E+00	0	0
1400-1500	4	1				1	1	1												2.05E+00	7.03E-01	0	0
1500-1600	4	2		1					1											1.58E+00	5.40E-01	0	0
1600-1700	3	2							1											1.32E+00	4.51E-01	0	0
1700-1800	2	2																		2.16E-01	7.40E-02	0	0
1800-1900	4	2																2	7.14E+00	2.44E+00	0	0	
1900-2000	2																	2	6.92E+00	2.37E+00	0	0	
2000-2100	0																			0.00E+00	0.00E+00	0	0
2100-2200	0																			0.00E+00	0.00E+00	0	0
2200-2300	1	1																		1.08E-01	3.70E-02	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

San On Street Public Parking

Carpark Type: **Open Area**

Assessment Vehicle: **HGV9**

PART 1 - Running Emission

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	36	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	36	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	0.072	km	(1km = 1000m)
Travelling Speed	12	kph	

Hour	Total	Within Carpark (Section 1)+(Section 2)											
		Running Emission Factor (g/km-vehicle)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0600-0700	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0700-0800	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0800-0900	2	3.1382	1.1076	0.1188	0.1093	4.52E-01	1.59E-01	1.71E-02	1.57E-02	1.26E-04	4.43E-05	4.75E-06	4.37E-06
0900-1000	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1000-1100	1	3.1382	1.1076	0.1188	0.1093	2.26E-01	7.97E-02	8.55E-03	7.87E-03	6.28E-05	2.22E-05	2.38E-06	2.19E-06
1100-1200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1200-1300	2	3.1382	1.1076	0.1188	0.1093	4.52E-01	1.59E-01	1.71E-02	1.57E-02	1.26E-04	4.43E-05	4.75E-06	4.37E-06
1300-1400	1	3.1382	1.1076	0.1188	0.1093	2.26E-01	7.97E-02	8.55E-03	7.87E-03	6.28E-05	2.22E-05	2.38E-06	2.19E-06
1400-1500	1	3.1382	1.1076	0.1188	0.1093	2.26E-01	7.97E-02	8.55E-03	7.87E-03	6.28E-05	2.22E-05	2.38E-06	2.19E-06
1500-1600	1	3.1382	1.1076	0.1188	0.1093	2.26E-01	7.97E-02	8.55E-03	7.87E-03	6.28E-05	2.22E-05	2.38E-06	2.19E-06
1600-1700	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1700-1800	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1800-1900	1	3.1382	1.1076	0.1188	0.1093	2.26E-01	7.97E-02	8.55E-03	7.87E-03	6.28E-05	2.22E-05	2.38E-06	2.19E-06
1900-2000	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2000-2100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2100-2200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2200-2300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.1153	0.2076	0.2768	0.3922	0.4844	0.646	0.9458	1.1766	1.7303	2.2609	2.5378	2.9992	3.299	3.4606	3.5528	3.6451	3.6913	3.6913
NO ₂	0.0358	0.0644	0.0859	0.1216	0.1503	0.2003	0.2934	0.3649	0.5366	0.7012	0.787	0.9301	1.0232	1.0732	1.1019	1.1305	1.1448	1.1448
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	0																			0.00E+00	0.00E+00	0	0
0600-0700	0																			0.00E+00	0.00E+00	0	0
0700-0800	0																			0.00E+00	0.00E+00	0	0
0800-0900	2	1	1																	3.23E-01	1.00E-01	0	0
0900-1000	0																			0.00E+00	0.00E+00	0	0
1000-1100	1																	1		3.69E+00	1.14E+00	0	0
1100-1200	0																			0.00E+00	0.00E+00	0	0
1200-1300	2	1																		3.81E+00	1.18E+00	0	0
1300-1400	1							1												1.18E+00	3.65E-01	0	0
1400-1500	1	1																		1.15E-01	3.58E-02	0	0
1500-1600	1																			3.69E+00	1.14E+00	0	0
1600-1700	0																			0.00E+00	0.00E+00	0	0
1700-1800	0																			0.00E+00	0.00E+00	0	0
1800-1900	1	1																		1.15E-01	3.58E-02	0	0
1900-2000	0																			0.00E+00	0.00E+00	0	0
2000-2100	0																			0.00E+00	0.00E+00	0	0
2100-2200	0																			0.00E+00	0.00E+00	0	0
2200-2300	0																			0.00E+00	0.00E+00	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Yun Yun Outdoor Parking

Carpark Type: **Open Area**

Assessment Vehicle: **HGV7**

PART 1 - Running Emission

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	35	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	35	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	0.070	km	(1km = 1000m)
Travelling Speed	12	kph	

Hour	Total	Within Carpark (Section 1)+(Section 2)											
		Running Emission Factor (g/km-vehicle)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0600-0700	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0700-0800	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0800-0900	2	1.4268	0.6577	0.0563	0.0518	2.00E-01	9.21E-02	7.88E-03	7.25E-03	5.55E-05	2.56E-05	2.19E-06	2.01E-06
0900-1000	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1000-1100	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100-1200	1	1.4268	0.6577	0.0563	0.0518	9.99E-02	4.60E-02	3.94E-03	3.63E-03	2.77E-05	1.28E-05	1.09E-06	1.01E-06
1200-1300	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1300-1400	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1400-1500	1	1.4268	0.6577	0.0563	0.0518	9.99E-02	4.60E-02	3.94E-03	3.63E-03	2.77E-05	1.28E-05	1.09E-06	1.01E-06
1500-1600	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1600-1700	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1700-1800	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1800-1900	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1900-2000	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2000-2100	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2100-2200	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2200-2300	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	1.4268	0.6577	0.0563	0.0518	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.0773	0.1391	0.1855	0.2627	0.3246	0.4328	0.6336	0.7882	1.1591	1.5146	1.7000	2.0091	2.2100	2.3181	2.3800	2.4418	2.4727	2.4727
NO ₂	0.0369	0.0664	0.0886	0.1255	0.1550	0.2067	0.3027	0.3765	0.5537	0.7235	0.8121	0.9598	1.0558	1.1075	1.1370	1.1665	1.1813	1.1813
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)					
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP	
2400-0100	0																			0.00E+00	0.00E+00	0	0	
0100-0200	0																				0.00E+00	0.00E+00	0	0
0200-0300	0																				0.00E+00	0.00E+00	0	0
0300-0400	0																				0.00E+00	0.00E+00	0	0
0400-0500	0																				0.00E+00	0.00E+00	0	0
0500-0600	0																				0.00E+00	0.00E+00	0	0
0600-0700	0																				0.00E+00	0.00E+00	0	0
0700-0800	0																				0.00E+00	0.00E+00	0	0
0800-0900	2															2					4.76E+00	2.27E+00	0	0
0900-1000	0																				0.00E+00	0.00E+00	0	0
1000-1100	0																				0.00E+00	0.00E+00	0	0
1100-1200	1					1															3.25E-01	1.55E-01	0	0
1200-1300	0																				0.00E+00	0.00E+00	0	0
1300-1400	0																				0.00E+00	0.00E+00	0	0
1400-1500	1								1												1.16E+00	5.54E-01	0	0
1500-1600	0																				0.00E+00	0.00E+00	0	0
1600-1700	0																				0.00E+00	0.00E+00	0	0
1700-1800	0																				0.00E+00	0.00E+00	0	0
1800-1900	0																				0.00E+00	0.00E+00	0	0
1900-2000	0																				0.00E+00	0.00E+00	0	0
2000-2100	0																				0.00E+00	0.00E+00	0	0
2100-2200	0																				0.00E+00	0.00E+00	0	0
2200-2300	0																				0.00E+00	0.00E+00	0	0
2300-2400	0																				0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Yun Yun Outdoor Parking

Carpark Type: **Open Area**

Assessment Vehicle: **HGV8**

PART 1 - Running Emission

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	35	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	35	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	0.070	km	(1km = 1000m)
Travelling Speed	12	kph	

