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Supplement of

Characterization of road freight transportation and its impact on the national emission inventory in China

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1 **Table S1. Defining SpeedDivider in ES Calculation**

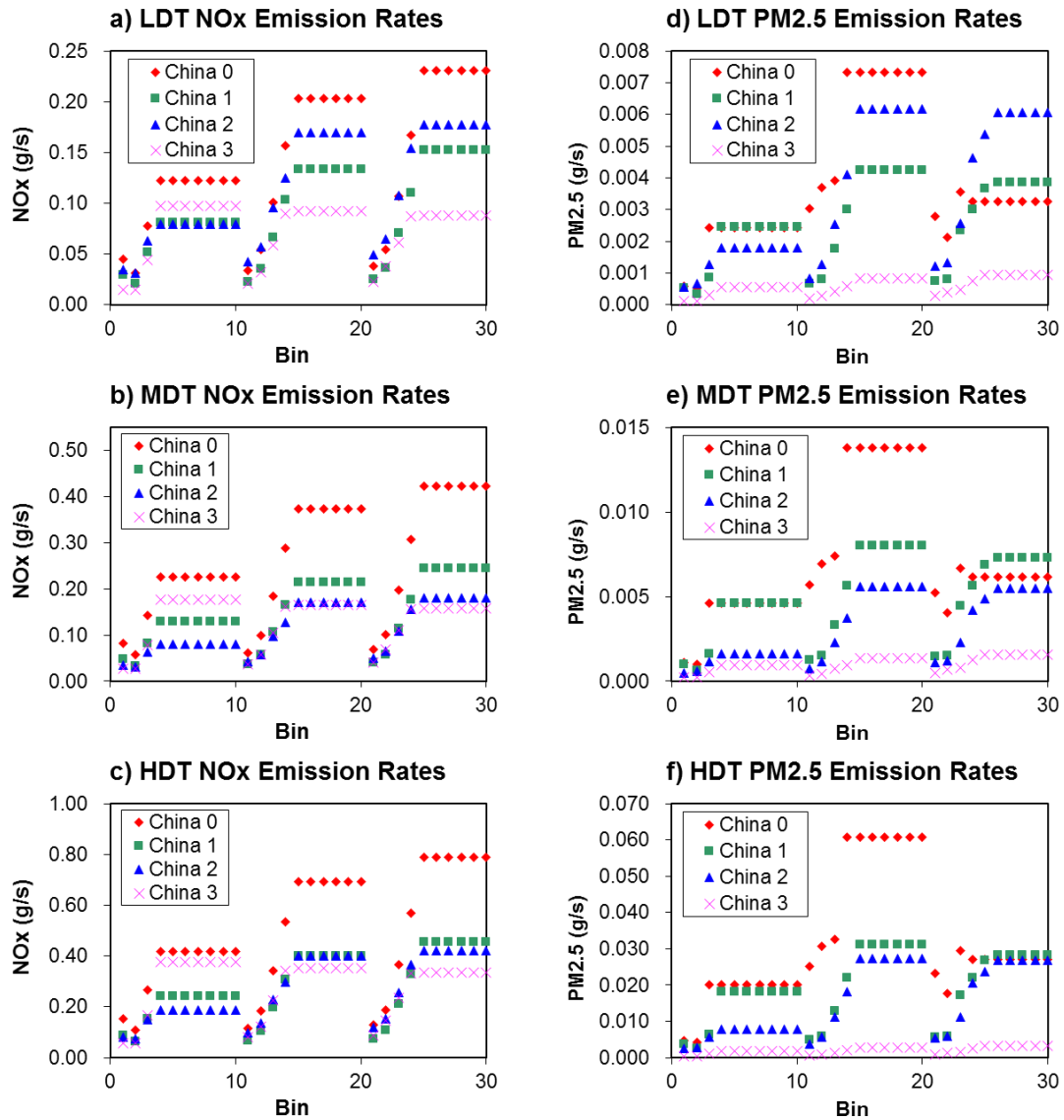
Speed Cut (m/s)		Power Cut (kW/ton)		Speed Divider (s/m)
Min	Max	Min	Max	
0.0	5.4	-20	400	3
5.4	8.5	-20	16	5
5.4	8.5	16	400	3
8.5	12.5	-20	16	7
8.5	12.5	16	400	5
12.5	50	-20	16	13
12.5	50	16	400	5

