

A Comparison of Exposure Metrics for Traffic-Related Air Pollutants: Application to Epidemiology Studies in Detroit, Michigan

Figure S1. Distribution and maps of NO_x emissions, defined as g/day for roads within 300 m of the home, coded by home group. High diesel roads are highlighted in yellow.

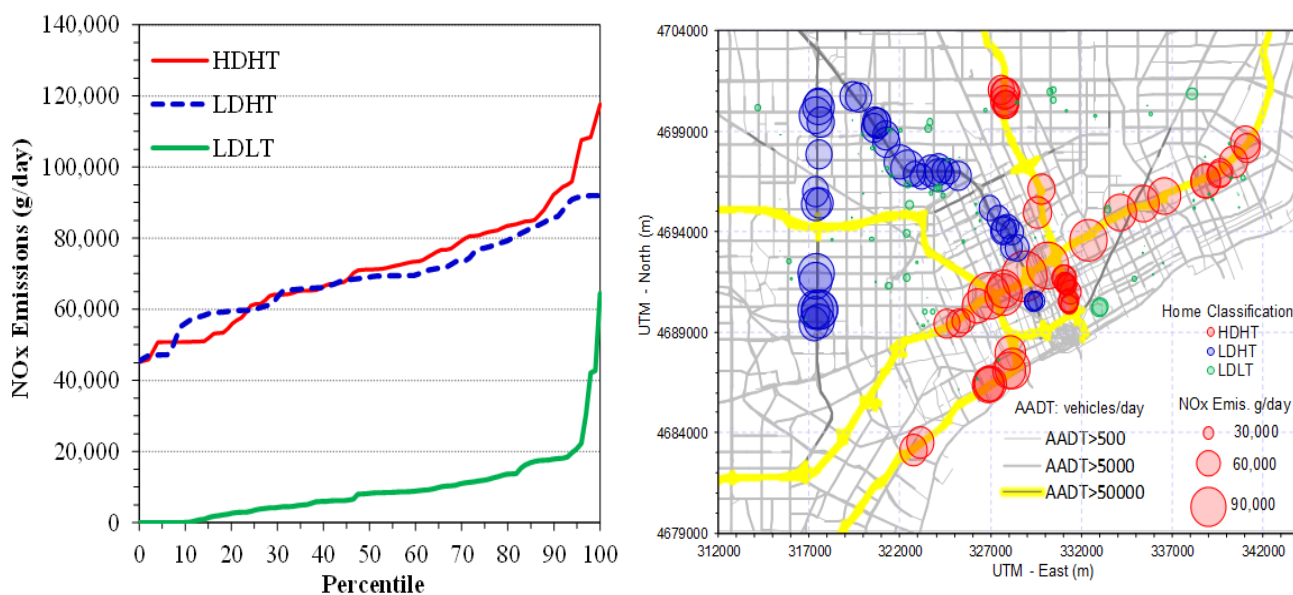


Figure S2. Distribution and maps of CO emissions, defined as g/day for roads within 300 m of the home, coded by home group. High diesel roads are highlighted in yellow.

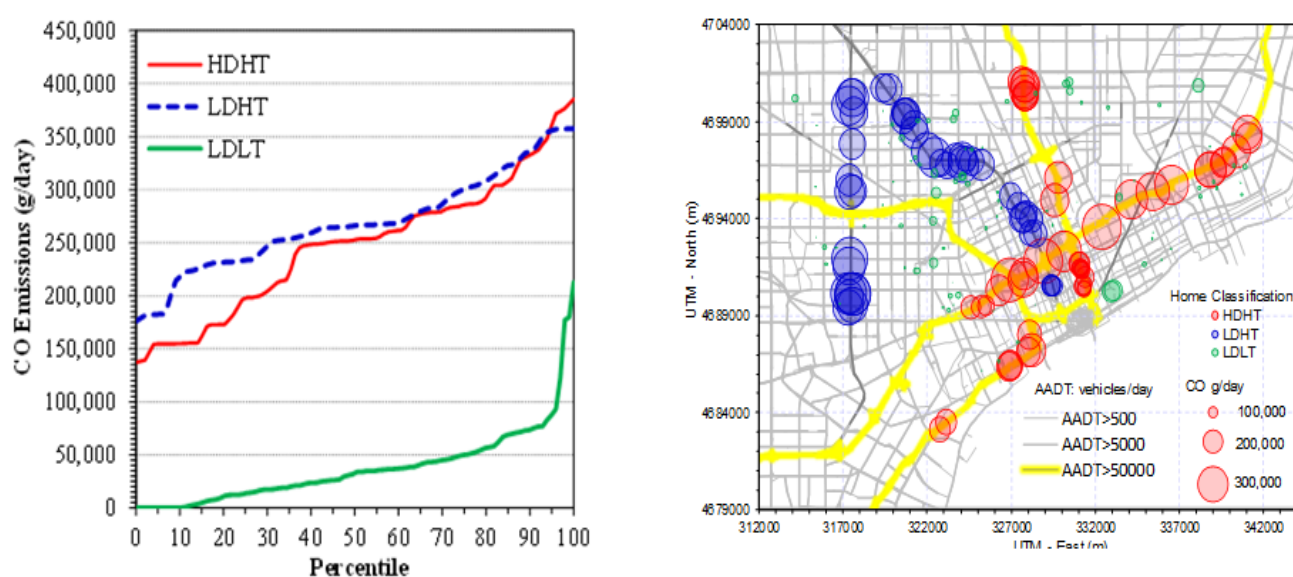


Figure S3. Distribution and maps of total annual average PM_{2.5} predicted for 2010 from hybrid model. Each figure is coded by home group. High diesel roads are highlighted in yellow.