Hour	Total	A											
		Within Carpark (Section 1)+(Section 2)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	12	2.8414	1.0915	0.1073	0.0987	2.39E+00	9.17E-01	9.01E-02	8.29E-02	6.63E-04	2.55E-04	2.50E-05	2.30E-05
0600-0700	8	2.8414	1.0915	0.1073	0.0987	1.59E+00	6.11E-01	6.01E-02	5.53E-02	4.42E-04	1.70E-04	1.67E-05	1.54E-05
0700-0800	8	2.8414	1.0915	0.1073	0.0987	1.59E+00	6.11E-01	6.01E-02	5.53E-02	4.42E-04	1.70E-04	1.67E-05	1.54E-05
0800-0900	2	2.8414	1.0915	0.1073	0.0987	3.98E-01	1.53E-01	1.50E-02	1.38E-02	1.10E-04	4.24E-05	4.17E-06	3.84E-06
0900-1000	1	2.8414	1.0915	0.1073	0.0987	1.99E-01	7.64E-02	7.51E-03	6.91E-03	5.52E-05	2.12E-05	2.09E-06	1.92E-06
1000-1100	1	2.8414	1.0915	0.1073	0.0987	1.99E-01	7.64E-02	7.51E-03	6.91E-03	5.52E-05	2.12E-05	2.09E-06	1.92E-06
1100-1200	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1200-1300	6	2.8414	1.0915	0.1073	0.0987	1.19E+00	4.58E-01	4.51E-02	4.15E-02	3.31E-04	1.27E-04	1.25E-05	1.15E-05
1300-1400	11	2.8414	1.0915	0.1073	0.0987	2.19E+00	8.40E-01	8.26E-02	7.60E-02	6.08E-04	2.33E-04	2.30E-05	2.11E-05
1400-1500	11	2.8414	1.0915	0.1073	0.0987	2.19E+00	8.40E-01	8.26E-02	7.60E-02	6.08E-04	2.33E-04	2.30E-05	2.11E-05
1500-1600	4	2.8414	1.0915	0.1073	0.0987	7.96E-01	3.06E-01	3.00E-02	2.76E-02	2.21E-04	8.49E-05	8.35E-06	7.68E-06
1600-1700	3	2.8414	1.0915	0.1073	0.0987	5.97E-01	2.29E-01	2.25E-02	2.07E-02	1.66E-04	6.37E-05	6.26E-06	5.76E-06
1700-1800	2	2.8414	1.0915	0.1073	0.0987	3.98E-01	1.53E-01	1.50E-02	1.38E-02	1.10E-04	4.24E-05	4.17E-06	3.84E-06
1800-1900	5	2.8414	1.0915	0.1073	0.0987	9.94E-01	3.82E-01	3.76E-02	3.45E-02	2.76E-04	1.06E-04	1.04E-05	9.60E-06
1900-2000	4	2.8414	1.0915	0.1073	0.0987	7.96E-01	3.06E-01	3.00E-02	2.76E-02	2.21E-04	8.49E-05	8.35E-06	7.68E-06
2000-2100	5	2.8414	1.0915	0.1073	0.0987	9.94E-01	3.82E-01	3.76E-02	3.45E-02	2.76E-04	1.06E-04	1.04E-05	9.60E-06
2100-2200	3	2.8414	1.0915	0.1073	0.0987	5.97E-01	2.29E-01	2.25E-02	2.07E-02	1.66E-04	6.37E-05	6.26E-06	5.76E-06
2200-2300	3	2.8414	1.0915	0.1073	0.0987	5.97E-01	2.29E-01	2.25E-02	2.07E-02	1.66E-04	6.37E-05	6.26E-06	5.76E-06
2300-2400	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.1081	0.1947	0.2595	0.3676	0.4541	0.6055	0.8866	1.1028	1.6219	2.1192	2.3787	2.8112	3.0923	3.2437	3.3301	3.4167	3.4600	3.4600
NO ₂	0.0370	0.0665	0.0887	0.1257	0.1553	0.2070	0.3032	0.3771	0.5545	0.7246	0.8133	0.9612	1.0573	1.1091	1.1387	1.1682	1.1830	1.1830
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	12											12								3.37E+01	1.15E+01	0	0
0600-0700	8												8							2.47E+01	8.46E+00	0	0
0700-0800	8													8						2.59E+01	8.87E+00	0	0
0800-0900	2														2					6.66E+00	2.28E+00	0	0
0900-1000	1										1									2.12E+00	7.25E-01	0	0
1000-1100	1					1														4.54E-01	1.55E-01	0	0
1100-1200	0																			0.00E+00	0.00E+00	0	0
1200-1300	6							3	3											5.97E+00	2.04E+00	0	0
1300-1400	11						1	1	8											1.04E+01	3.56E+00	0	0
1400-1500	11					1	3	1	3		2									1.08E+01	3.70E+00	0	0
1500-1600	4						1	1		2										4.74E+00	1.62E+00	0	0
1600-1700	3		1					2												1.97E+00	6.73E-01	0	0
1700-1800	2								1	1										2.72E+00	9.32E-01	0	0
1800-1900	5										1	2	1							1.13E+01	3.87E+00	0	0
1900-2000	4												4							1.24E+01	4.23E+00	0	0
2000-2100	5										1		2	1						1.53E+01	5.22E+00	0	0
2100-2200	3												1	1				1		9.80E+00	3.35E+00	0	0
2200-2300	3													1	2					9.90E+00	3.39E+00	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Yun Yun Outdoor Parking

Carpark Type:

Assessment Vehicle:

PART 1 - Running Emission

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	<input type="text" value="35"/>	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	<input type="text" value="35"/>	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	<input type="text" value="0.070"/>	km	(1km = 1000m)
Travelling Speed	<input type="text" value="12"/>	kph	

Calculations

Hour	Total	A											
		Within Carpark (Section 1)+(Section 2)								Running Emission Within Carpark (g/s)			
		Running Emission Factor (g/km-vehicle)				Running Emission Within Carpark (g)				NO	NO ₂	RSP	FSP
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0600-0700	1	3.1382	1.1076	0.1188	0.1093	2.20E-01	7.75E-02	8.32E-03	7.65E-03	6.10E-05	2.15E-05	2.31E-06	2.13E-06
0700-0800	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0800-0900	1	3.1382	1.1076	0.1188	0.1093	2.20E-01	7.75E-02	8.32E-03	7.65E-03	6.10E-05	2.15E-05	2.31E-06	2.13E-06
0900-1000	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1000-1100	1	3.1382	1.1076	0.1188	0.1093	2.20E-01	7.75E-02	8.32E-03	7.65E-03	6.10E-05	2.15E-05	2.31E-06	2.13E-06
1100-1200	1	3.1382	1.1076	0.1188	0.1093	2.20E-01	7.75E-02	8.32E-03	7.65E-03	6.10E-05	2.15E-05	2.31E-06	2.13E-06
1200-1300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1300-1400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1400-1500	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1500-1600	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1600-1700	1	3.1382	1.1076	0.1188	0.1093	2.20E-01	7.75E-02	8.32E-03	7.65E-03	6.10E-05	2.15E-05	2.31E-06	2.13E-06
1700-1800	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1800-1900	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1900-2000	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2000-2100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2100-2200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2200-2300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.1153	0.2076	0.2768	0.3922	0.4844	0.646	0.9458	1.1766	1.7303	2.2609	2.5378	2.9992	3.299	3.4606	3.5528	3.6451	3.6913	3.6913
NO ₂	0.0358	0.0644	0.0859	0.1216	0.1503	0.2003	0.2934	0.3649	0.5366	0.7012	0.787	0.9301	1.0232	1.0732	1.1019	1.1305	1.1448	1.1448
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	0																			0.00E+00	0.00E+00	0	0
0600-0700	1													1						3.30E+00	1.02E+00	0	0
0700-0800	0																			0.00E+00	0.00E+00	0	0
0800-0900	1							1												1.18E+00	3.65E-01	0	0
0900-1000	0																			0.00E+00	0.00E+00	0	0
1000-1100	1						1													6.46E-01	2.00E-01	0	0
1100-1200	1																	1		3.69E+00	1.14E+00	0	0
1200-1300	0																			0.00E+00	0.00E+00	0	0
1300-1400	0																			0.00E+00	0.00E+00	0	0
1400-1500	0																			0.00E+00	0.00E+00	0	0
1500-1600	0																			0.00E+00	0.00E+00	0	0
1600-1700	1					1														4.84E-01	1.50E-01	0	0
1700-1800	0																			0.00E+00	0.00E+00	0	0
1800-1900	0																			0.00E+00	0.00E+00	0	0
1900-2000	0																			0.00E+00	0.00E+00	0	0
2000-2100	0																			0.00E+00	0.00E+00	0	0
2100-2200	0																			0.00E+00	0.00E+00	0	0
2200-2300	0																			0.00E+00	0.00E+00	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Yun Yun Outdoor Parking Carpark Type: Open Area Assessment Vehicle: HGV9

PART 3 - Idling Emission

Parameters
Idling Time for Terminating Vehicles 1 min(s) *As On-Site observations

Hour	Trips (60-720min)	*Cold Idling = 60-720min; Hot idling = 5-50min.								Trips (5-50min)	Hot Idling Emission Factor (g/min)				Hot Idling Emission (g)				*Total Idling Emission = Cold Idling + Hot Idling				B													
		Cold Idling Emission Factor (g/min)				Cold Idling Emission (g)					NO, NO ₂ , RSP, FSP				NO, NO ₂ , RSP, FSP				Total Idling Emission within Carpark (g)				Total Idling Emission within Carpark (g/s)													
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP						
2400-0100	0	2.99E-01	1.05E-01	6.28E-04	6.28E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	6.37E-02	2.25E-02	6.28E-04	6.28E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Parameters
Maximum Duration for adjusting Start Emission 1 min(s) *Per EPD Guideline
Travelling Distance from Start Point to Carpark Egress 35 m (Section 2)
Travelling Distance from Carpark Egress to Open Road 665 m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Hour	Emission for Adjusting Start Emission (g)				C								E																							
	NO	NO ₂	RSP	FSP	Adjusted Start Emission Within Carpark (Section 2) (g)				Adjusted Start Emission Within Carpark (Section 2) (g/s)				Adjusted Start Emission Outside Carpark (Section 3) (g)				Adjusted Start Emission Outside Carpark (Section 3) (g/s)																			
					NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP																
2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Fung On Street
On-Street Parking Space
PART 1 - Running Emission

Carpark Type:

Assessment Vehicle:

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	<input type="text" value="40"/>	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	<input type="text" value="40"/>	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	<input type="text" value="0.080"/>	km	(1km = 1000m)
Travelling Speed	<input type="text" value="12"/>	kph	

