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Supplementary Information

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6 **Manuscript title:**

7 **Characterization of Road Freight Transportation and Its Impact on the**
8 **National Emission Inventory in China**

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

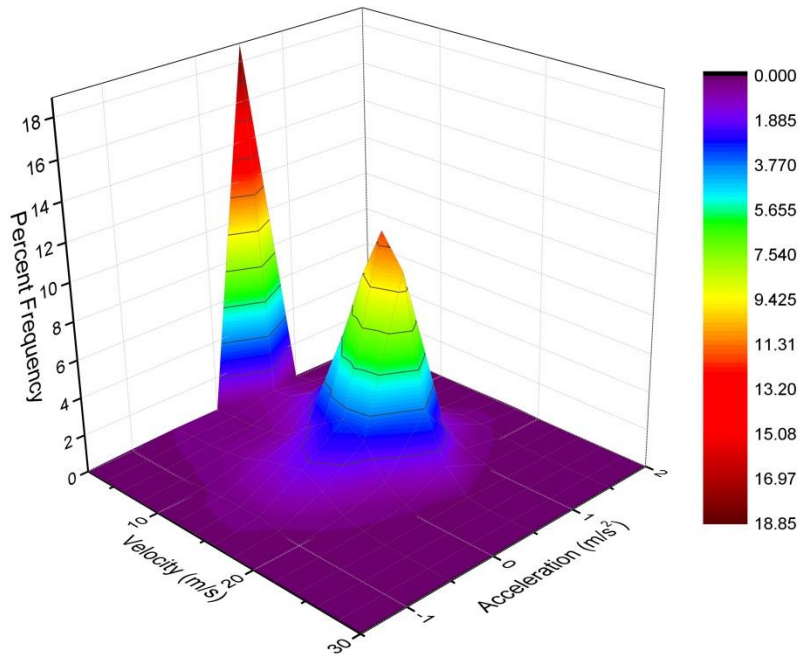
Speed Cut (m/s)		Power Cut (kW/ton)		Speed Divider
Min	Max	Min	Max	(s/m)
0.0	5.4	-20	400	3
5.4	8.5	-20	16	5
5.4	8.5	16	400	3
8.5	12.5	-20	16	7
8.5	12.5	16	400	5
12.5	50	-20	16	13
12.5	50	16	400	5

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3 **Table S2 Heavy Duty Diesel Vehicle Emission Standards in China**

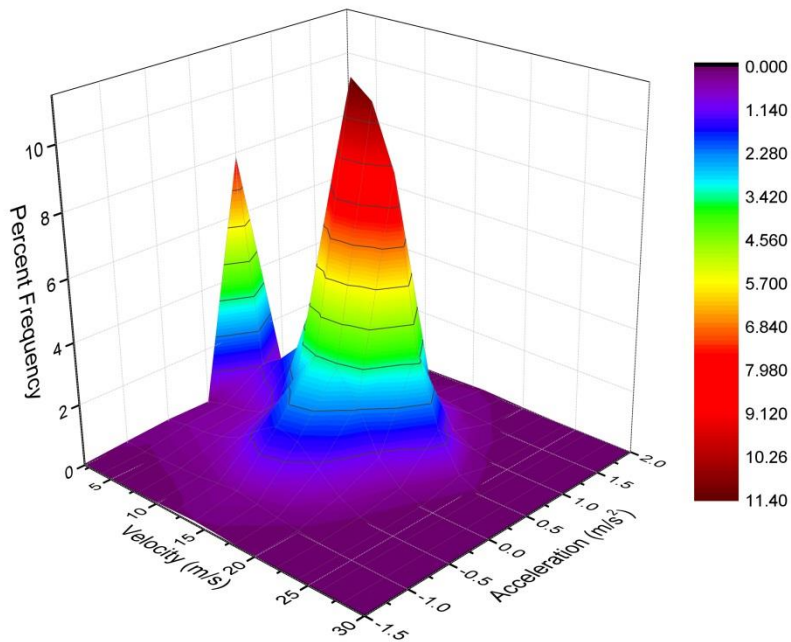
Standard	Pollutants and emission limits (g/kw • h)	
	NOX	PM
China 1	8.0	0.36
China 2	7.0	0.15
China 3	5.0	0.10
China 4	3.5	0.02