2

3 **Table S2 Diesel Truck Emission Standards in China**

Standard	Pollutants and emission limits (g/kw • h)	
	NO _x	PM _{2.5}
China 1	8.0	0.36
China 2	7.0	0.15
China 3	5.0	0.1
China 4	3.5	0.02

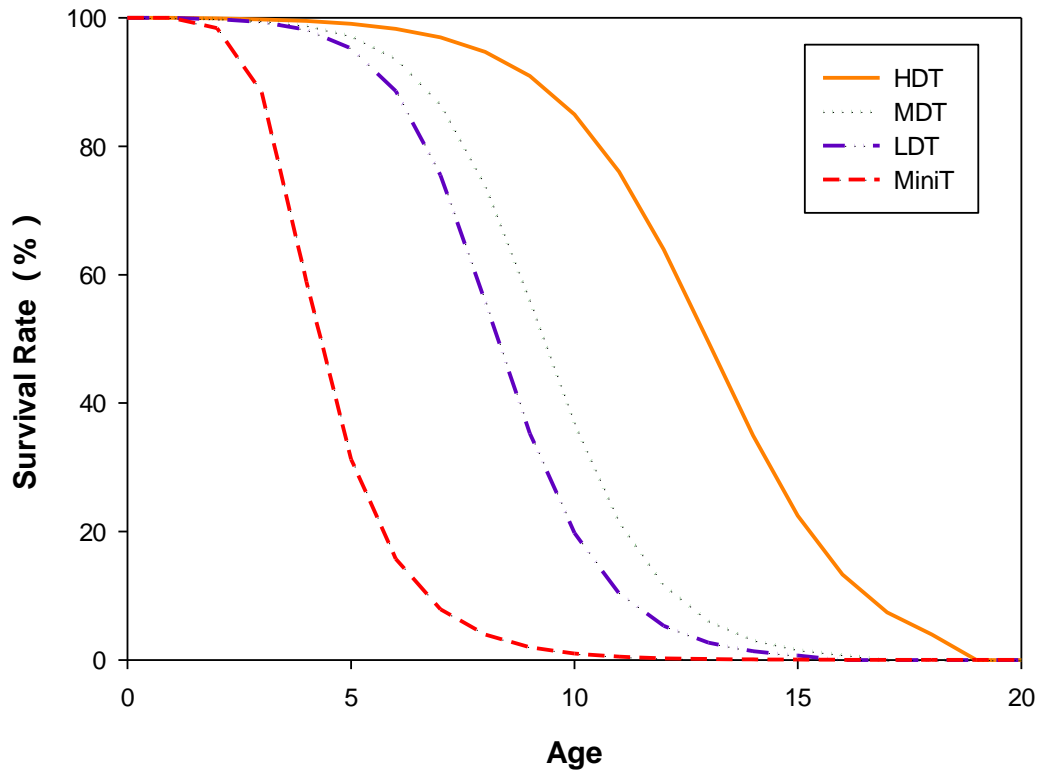
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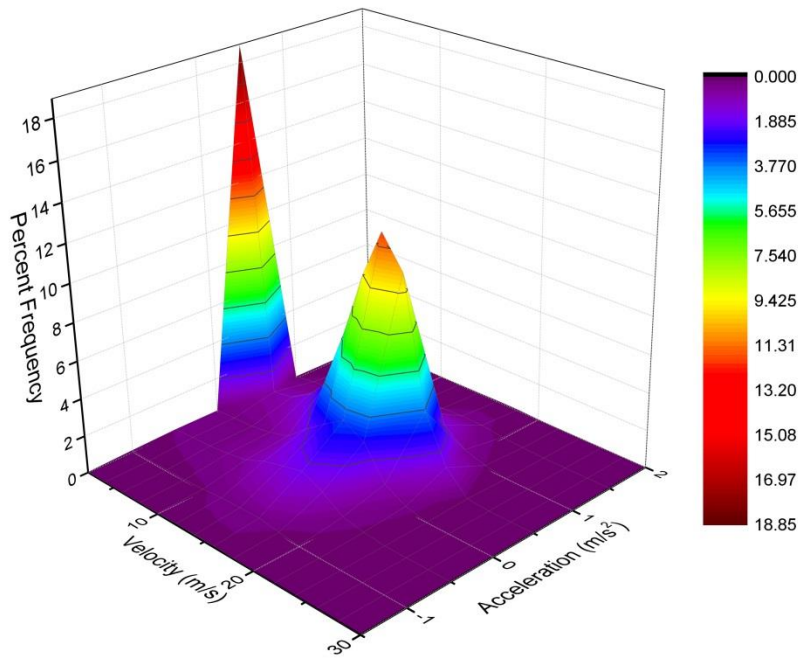
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2 **Figure S1. Emission Rates of Each Bin: a)LDT NO_x Emission Rate; b)MDT NO_x**
 3 **Emission Rate; c)HDT NO_x Emission Rate; d)LDT PM_{2.5} Emission Rate; e)MDT**
 4 **PM_{2.5} Emission Rate; f)HDT PM_{2.5} Emission Rate.**