Calculations

Hour	Total	A											
		Within Carpark (Section 1)+(Section 2)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	1	2.8414	1.0915	0.1073	0.0987	2.27E-01	8.73E-02	8.58E-03	7.90E-03	6.31E-05	2.43E-05	2.38E-06	2.19E-06
0200-0300	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	1	2.8414	1.0915	0.1073	0.0987	2.27E-01	8.73E-02	8.58E-03	7.90E-03	6.31E-05	2.43E-05	2.38E-06	2.19E-06
0400-0500	1	2.8414	1.0915	0.1073	0.0987	2.27E-01	8.73E-02	8.58E-03	7.90E-03	6.31E-05	2.43E-05	2.38E-06	2.19E-06
0500-0600	1	2.8414	1.0915	0.1073	0.0987	2.27E-01	8.73E-02	8.58E-03	7.90E-03	6.31E-05	2.43E-05	2.38E-06	2.19E-06
0600-0700	1	2.8414	1.0915	0.1073	0.0987	2.27E-01	8.73E-02	8.58E-03	7.90E-03	6.31E-05	2.43E-05	2.38E-06	2.19E-06
0700-0800	2	2.8414	1.0915	0.1073	0.0987	4.55E-01	1.75E-01	1.72E-02	1.58E-02	1.26E-04	4.85E-05	4.77E-06	4.39E-06
0800-0900	2	2.8414	1.0915	0.1073	0.0987	4.55E-01	1.75E-01	1.72E-02	1.58E-02	1.26E-04	4.85E-05	4.77E-06	4.39E-06
0900-1000	3	2.8414	1.0915	0.1073	0.0987	6.82E-01	2.62E-01	2.58E-02	2.37E-02	1.89E-04	7.28E-05	7.15E-06	6.58E-06
1000-1100	2	2.8414	1.0915	0.1073	0.0987	4.55E-01	1.75E-01	1.72E-02	1.58E-02	1.26E-04	4.85E-05	4.77E-06	4.39E-06
1100-1200	3	2.8414	1.0915	0.1073	0.0987	6.82E-01	2.62E-01	2.58E-02	2.37E-02	1.89E-04	7.28E-05	7.15E-06	6.58E-06
1200-1300	3	2.8414	1.0915	0.1073	0.0987	6.82E-01	2.62E-01	2.58E-02	2.37E-02	1.89E-04	7.28E-05	7.15E-06	6.58E-06
1300-1400	3	2.8414	1.0915	0.1073	0.0987	6.82E-01	2.62E-01	2.58E-02	2.37E-02	1.89E-04	7.28E-05	7.15E-06	6.58E-06
1400-1500	4	2.8414	1.0915	0.1073	0.0987	9.09E-01	3.49E-01	3.43E-02	3.16E-02	2.53E-04	9.70E-05	9.54E-06	8.77E-06
1500-1600	1	2.8414	1.0915	0.1073	0.0987	2.27E-01	8.73E-02	8.58E-03	7.90E-03	6.31E-05	2.43E-05	2.38E-06	2.19E-06
1600-1700	1	2.8414	1.0915	0.1073	0.0987	2.27E-01	8.73E-02	8.58E-03	7.90E-03	6.31E-05	2.43E-05	2.38E-06	2.19E-06
1700-1800	1	2.8414	1.0915	0.1073	0.0987	2.27E-01	8.73E-02	8.58E-03	7.90E-03	6.31E-05	2.43E-05	2.38E-06	2.19E-06
1800-1900	1	2.8414	1.0915	0.1073	0.0987	2.27E-01	8.73E-02	8.58E-03	7.90E-03	6.31E-05	2.43E-05	2.38E-06	2.19E-06
1900-2000	1	2.8414	1.0915	0.1073	0.0987	2.27E-01	8.73E-02	8.58E-03	7.90E-03	6.31E-05	2.43E-05	2.38E-06	2.19E-06
2000-2100	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2100-2200	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2200-2300	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2300-2400	0	2.8414	1.0915	0.1073	0.0987	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.1081	0.1947	0.2595	0.3676	0.4541	0.6055	0.8866	1.1028	1.6219	2.1192	2.3787	2.8112	3.0923	3.2437	3.3301	3.4167	3.4600	3.4600
NO ₂	0.0370	0.0665	0.0887	0.1257	0.1553	0.2070	0.3032	0.3771	0.5545	0.7246	0.8133	0.9612	1.0573	1.1091	1.1387	1.1682	1.1830	1.1830
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	1								1											1.10E+00	3.77E-01	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	1										1									2.12E+00	7.25E-01	0	0
0400-0500	1											1								2.38E+00	8.13E-01	0	0
0500-0600	1												1							2.81E+00	9.61E-01	0	0
0600-0700	1			1																2.60E-01	8.87E-02	0	0
0700-0800	2	1													1					3.35E+00	1.15E+00	0	0
0800-0900	2			1												1				3.59E+00	1.23E+00	0	0
0900-1000	3			2		1														9.73E-01	3.33E-01	0	0
1000-1100	2		1						1											1.30E+00	4.44E-01	0	0
1100-1200	3	1	1	1																5.62E-01	1.92E-01	0	0
1200-1300	3	1				1			1											1.67E+00	5.69E-01	0	0
1300-1400	3	1							1	1										2.83E+00	9.69E-01	0	0
1400-1500	4		2		1															4.22E+00	1.44E+00	0	0
1500-1600	1																			3.46E+00	1.18E+00	0	0
1600-1700	1			1																2.60E-01	8.87E-02	0	0
1700-1800	1																	1		3.46E+00	1.18E+00	0	0
1800-1900	1		1																	1.95E-01	6.65E-02	0	0
1900-2000	1			1																2.60E-01	8.87E-02	0	0
2000-2100	0																			0.00E+00	0.00E+00	0	0
2100-2200	0																			0.00E+00	0.00E+00	0	0
2200-2300	0																			0.00E+00	0.00E+00	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Fung On Street On-Street Parking Space

Carpark Type: Open Area

Assessment Vehicle: HGV8

PART 3 - Idling Emission

Parameters

Idling Time for Terminating Vehicles 1 min(s) *As On-Site observations

Calculations

*Cold Idling = 60-720min; Hot idling = 5-50min.

*Total Idling Emission = Cold Idling + Hot idling

Hour	Trips (60-720min)	Cold Idling Emission Factor (g/min)								Hot Idling Emission Factor (g/min)								Total Idling Emission within Carpark (g)								Total Idling Emission within Carpark (g/s)															
		NO				NO ₂				RSP				NO				NO ₂				RSP				NO				NO ₂				RSP				FSP			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP								
2400-0100	0	2.62E-01	1.01E-01	4.54E-04	4.54E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.64E-02	1.78E-02	4.54E-04	4.54E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00										

Parameters

Maximum Duration for adjusting Start Emission 1 min(s) *Per EPD Guideline
 Travelling Distance from Start Point to Carpark Egress 40 m (Section 2)
 Travelling Distance from Carpark Egress to Open Road 660 m (Section 3) *(Section 2)+(Section 3) = 700m Spread Distance per EPD Guideline

Adjusted Calculations for Idling Emission

Hour	Emission for Adjusting Start Emission (g)				Adjusted Start Emission Within Carpark (Section 2) (g)				Adjusted Start Emission Within Carpark (Section 2) (g/s)				Adjusted Start Emission Outside Carpark (Section 3) (g)				Adjusted Start Emission Outside Carpark (Section 3) (g/s)													
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP										
	2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Fung On Street
On-Street Parking Space

Carpark Type:

Assessment Vehicle:

PART 4 - Sum up all above parts

Hour	Within Carpark (Section 1 + Section 2): A+B+C				Outside PTI Spread Distance (Section 3): E to Wong Chu Road Eastbound (WCR EB)				Outside PTI Spread Distance (Section 3): E to Wong Chu Road Westbound (WCR WB)				Outside PTI Spread Distance (Section 3): E to Hoi Chu Road Westbound (HCR WB)						
	Total Emission (g/s)				Total Emission Factor (g/s)				Total Emission Factor (g/s)				Total Emission Factor (g/s)						
	NO	NO ₂	RSP	FSP	Ratio %	NO	NO ₂	RSP	FSP	Ratio %	NO	NO ₂	RSP	FSP	Ratio %	NO	NO ₂	RSP	FSP
2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0100-0200	1.49E-04	5.66E-05	2.51E-06	2.32E-06	25.00%	5.50E-05	1.81E-05	0	0	25.00%	5.50E-05	1.81E-05	0	0	50.00%	1.10E-04	3.62E-05	0	0
0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0300-0400	1.65E-04	6.21E-05	2.51E-06	2.32E-06	25.00%	1.22E-04	4.08E-05	0	0	25.00%	1.22E-04	4.08E-05	0	0	50.00%	2.43E-04	8.17E-05	0	0
0400-0500	1.70E-04	6.36E-05	2.51E-06	2.32E-06	25.00%	1.39E-04	4.67E-05	0	0	25.00%	1.39E-04	4.67E-05	0	0	50.00%	2.77E-04	9.33E-05	0	0
0500-0600	1.76E-04	6.59E-05	2.51E-06	2.32E-06	25.00%	1.67E-04	5.63E-05	0	0	25.00%	1.67E-04	5.63E-05	0	0	50.00%	3.34E-04	1.13E-04	0	0
0600-0700	7.94E-05	3.03E-05	2.51E-06	2.32E-06	25.00%	1.40E-05	4.64E-06	0	0	25.00%	1.40E-05	4.64E-06	0	0	50.00%	2.79E-05	9.28E-06	0	0
0700-0800	2.60E-04	9.78E-05	5.02E-06	4.64E-06	25.00%	1.99E-04	6.73E-05	0	0	25.00%	1.99E-04	6.73E-05	0	0	50.00%	3.98E-04	1.35E-04	0	0
0800-0900	2.64E-04	9.91E-05	5.02E-06	4.64E-06	25.00%	2.15E-04	7.26E-05	0	0	25.00%	2.15E-04	7.26E-05	0	0	50.00%	4.30E-04	1.45E-04	0	0
0900-1000	2.41E-04	9.20E-05	7.53E-06	6.96E-06	25.00%	5.46E-05	1.83E-05	0	0	25.00%	5.46E-05	1.83E-05	0	0	50.00%	1.09E-04	3.66E-05	0	0
1000-1100	2.28E-04	8.66E-05	5.02E-06	4.64E-06	25.00%	6.47E-05	2.13E-05	0	0	25.00%	6.47E-05	2.13E-05	0	0	50.00%	1.29E-04	4.26E-05	0	0
1100-1200	2.35E-04	8.98E-05	7.53E-06	6.96E-06	25.00%	2.77E-05	9.08E-06	0	0	25.00%	2.77E-05	9.08E-06	0	0	50.00%	5.54E-05	1.82E-05	0	0
1200-1300	3.09E-04	1.18E-04	7.53E-06	6.96E-06	25.00%	8.58E-05	2.84E-05	0	0	25.00%	8.58E-05	2.84E-05	0	0	50.00%	1.72E-04	5.67E-05	0	0
1300-1400	3.84E-04	1.46E-04	7.53E-06	6.96E-06	25.00%	1.48E-04	4.91E-05	0	0	25.00%	1.48E-04	4.91E-05	0	0	50.00%	2.96E-04	9.81E-05	0	0
1400-1500	4.25E-04	1.60E-04	1.00E-05	9.28E-06	25.00%	2.50E-04	8.43E-05	0	0	25.00%	2.50E-04	8.43E-05	0	0	50.00%	5.00E-04	1.69E-04	0	0
1500-1600	1.87E-04	6.94E-05	2.51E-06	2.32E-06	25.00%	2.09E-04	7.09E-05	0	0	25.00%	2.09E-04	7.09E-05	0	0	50.00%	4.19E-04	1.42E-04	0	0
1600-1700	7.94E-05	3.03E-05	2.51E-06	2.32E-06	25.00%	1.40E-05	4.64E-06	0	0	25.00%	1.40E-05	4.64E-06	0	0	50.00%	2.79E-05	9.28E-06	0	0
1700-1800	1.87E-04	6.94E-05	2.51E-06	2.32E-06	25.00%	2.09E-04	7.09E-05	0	0	25.00%	2.09E-04	7.09E-05	0	0	50.00%	4.19E-04	1.42E-04	0	0
1800-1900	7.84E-05	3.00E-05	2.51E-06	2.32E-06	25.00%	9.71E-06	3.19E-06	0	0	25.00%	9.71E-06	3.19E-06	0	0	50.00%	1.94E-05	6.37E-06	0	0
1900-2000	7.94E-05	3.03E-05	2.51E-06	2.32E-06	25.00%	1.40E-05	4.64E-06	0	0	25.00%	1.40E-05	4.64E-06	0	0	50.00%	2.79E-05	9.28E-06	0	0
2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0

Hour	Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0100-0200	0.5655	0.5718	0.5000	0.5000	0.2562	0.2492	0	0	0.2562	0.2492	0	0	0.2562	0.2492	0	0
0200-0300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0300-0400	0.6266	0.6274	0.5000	0.5000	0.5660	0.5626	0	0	0.5660	0.5626	0	0	0.5660	0.5626	0	0
0400-0500	0.6422	0.6416	0.5000	0.5000	0.6451	0.6426	0	0	0.6451	0.6426	0	0	0.6451	0.6426	0	0
0500-0600	0.6681	0.6654	0.5000	0.5000	0.7769	0.7760	0	0	0.7769	0.7760	0	0	0.7769	0.7760	0	0
0600-0700	0.3007	0.3062	0.5000	0.5000	0.0650	0.0639	0	0	0.0650	0.0639	0	0	0.0650	0.0639	0	0
0700-0800	0.9857	0.9870	1.0000	1.0000	0.9275	0.9267	0	0	0.9275	0.9267	0	0	0.9275	0.9267	0	0
0800-0900	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0	0	1.0000	1.0000	0	0	1.0000	1.0000	0	0
0900-1000	0.9137	0.9293	1.5000	1.5000	0.2542	0.2518	0	0	0.2542	0.2518	0	0	0.2542	0.2518	0	0
1000-1100	0.8622	0.8744	1.0000	1.0000	0.3014	0.2931	0	0	0.3014	0.2931	0	0	0.3014	0.2931	0	0
1100-1200	0.8890	0.9068	1.5000	1.5000	0.1290	0.1251	0	0	0.1290	0.1251	0	0	0.1290	0.1251	0	0
1200-1300	1.1694	1.1865	1.5000	1.5000	0.3992	0.3905	0	0	0.3992	0.3905	0	0	0.3992	0.3905	0	0
1300-1400	1.4537	1.4698	1.5000	1.5000	0.6894	0.6757	0	0	0.6894	0.6757	0	0	0.6894	0.6757	0	0
1400-1500	1.6078	1.6183	2.0000	2.0000	1.1629	1.1611	0	0	1.1629	1.1611	0	0	1.1629	1.1611	0	0
1500-1600	0.7071	0.7009	0.5000	0.5000	0.9746	0.9760	0	0	0.9746	0.9760	0	0	0.9746	0.9760	0	0
1600-1700	0.3007	0.3062	0.5000	0.5000	0.0650	0.0639	0	0	0.0650	0.0639	0	0	0.0650	0.0639	0	0
1700-1800	0.7071	0.7009	0.5000	0.5000	0.9746	0.9760	0	0	0.9746	0.9760	0	0	0.9746	0.9760	0	0
1800-1900	0.2968	0.3026	0.5000	0.5000	0.0452	0.0439	0	0	0.0452	0.0439	0	0	0.0452	0.0439	0	0
1900-2000	0.3007	0.3062	0.5000	0.5000	0.0650	0.0639	0	0	0.0650	0.0639	0	0	0.0650	0.0639	0	0
2000-2100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2100-2200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2200-2300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2300-2400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Fung On Street
On-Street Parking Space
PART 1 - Running Emission

Carpark Type:

Assessment Vehicle:

Parameters

Average Travelling Distance from Carpark Ingress to Start Point	<input type="text" value="40"/>	m	(Section 1 - Ingress)
Average Travelling Distance from Start Point to Carpark Egress	<input type="text" value="40"/>	m	(Section 2 - Egress)
Total Travelling Distance in Carpark	<input type="text" value="0.080"/>	km	(1km = 1000m)
Travelling Speed	<input type="text" value="12"/>	kph	

Calculations

Hour	Total	Within Carpark (Section 1)+(Section 2)											
		Running Emission Factor (g/km-vehicle)				Running Emission Within Carpark (g)				Running Emission Within Carpark (g/s)			
		NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0100-0200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0200-0300	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0300-0400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0400-0500	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0500-0600	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0600-0700	1	3.1382	1.1076	0.1188	0.1093	2.51E-01	8.86E-02	9.50E-03	8.74E-03	6.97E-05	2.46E-05	2.64E-06	2.43E-06
0700-0800	1	3.1382	1.1076	0.1188	0.1093	2.51E-01	8.86E-02	9.50E-03	8.74E-03	6.97E-05	2.46E-05	2.64E-06	2.43E-06
0800-0900	1	3.1382	1.1076	0.1188	0.1093	2.51E-01	8.86E-02	9.50E-03	8.74E-03	6.97E-05	2.46E-05	2.64E-06	2.43E-06
0900-1000	2	3.1382	1.1076	0.1188	0.1093	5.02E-01	1.77E-01	1.90E-02	1.75E-02	1.39E-04	4.92E-05	5.28E-06	4.86E-06
1000-1100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100-1200	1	3.1382	1.1076	0.1188	0.1093	2.51E-01	8.86E-02	9.50E-03	8.74E-03	6.97E-05	2.46E-05	2.64E-06	2.43E-06
1200-1300	1	3.1382	1.1076	0.1188	0.1093	2.51E-01	8.86E-02	9.50E-03	8.74E-03	6.97E-05	2.46E-05	2.64E-06	2.43E-06
1300-1400	1	3.1382	1.1076	0.1188	0.1093	2.51E-01	8.86E-02	9.50E-03	8.74E-03	6.97E-05	2.46E-05	2.64E-06	2.43E-06
1400-1500	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1500-1600	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1600-1700	1	3.1382	1.1076	0.1188	0.1093	2.51E-01	8.86E-02	9.50E-03	8.74E-03	6.97E-05	2.46E-05	2.64E-06	2.43E-06
1700-1800	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1800-1900	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1900-2000	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2000-2100	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2100-2200	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2200-2300	1	3.1382	1.1076	0.1188	0.1093	2.51E-01	8.86E-02	9.50E-03	8.74E-03	6.97E-05	2.46E-05	2.64E-06	2.43E-06
2300-2400	0	3.1382	1.1076	0.1188	0.1093	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PART 2 - Start Emission

Start Emission Factor Extracted from EMFAC (g/trip)

Minute	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720
NO	0.1153	0.2076	0.2768	0.3922	0.4844	0.646	0.9458	1.1766	1.7303	2.2609	2.5378	2.9992	3.299	3.4606	3.5528	3.6451	3.6913	3.6913
NO ₂	0.0358	0.0644	0.0859	0.1216	0.1503	0.2003	0.2934	0.3649	0.5366	0.7012	0.787	0.9301	1.0232	1.0732	1.1019	1.1305	1.1448	1.1448
RSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FSP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