4



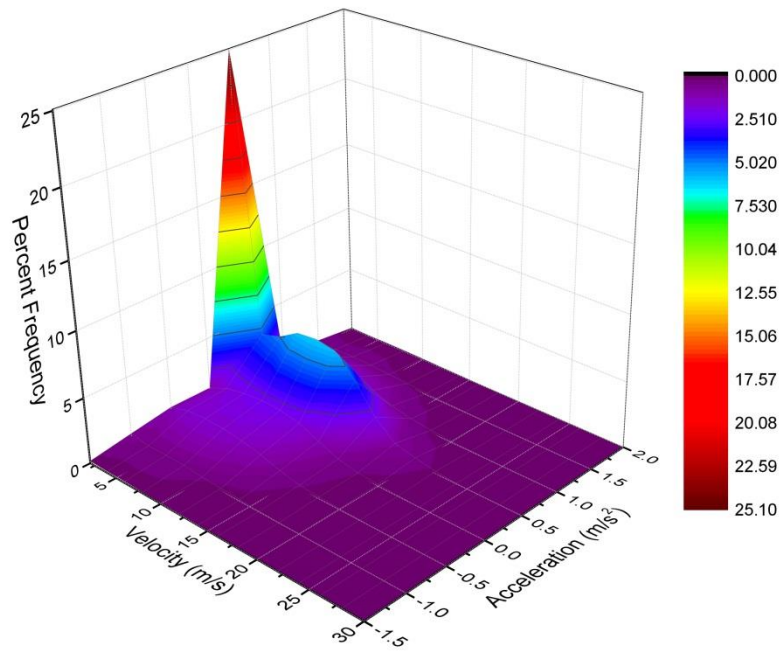
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2 **Figure S1. Speed and Acceleration Distribution on National Road**



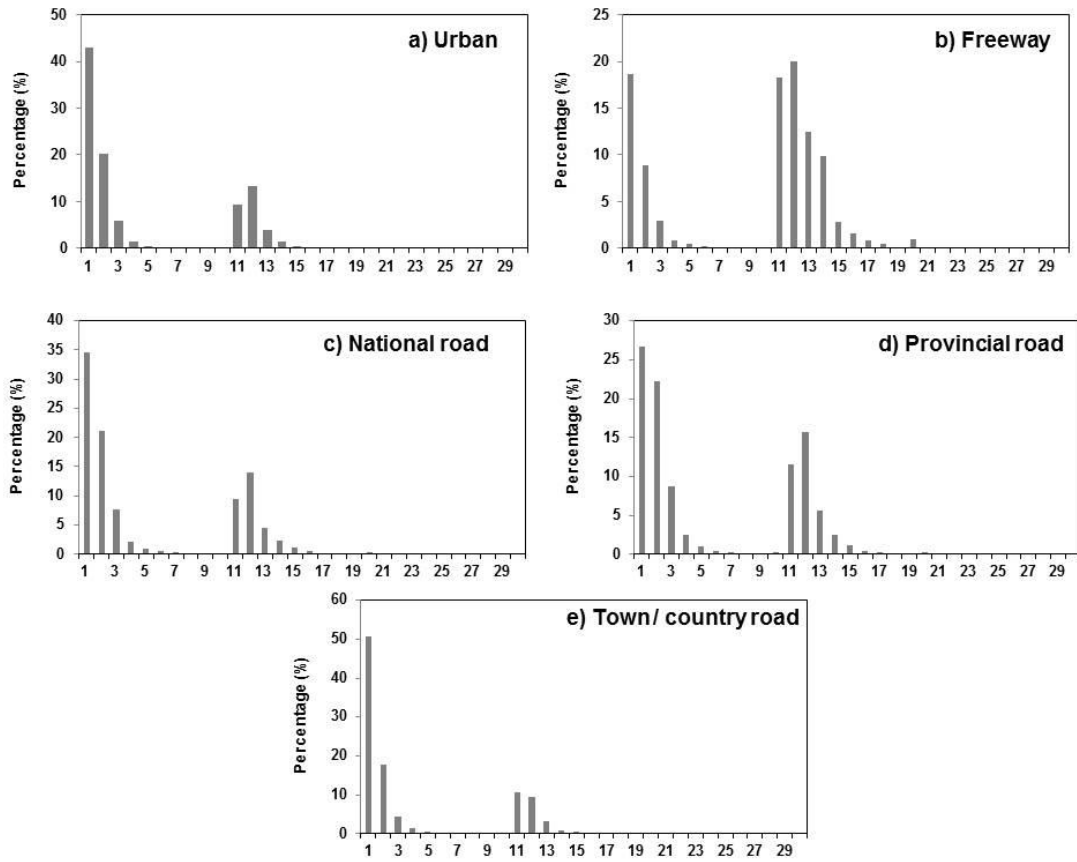
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4 **Figure S2. Speed and Acceleration Distribution on Provincial Road**