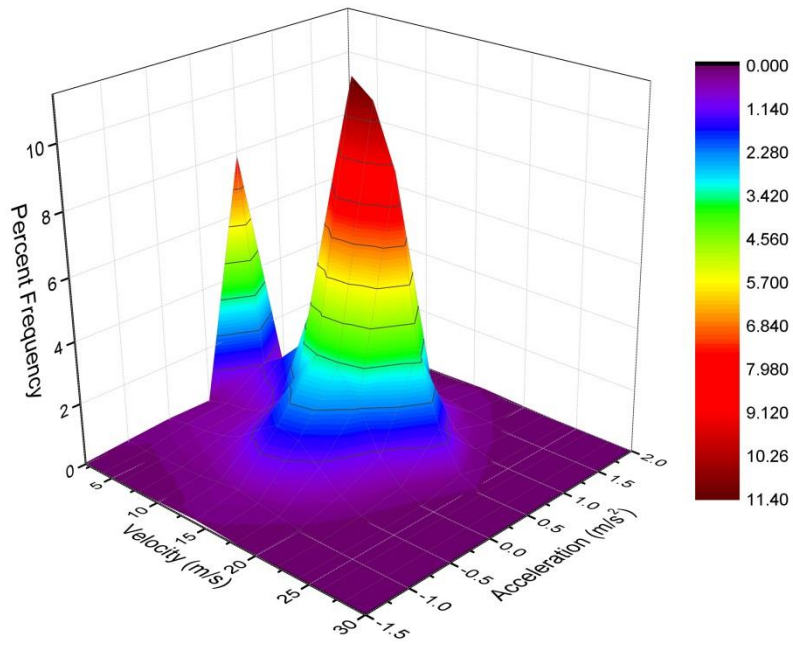
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 2 **Figure S2. Survival Rates of Trucks in China**