Hour	Total	Number of Trips																	Start Emission (g)				
		5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	NO	NO ₂	RSP	FSP
2400-0100	0																			0.00E+00	0.00E+00	0	0
0100-0200	0																			0.00E+00	0.00E+00	0	0
0200-0300	0																			0.00E+00	0.00E+00	0	0
0300-0400	0																			0.00E+00	0.00E+00	0	0
0400-0500	0																			0.00E+00	0.00E+00	0	0
0500-0600	0																			0.00E+00	0.00E+00	0	0
0600-0700	1													1						3.30E+00	1.02E+00	0	0
0700-0800	1																			6.46E-01	2.00E-01	0	0
0800-0900	1						1													3.55E+00	1.10E+00	0	0
0900-1000	2	1							1							1				1.29E+00	4.01E-01	0	0
1000-1100	0																			0.00E+00	0.00E+00	0	0
1100-1200	1	1																		1.15E-01	3.58E-02	0	0
1200-1300	1								1											9.46E-01	2.93E-01	0	0
1300-1400	1								1											9.46E-01	2.93E-01	0	0
1400-1500	0																			0.00E+00	0.00E+00	0	0
1500-1600	0																			0.00E+00	0.00E+00	0	0
1600-1700	1									1										1.18E+00	3.65E-01	0	0
1700-1800	0																			0.00E+00	0.00E+00	0	0
1800-1900	0																			0.00E+00	0.00E+00	0	0
1900-2000	0																			0.00E+00	0.00E+00	0	0
2000-2100	0																			0.00E+00	0.00E+00	0	0
2100-2200	0																			0.00E+00	0.00E+00	0	0
2200-2300	1					1														3.92E-01	1.22E-01	0	0
2300-2400	0																			0.00E+00	0.00E+00	0	0

Remark: Number of trips were derived based on on-site observations at the carpark.

Appendix 3.4 - Detailed Calculation of Emissions Associated with Bus and Minibus Termini, Heavy Goods Vehicle and Coach Parking Sites

Fung On Street
On-Street Parking Space

Carpark Type:

Assessment Vehicle:

PART 4 - Sum up all above parts

Hour	Within Carpark (Section 1 + Section 2): A+B+C				Outside PTI Spread Distance (Section 3): E to Wong Chu Road Eastbound (WCR EB)				Outside PTI Spread Distance (Section 3): E to Wong Chu Road Westbound (WCR WB)				Outside PTI Spread Distance (Section 3): E to Hoi Chu Road Westbound (HCR WB)						
	Total Emission (g/s)				Total Emission Factor (g/s)				Total Emission Factor (g/s)				Total Emission Factor (g/s)						
	NO	NO ₂	RSP	FSP	Ratio %	NO	NO ₂	RSP	FSP	Ratio %	NO	NO ₂	RSP	FSP	Ratio %	NO	NO ₂	RSP	FSP
2400-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
0600-0700	2.00E-04	6.85E-05	2.81E-06	2.60E-06	25.00%	1.96E-04	6.01E-05	0	0	25.00%	1.96E-04	6.01E-05	0	0	50.00%	3.93E-04	1.20E-04	0	0
0700-0800	9.67E-05	3.37E-05	2.81E-06	2.60E-06	25.00%	3.81E-05	1.16E-05	0	0	25.00%	3.81E-05	1.16E-05	0	0	50.00%	7.62E-05	2.33E-05	0	0
0800-0900	2.04E-04	6.97E-05	2.81E-06	2.60E-06	25.00%	2.13E-04	6.52E-05	0	0	25.00%	2.13E-04	6.52E-05	0	0	50.00%	4.26E-04	1.30E-04	0	0
0900-1000	2.55E-04	8.91E-05	5.63E-06	5.21E-06	25.00%	6.09E-05	1.79E-05	0	0	25.00%	6.09E-05	1.79E-05	0	0	50.00%	1.22E-04	3.57E-05	0	0
1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1100-1200	8.83E-05	3.11E-05	2.81E-06	2.60E-06	25.00%	3.38E-06	8.71E-07	0	0	25.00%	3.38E-06	8.71E-07	0	0	50.00%	6.75E-06	1.74E-06	0	0
1200-1300	1.63E-04	5.69E-05	2.81E-06	2.60E-06	25.00%	4.24E-05	1.23E-05	0	0	25.00%	4.24E-05	1.23E-05	0	0	50.00%	8.47E-05	2.46E-05	0	0
1300-1400	1.63E-04	5.69E-05	2.81E-06	2.60E-06	25.00%	4.24E-05	1.23E-05	0	0	25.00%	4.24E-05	1.23E-05	0	0	50.00%	8.47E-05	2.46E-05	0	0
1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1600-1700	1.67E-04	5.80E-05	2.81E-06	2.60E-06	25.00%	5.75E-05	1.70E-05	0	0	25.00%	5.75E-05	1.70E-05	0	0	50.00%	1.15E-04	3.40E-05	0	0
1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0
2200-2300	9.27E-05	3.24E-05	2.81E-06	2.60E-06	25.00%	2.15E-05	6.49E-06	0	0	25.00%	2.15E-05	6.49E-06	0	0	50.00%	4.30E-05	1.30E-05	0	0
2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	25.00%	0.00E+00	0.00E+00	0	0	25.00%	0.00E+00	0.00E+00	0	0	50.00%	0.00E+00	0.00E+00	0	0

Hour	Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)				Hourly Profile Ratio (0800-0900 as Baseline)			
	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP	NO	NO ₂	RSP	FSP
2400-0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0100-0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0200-0300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0300-0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0400-0500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0500-0600	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
0600-0700	0.9803	0.9821	1.0000	1.0000	0.9220	0.9210	0	0	0.9220	0.9210	0	0	0.9220	0.9210	0	0
0700-0800	0.4731	0.4831	1.0000	1.0000	0.1789	0.1784	0	0	0.1789	0.1784	0	0	0.1789	0.1784	0	0
0800-0900	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0	0	1.0000	1.0000	0	0	1.0000	1.0000	0	0
0900-1000	1.2473	1.2779	2.0000	2.0000	0.2856	0.2737	0	0	0.2856	0.2737	0	0	0.2856	0.2737	0	0
1000-1100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1100-1200	0.4319	0.4457	1.0000	1.0000	0.0158	0.0133	0	0	0.0158	0.0133	0	0	0.0158	0.0133	0	0
1200-1300	0.7975	0.8159	1.0000	1.0000	0.1988	0.1886	0	0	0.1988	0.1886	0	0	0.1988	0.1886	0	0
1300-1400	0.7975	0.8159	1.0000	1.0000	0.1988	0.1886	0	0	0.1988	0.1886	0	0	0.1988	0.1886	0	0
1400-1500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1500-1600	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1600-1700	0.8155	0.8322	1.0000	1.0000	0.2698	0.2604	0	0	0.2698	0.2604	0	0	0.2698	0.2604	0	0
1700-1800	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1800-1900	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
1900-2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2000-2100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2100-2200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0
2200-2300	0.4534	0.4652	1.0000	1.0000	0.1009	0.0995	0	0	0.1009	0.0995	0	0	0.1009	0.0995	0	0
2300-2400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	0.0000	0	0	0.0000	0.0000	0	0

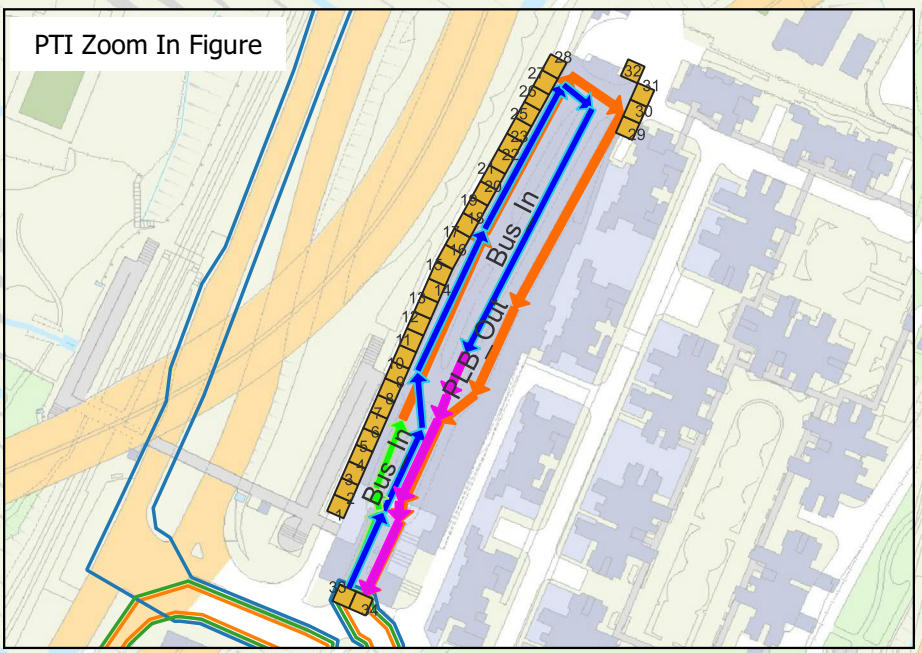


Lung Mun Oasis Bus Terminus Indicative Map

LEGEND

- PTI Volume Source (LMO_**##)
- (**=veh.type, ##=id)
- Spread Distance to North (FBDD)
- Spread Distance to South (FBDD and PLB Diesel)
- Spread Distance to South (PLB LPG)
- PTI Ingress (FBDD)
- PTI Ingress (PLB)
- PTI Egress (FBDD)
- PTI Egress (PLB)