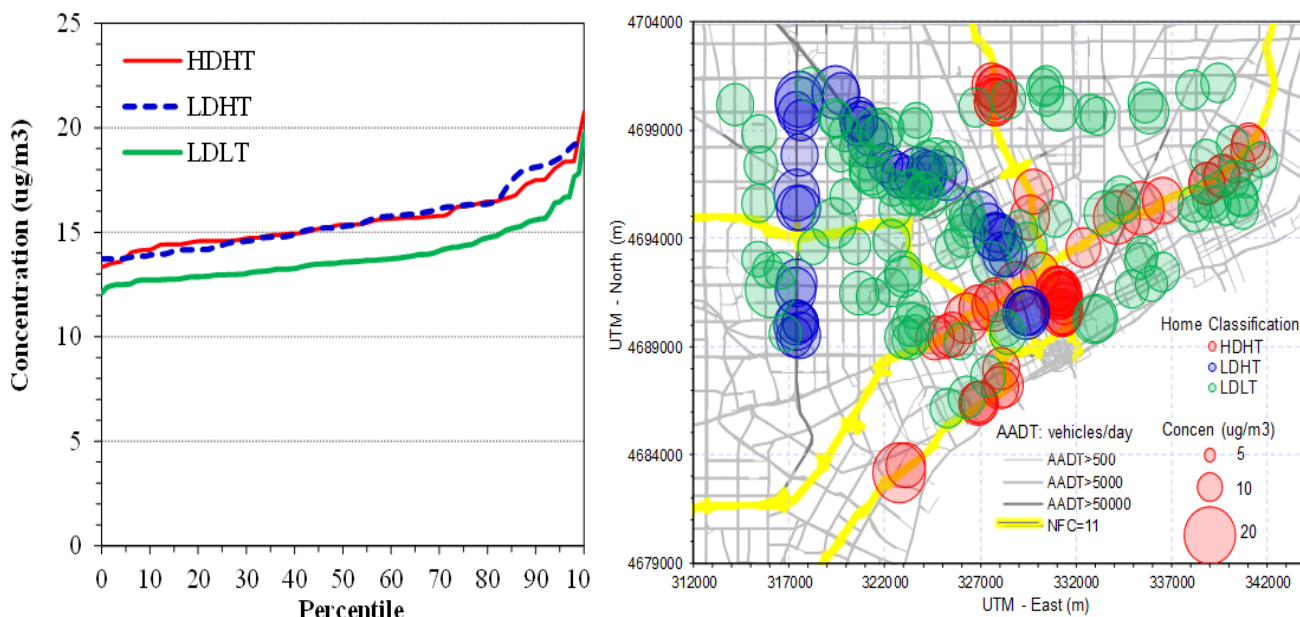


Table S1. Comparison of exposure metrics for NEXUS homes using rates of “severe” exposure misclassification in percent for tertiles and “thirds” groups. Shaded numbers show scores above 60% and 80%. Variable definitions as follows: Group = LDLT, LDHT and HDHT (assigned 1, 2, 3) categorical classification; Distance = m to nearest major highway; AADT = total traffic on nearest major highway; Lanes = number of lanes on nearest major highway; Diesel = diesel vehicles on nearest major highway; VKT = traffic density defined as vehicles-kilometers-traveled/day in 300 m buffer around home; PM Emis = PM_{2.5} emissions in same buffer ; CO Emis = CO emissions in same buffer; PM Max = maximum 24-h PM_{2.5} concentration; PM Ave = 2010 annual average PM_{2.5} concentration. Sample size is *n* = 218, except for comparisons involving AADT, Lanes, Diesel metrics where *n* = 116 due to use of only high traffic homes.

Type and Metric	Group (group)	Distance (m)	AADT (veh/day)	Lanes (no)	Diesel (veh/day)	VKT (km/day)	PM Emis (g/day)	CO Emis (g/day)	PM Max (ug/m ³)	PM Ave (ug/m ³)
Severe disagreement among tertiles (percent)										
Distance	51									
AADT	11	20								
Lanes	31	7	19							
Diesel	20	20	4	16						
VKT	47	1	11	9	22					
PM Emis	48	1	15	9	19	0				
CO Emis	47	1	15	10	19	0				
PM Max	46	2	15	8	16	1	1	1		
PM Ave	53	3	16	3	18	1	1	1	0	

Table S1. Cont.

Type and Metric	Group (group)	Distance (m)	AADT (veh/day)	Lanes (no)	Diesel (veh/day)	VKT (km/day)	PM Emis (g/day)	CO Emis (g/day)	PM Max (ug/m ³)	PM Ave (ug/m ³)
Severe disagreement with thirds (percent)										
Distance	33									
AADT	66	34								
Lanes	82	26	1							
Diesel	57	25	0	3						
VKT	1	33	51	65	50					
PM Emis	0	33	46	61	44	0				
CO Emis	1	33	52	65	51	0	0			
PM Max	8	42	44	56	43	3	1	3		
PM Ave	4	46	50	62	48	6	2	7	0	0

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