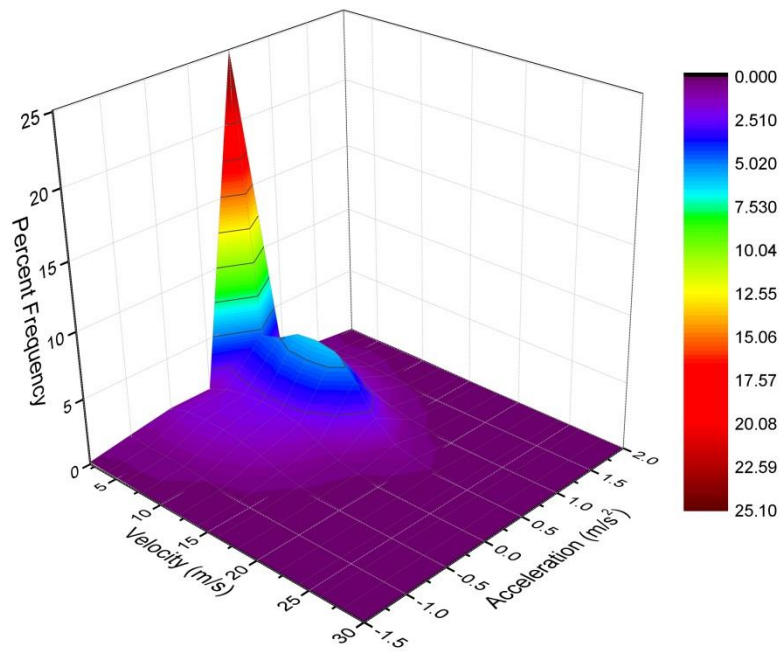


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 4 **Figure S3. Speed and Acceleration Distribution on National Road**



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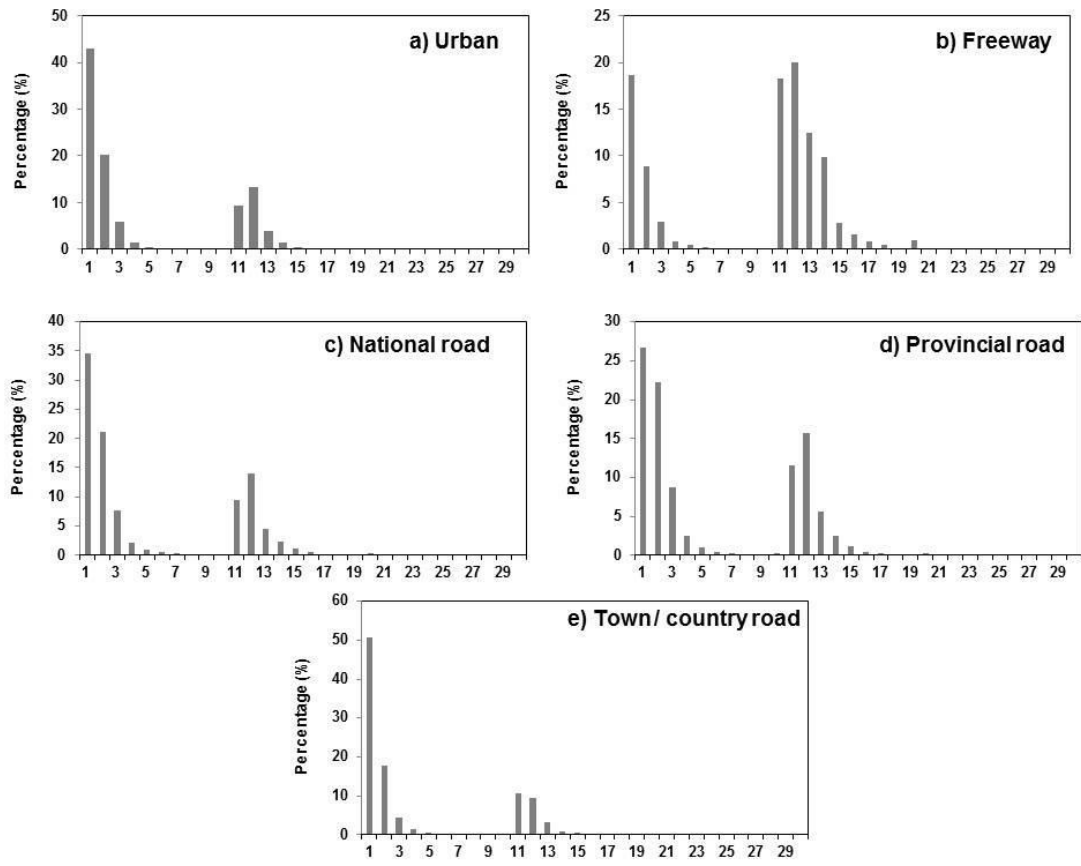
2 **Figure S4. Speed and Acceleration Distribution on Provincial Road**



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4 **Figure S5. Speed and Acceleration Distribution on Rural / Town Road**

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2 **Figure S6. Bin Distribution on Different Types of Roads: a) Urban Road; b)**
 3 **Freeway; c) National Road; d) Provincial Road; e) Town / Country Road.**

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