Type of PTI: Semi-confined PTI



Lung Mun Oasis Bus Terminus
(LMO_BHUB, LMO_MHUB,
LMO_PHUB)

LMO_MSPR

LMO_BSSB

LMO_BSNB



Type of PTI: Open-area PTI

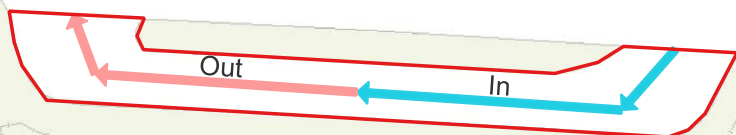
Yau Oi (South) Bus Terminus

Indicative Map

LEGEND

- PTI Area
- Spread Distance (FBDD)

PTI Zoom In Figure



Yau Oi (South) Bus Terminus
(YOS_BHUB)

YOS_BSPR

Sam Shing Bus Terminus

Indicative Map

LEGEND

PTI Volume Source (SSE_**##)

(**=veh.type,##=id)

--- Spread Distance to North (FBDD)

--- Spread Distance to South (FBDD, PLB Diesel)

--- Spread Distance to South (PLB LPG)

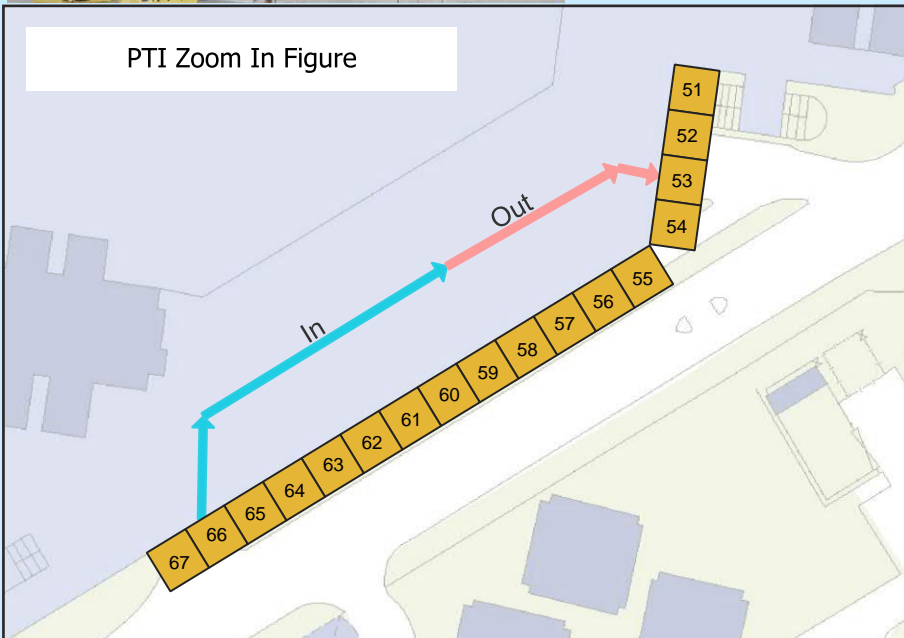
Type of PTI: Semi-confined PTI

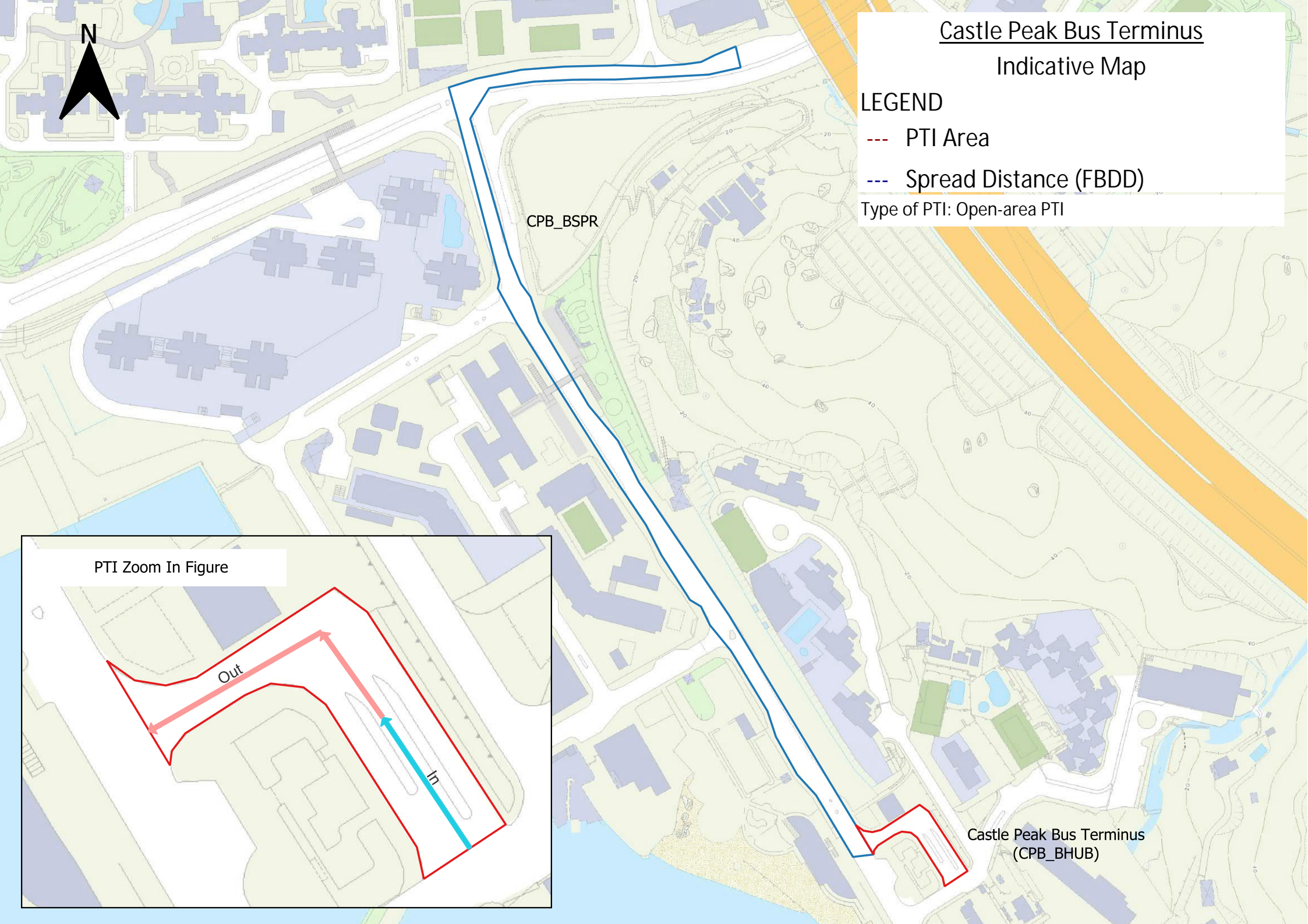


Sam Shing Bus Terminus
(SSE_BHUB, SSE_MHUB, SSE_PHUB)



PTI Zoom In Figure





Castle Peak Bus Terminus

Indicative Map

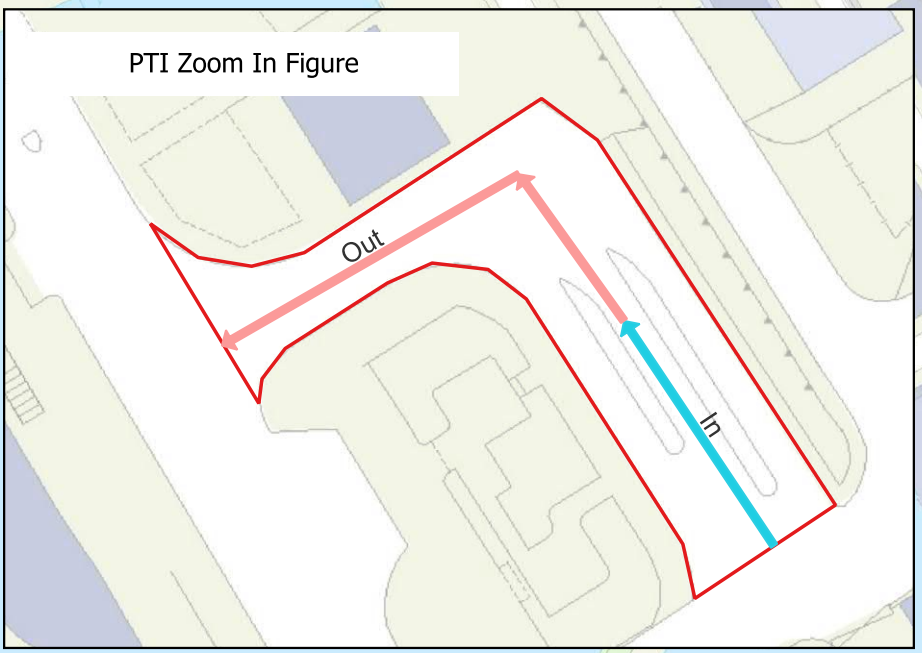
LEGEND

--- PTI Area

--- Spread Distance (FBDD)