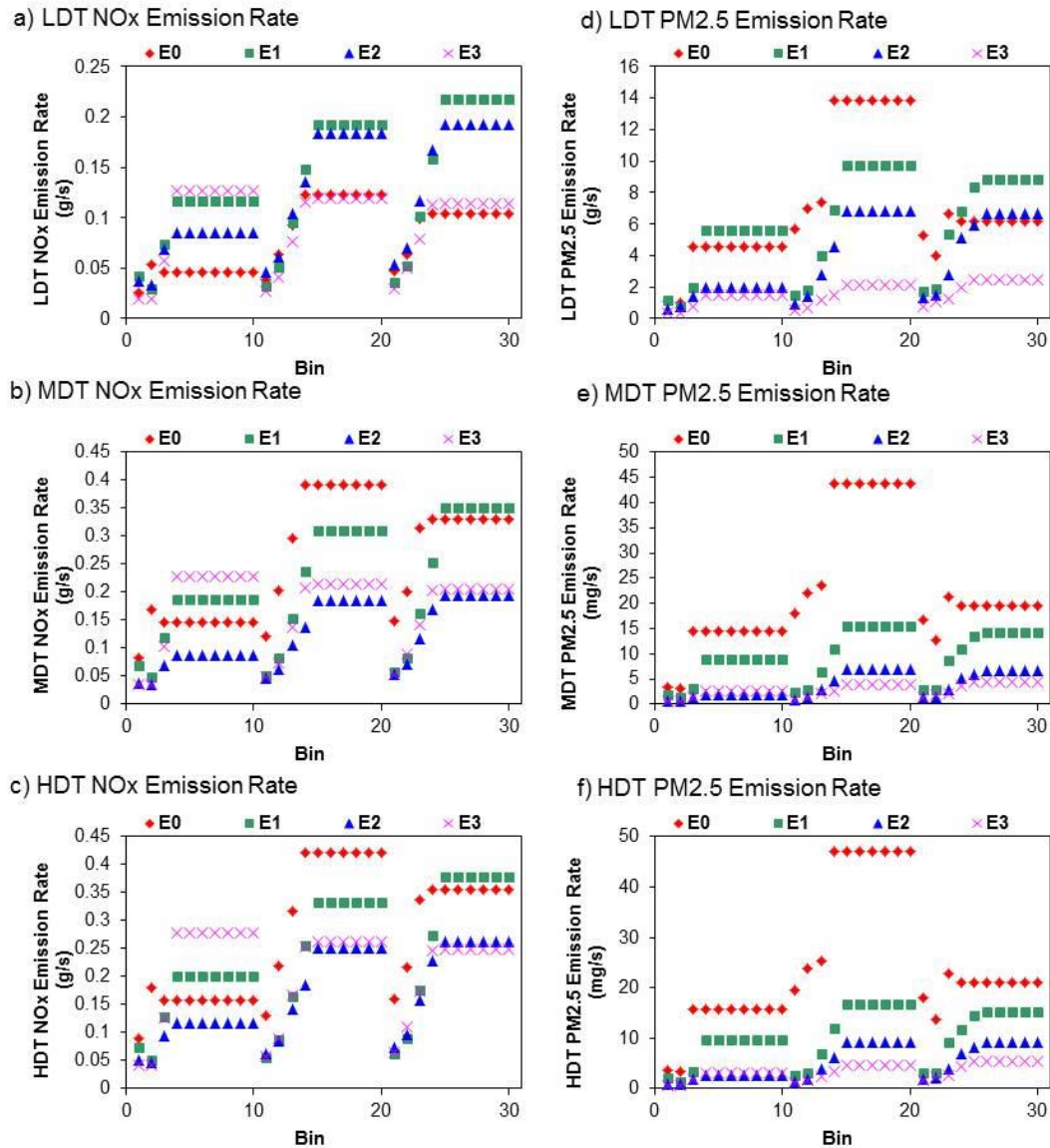
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2 **Figure S3. Speed and Acceleration Distribution on Town/Country Road**



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- 1 **Figure S4. Bin Distribution on Different Types of Roads: a) Urban road; b) Freeway; c) National Road; d) Provincial Road; e) Town / Country Road.**



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- 4 **Figure S5. Emission Rates of Each Bin: a)LDT NO_x Emission Rate; b)MDT NO_x**
- 5 **Emission Rate; c)HDT NO_x Emission Rate; d)LDT PM_{2.5} Emission Rate; e)MDT**
- 6 **PM_{2.5} Emission Rate; f)HDT PM_{2.5} Emission Rate.**