

Supplementary 1

Table S1. Distinctive characteristics of studied area within its district in the Klang Valley region

Districts	Area (km ²)	Average of vehicles composition (%) ^a	Average of LOS ^a	Average number of vehicles ^b	LOU (%)	Population (million)
Kuala Lumpur	243	Cars & taxis: 60.9 Vans & utilities: 6.8 Medium lorries: 6.2 Heavy lorries: 3.3 Buses: 0.3 Motorcycles: 22.5	4 out of 5 census stations in F LOS	12, 039	100	1.79
Putrajaya	49		-	-	100	0.07
State of Selangor:					91.4	
Petaling	484.32	Cars & taxis: 61.6 Vans & utilities: 8.7 Medium lorries: 5.6 Heavy lorries: 2.4 Buses: 0.3 Motorcycles: 20.5	13 out of 15 census stations in F LOS	10, 113		1.81
1) Petaling Jaya	97.2					
2) Subang Jaya	70.41					
3) Shah Alam	290.3					
4) Serdang						
Sepang	555.51	Cars & taxis: 67.8 Vans & utilities: 11.0 Medium lorries: 4.6 Heavy lorries: 3.2 Buses: 0.6 Motorcycles: 12.8	5 out of 6 census stations in F LOS	3997		0.211
Gombak	650.08	Cars & taxis: 64.7 Vans & utilities: 9.7 Medium lorries: 5.5 Heavy lorries: 2.2 Buses: 0.3 Motorcycles: 7.62	All 5 census stations in F LOS	8362		0.682
Hulu Langat		Cars & taxis: 56.9 Vans & utilities: 11.7 Medium lorries: 5.4 Heavy lorries: 2.8 Buses: 0.5 Motorcycles: 22.6	5 out of 9 census stations in F LOS	2330		1.16
1) Ampang*	849.48					
Klang	626.78	Cars & taxis: 65.2 Vans & utilities: 5.4 Medium lorries: 6.7 Heavy lorries: 4.1 Buses: 0.6 Motorcycles: 17.8	7 out of 11 census stations in F LOS	5762		0.861

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- 1) Klang Utara,
Kapar
 - 2) Klang
Selatan
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^a Report in the year 2017 from the census stations

^b During peak hour traffic (per hour)

LOS: Level of Service (consists of A-F category, F category defined as heavily congested with traffic flow demands exceeding highway capacity)

LOU: Level of urbanization

*Information this area covered within district of Hulu Langat and part of Gombak

Sources:

Road Traffic Volume Malaysia, 2017; Department of Statistics, 2010; Selangor Town and Country Planning Department, 2010

Supplementary 2

Table S2. Details of the set-up parameters for the TD-GCMS method

Description	
Thermal Desorption conditions:	
Desorption temperature	: 280°C
Desorption time	: 30 min
Split ratio	: Split less
Flow path temperature	: 140°C
Line purge	: 2 min
Trap purge	: 3 min
Sampling valve	: 0.5 L
Gas Chromatography Mass Spectrometry conditions:	
Initial temperature	: 36°C for 5 min
Oven ramp rate	: 5°C min ⁻¹ to 250°C (2 min)
Inlet Temperature	: 200°C
Auxiliary temperature	: 280°C
MS Quad	: 150°C
MS Source	: 230°C