Type of PTI: Open-area PTI

PTI Zoom In Figure



Castle Peak Bus Terminus
(CPB_BHUB)



STM_BSOL
(omit LMO)

STM_BSVL
(via LMO)

Type of PTI: Open-area PTI

Sun Tuen Mun Centre Bus Terminus

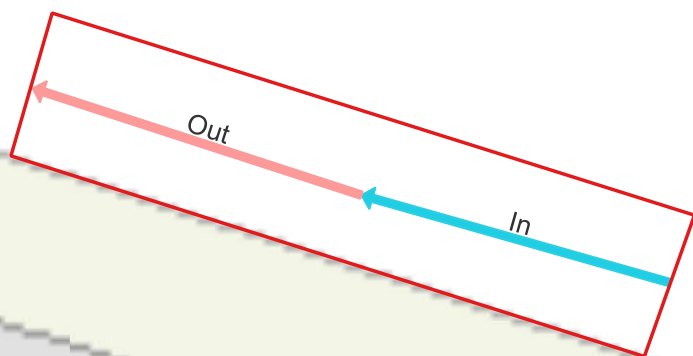
Indicative Map

LEGEND

--- PTI Area

--- Spread Distance (FBDD)

PTI Zoom In Figure

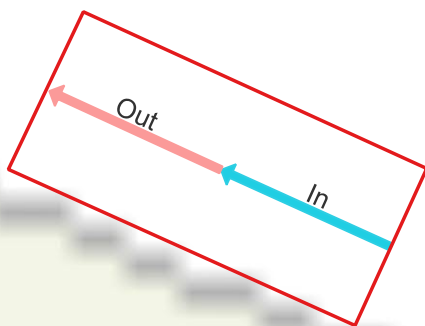


Sun Tuen Mun Centre
Bus Terminus
(STM_BHUB)



GGM_BSPR

PTI Zoom In Figure



Glorious Garden MTR
Bus Terminus
(GGM_BHUB)

Type of PTI: Open-area PTI

Glorious Garden MTR Bus Terminus
Indicative Map

LEGEND

--- PTI Area

--- Spread Distance (FBDD)



Type of PTI: Open-area PTI

Siu Lun Street MTR Bus Terminus

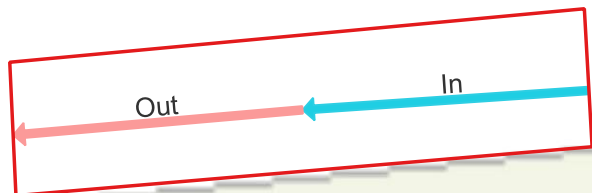
Indicative Map

LEGEND

--- PTI Area

--- Spread Distance (FBDD)

PTI Zoom In Figure



SLS_BSPR

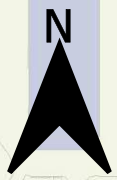
Siu Lun Street MTR Bus Terminus
(SLS_BHUB)

Siu Lun Court Terminus Indicative Map

LEGEND

- PTI Area
- Spread Distance (PLB Diesel)
- Spread Distance (PLB LPG)

Type of PTI: Open-area PTI

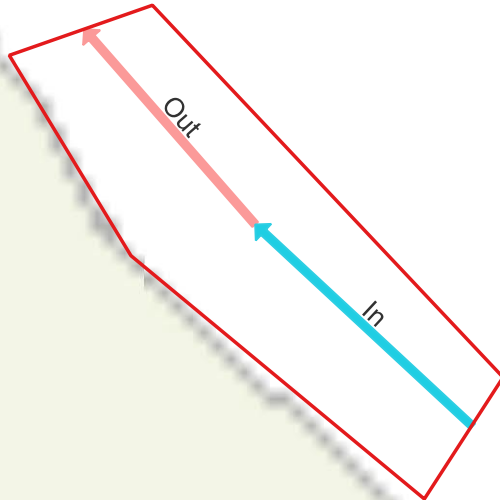


SLC_PSPR

SLC_MSPR

Siu Lun Court Terminus
(SLC_PHUB,
SLC_MHUB)

PTI Zoom In Figure





Type of PTI: Open-area PTI

Tuen Mun (Chi Lok Fa Yuen) Bus Terminus (CLF_BHUB)

Tuen Mun (Chi Lok Fa Yuen) Bus Terminus

Indicative Map

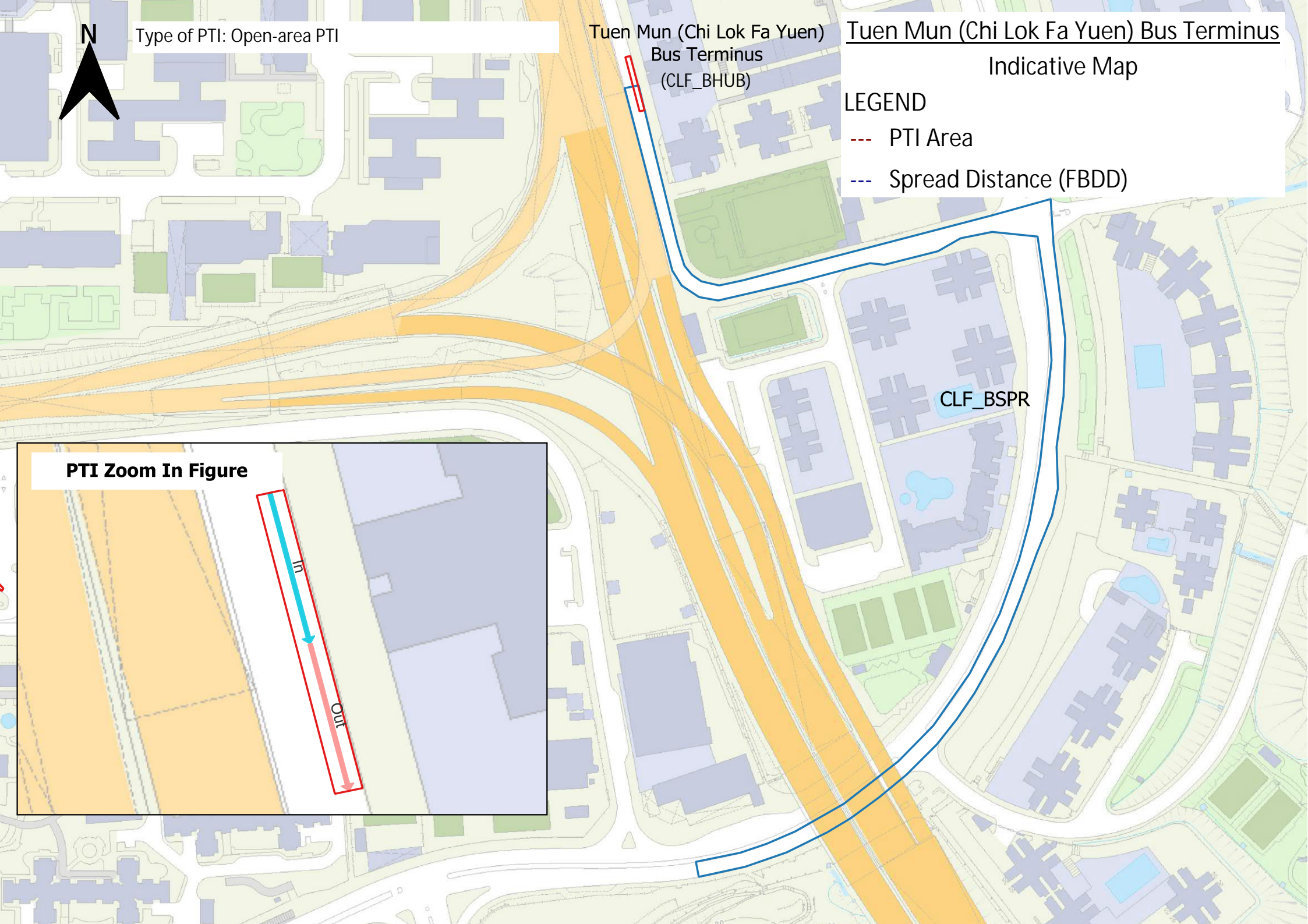
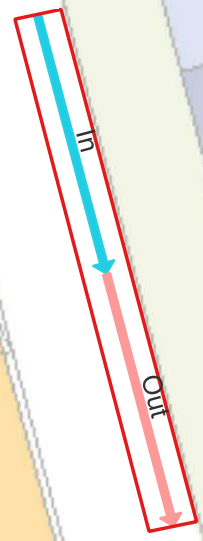
LEGEND

--- PTI Area

--- Spread Distance (FBDD)

CLF_BSPR

PTI Zoom In Figure





TMD_8SNB
TMD_9SNB
TMD_BSNB

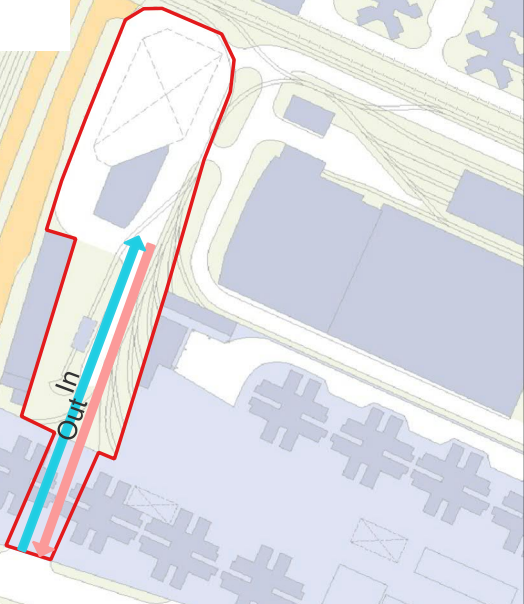
50%

MTR Tuen Mun Depot
(TMD_8HUB, TMD_9HUB, TMD_BHUB)

