

Appendix 4.4

Detailed Calculations of Idling
Emission (for Construction Dust
Assessment)

Example Calculations of Total Idling Emission at Kiosks / Loading Bays / Unloading Bays for Year 2020 (during Peak Hour) - for Construction Dust Assessment

RSP / FSP

Bound	Vehicle Type	Total Peak Traffic Flow (veh/hr)	Veh Type (EmFAC)	% Vehicle	Kiosk				Unloading Bay		Loading Bay	
					Traffic Flow	Idling Emission Factor	Processing Time	Emission Rate	Processing Time	Emission Rate	Processing Time	Emission Rate
					(veh/hr)	(g/veh/hr)	(min/veh)	(g/hr)	(min/veh)	(g/hr)	(min/veh)	(g/hr)
In (SB)	Car	42	PC	100%	44	0.000	1.6	0.00	-	-	-	-
	Coach	17	NFB (6)	41%	7	1.171	0.1	0.01	0.9	0.12	4.5	0.61
			NFB (7)	29%	5	1.198	0.1	0.01	0.9	0.09	4.5	0.45
			NFB (8)	30%	5	1.252	0.1	0.01	0.9	0.10	4.5	0.48
	sub-total				17	-	-	0.03	-	0.31	-	1.53
	GV	192	LGV (4)	5%	9	0.833	1.0	0.13	-	-	-	-
			LGV (6)	3%	6	1.143	1.0	0.11	-	-	-	-
			HGV (7)	19%	34	1.053	1.0	0.60	-	-	-	-
			HGV (8)	73%	134	1.466	1.0	3.27	-	-	-	-
	sub-total				183	-	-	4.11	-	-	-	-
Out (NB)	Car	44	PC		48	0.000	1.7	0.00	-	-	-	-
	Coach	17	NFB (6)	41%	7	1.171	0.1	0.01	0.7	0.09	4.4	0.60
			NFB (7)	29%	5	1.198	0.1	0.01	0.7	0.07	4.4	0.44
			NFB (8)	30%	5	1.252	0.1	0.01	0.7	0.07	4.4	0.47
	sub-total				17	-	-	0.03	-	0.24	-	1.50
	GV	170	LGV (4)	5%	8	0.833	1.9	0.21	-	-	-	-
			LGV (6)	3%	5	1.143	1.9	0.18	-	-	-	-
			HGV (7)	19%	31	1.053	1.9	1.02	-	-	-	-
			HGV (8)	73%	119	1.466	1.9	5.54	-	-	-	-
	sub-total				163	-	-	6.95	-	-	-	-

Note:

1. Traffic flow and processing time at kiosks / loading bay / unloading bay for each vehicle type are provided by the Traffic Engineer.
2. All cars are assumed to be powered by petrol
3. No information on the vehicle breakdown of coaches. Reference is therefore made to the latest available 2010 Hong Kong vehicle population as the best available information.
4. Vehicle breakdown of GV is provided by the Traffic Engineer and based on the latest available 2010 Hong Kong vehicle population.
5. It is assumed that FSP emission is the same as RSP as a conservative approach.

