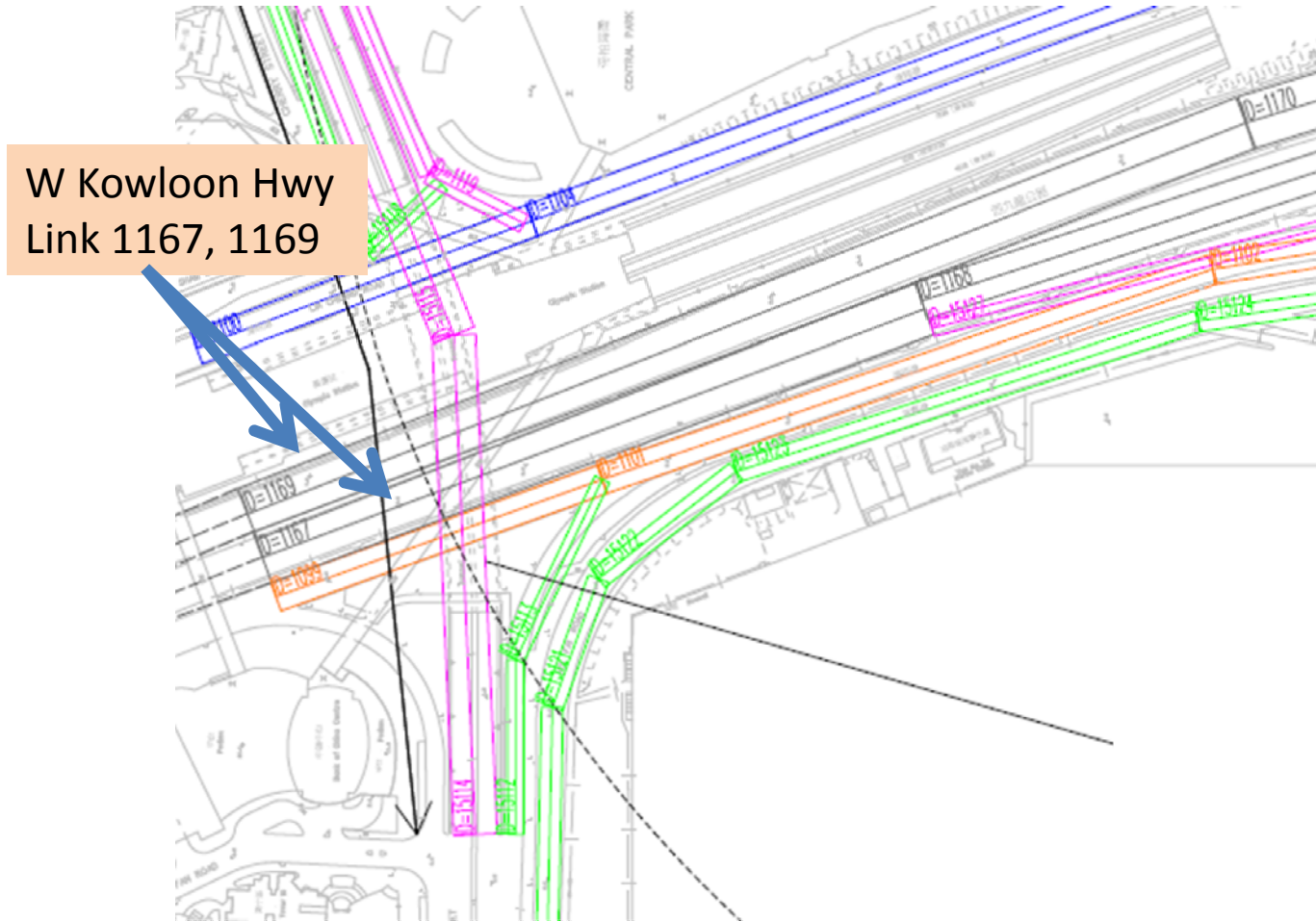


Exercise #9 – HK Expressway



Exercise #9 – HK Expressway Emission Factor

- Problem: Determine the “composite” NO_x running exhaust emission factor (grams/km) for the expressway links given below. Project fleet mix provided on next slide

Road Link	Link ID	Fleet Profile*	Link Length (km)	Peak Traffic Flow (veh/hr)
W Kowloon Hwy NB	1167	EX	0.260	4117
W Kowloon Hwy SB	1169	EX	0.395	4842

Exercise #9 – Expressway Fleet Profile

PC	Taxi	LGV3	LGV4	LGV6	HGV7	HGV8	PLB
45.77%	19.46%	0.24%	9.60%	5.69%	1.17%	3.33%	2.50%

PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC
0.41%	0.34%	1.34%	0.97%	0.97%	0.05%	3.5%	4.66%

Exercise #9 – Expressway Link (cont.)

- Scenario data:
 - Geographic Area: Hong Kong SAR
 - Calendar Years: 2015
 - Season: Annual
 - Scenario Type: EMFAC
 - Output File types: RTL
 - Pollutants: PM10, VOC
 - Temperature: 1 = 20 deg C
 - Relative Humidity: 1 = 70%
 - Speeds: 2 = 70kph, 100kph

Exercise #9 – Expressway Link (cont.)

- Number of Runs: only 1 EMFAC-HK run is necessary as the fleet and speed distributions are the same for each link.

Exercise #9 (cont.)

- Steps
 - Look up emission factors for each vehicle class
 - NOTE: speeds differ by vehicle class
 - Compute “composite” (i.e., fleet-average) emission factor