50%

TMD_8SSB
TMD_9SSB
TMD_BSSB

Carpark Zoom In Figure



Type of PTI: Open-area Carpark

MTR Tuen Mun Depot

Indicative Map

LEGEND

--- Carpark Area

--- Spread Distance (HGV)

Sam Shing Kai Fu Outdoor Parking

Indicative Map



LEGEND

- Carpark Area
- Spread Distance (HGV)

Type of PTI: Open-area Carpark

KFP_8SEB

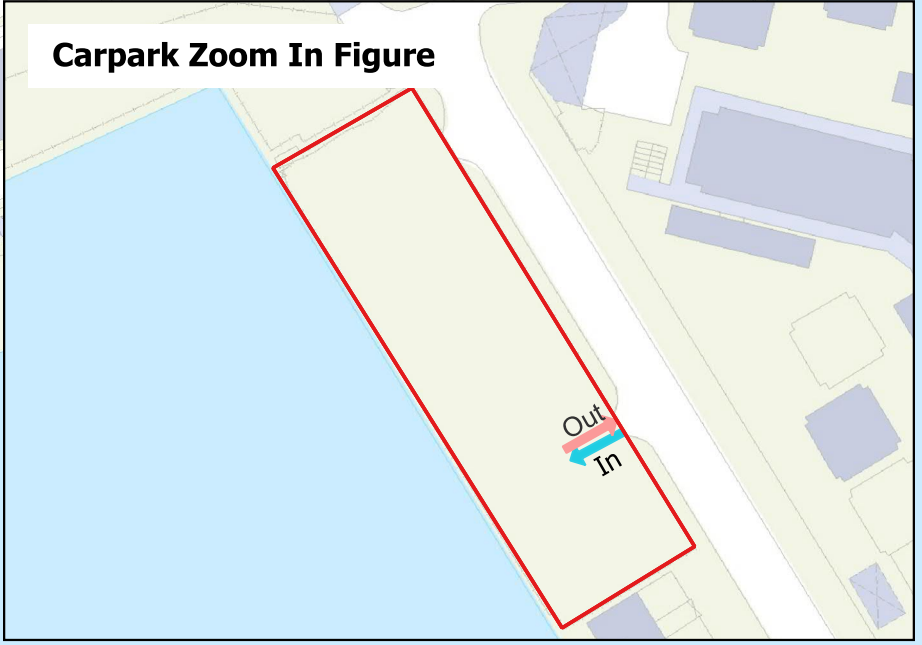
KFP_8SNB

25%

25%

50%

Carpark Zoom In Figure



Sam Shing Kai Fu
Outdoor Parking
(KFP_8HUB)

KFP_8SSB



Nan Fung Industrial City Carpark

Indicative Map

LEGEND

- ##** Carpark Volume Source (NFI_*H##)
(* = veh.type; ## = id)
- Spread Distance (HGV)

*Assume that all vehicles will direct to the nearest PD (i.e. Tsing Wun Road > Wong Chu Road) after leaving the carpark.

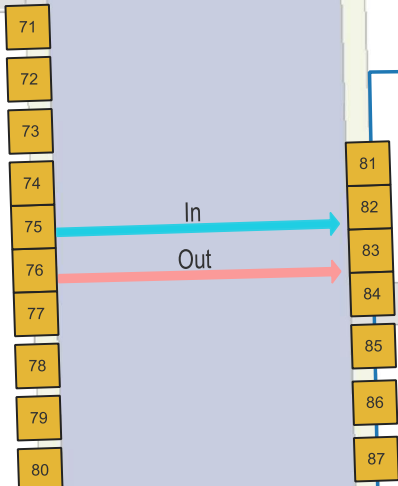
Type of PTI: Semi-confined carpark

100%

Nan Fung Industrial City Carpark
(NFI_7HUB, NFI_8HUB, NFI_9HUB)

NFI_7SPR
NFI_8SPR
NFI_9SPR

Carpark Zoom In Figure



Bao Tao Outdoor Parking

Indicative Map

LEGEND

--- Carpark Area

--- Spread Distance (HGV)

*Assume that all vehicles will direct to the nearest PD (i.e. Tsing Wun Road > Wong Chu Road) after leaving the carpark.

Type of PTI: Open-area Carpark

BTP_7SPR
BTP_8SPR
BTP_9SPR

100%

Carpark Zoom In Figure

In
Out

Bo Tao Outdoor Parking
(BTP_7HUB, BTP_8HUB, BTP_9HUB)





Hung Cheung Road On-Street Parking Space

Indicative Map

LEGEND

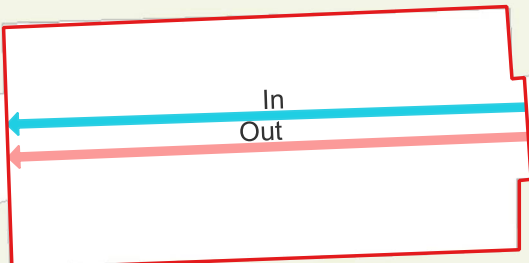
--- Carpark Area

--- Spread Distance (HGV)

*Assume that all vehicles will direct to the nearest PD (i.e. Tsing Wun Road > Wong Chu Road) after leaving the carpark.

Type of PTI: Open-area Carpark

Carpark Zoom In Figure



Hung Cheung Road
On-Street Parking Space
(HCR_7HUB, HCR_8HUB)

HCR_7SPR
HCR_8SPR

100%



San On Street Public Parking

Indicative Map

LEGEND

--- Carpark Area

--- Spread Distance (HGV)

*Assume that all vehicles will direct to the nearest PD (i.e. Tsing Wun Road > Wong Chu Road) after leaving the carpark.

Type of PTI: Open-area Carpark

100%

SOP_7SWB
SOP_8SWB
SOP_9SWB

Carpark Zoom In Figure



San On Street Public Parking
(SOP_7HUB, SOP_8HUB, SOP_9HUB)



Yun Yun Outdoor Parking Indicative Map

LEGEND

- Carpark Area
- Spread Distance (HGV)

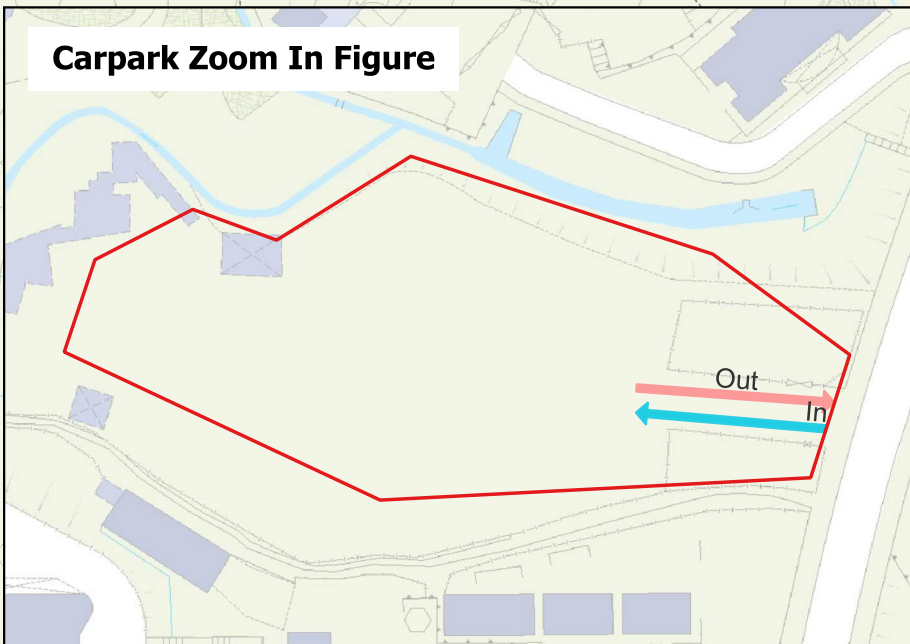
*Assume that all vehicles will direct to the nearest PD (i.e. Tsing Wun Road > Wong Chu Road) after leaving the carpark.

Type of PTI: Open-area Carpark

YYP_7SPR
YYP_8SPR
YYP_9SUP

100%

Carpark Zoom In Figure



Yun Yun Outdoor Parking
(YYP_7HUB, YYP_8HUB, YYP_9HUB)



FOS_8SEB
FOS_9SEB

Fung On Street Metered Parking
(FOS_8HUB, FOS_9HUB)

FOS_8SWB
FOS_9SWB

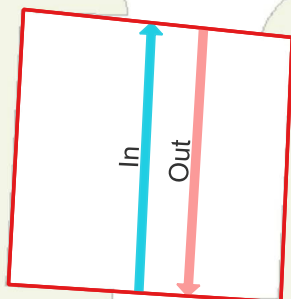
25%

25%

50%

FOS_8SHC
FOS_9SHC

Carpark Zoom In Figure



Type of PTI: Open-area Carpark

Fung On Street Metered Parking Indicative Map

LEGEND

--- Carpark Area

--- Spread Distance (HGV)

*Assume that all vehicles will direct to the nearest PD (i.e. Wong Chu Road) and Castle Peak Road after leaving the carpark.