Supplementary Materials: Managing Uncertainty in Urban Road Traffic Emissions Associated with Vehicle Fleet Composition: From the Perspective of Spatiotemporal Sampling Coverage

Figure S1. Location of the Yangtze River Delta and core urban area of Xuancheng;

Table S1. Typical spatial and temporal sampling coverage values and sampling schemes;

Table S2. Uncertainty quantification results corresponding to spatiotemporal sampling coverage combinations.
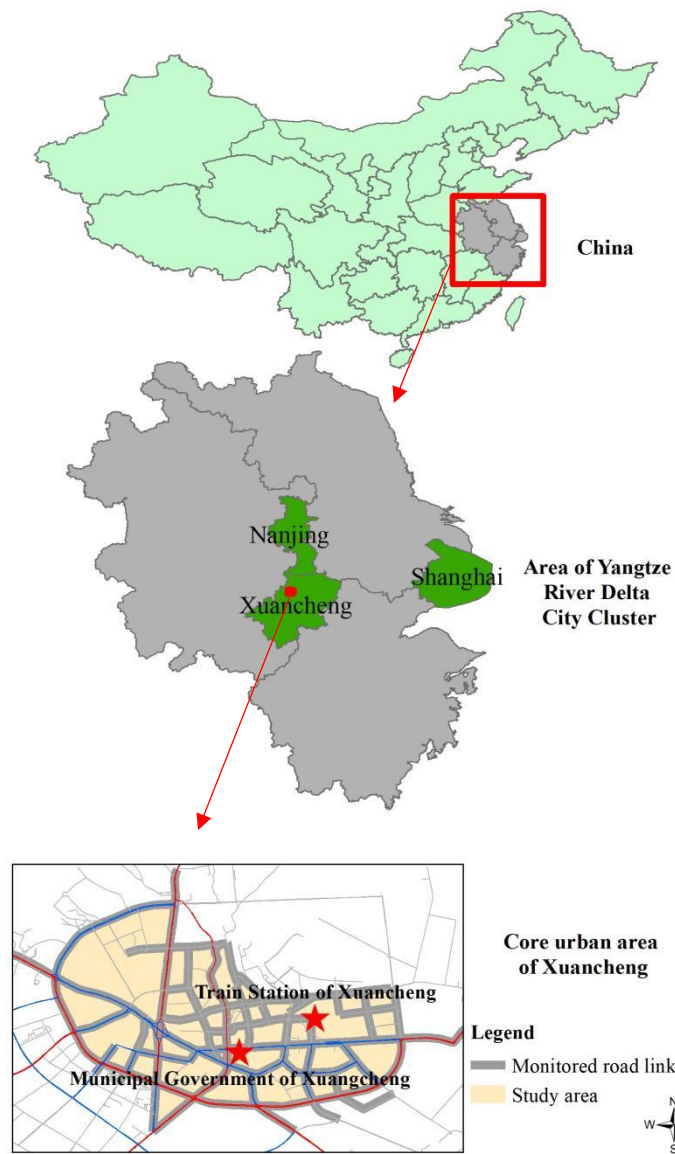
Supplementary Figures

Figure S1. Location of the Yangtze River Delta and core urban area of Xuancheng.

Note: The data source of map of China and Yangtze River Delta is ArcGIS. The data source of the road network of Xuancheng is Open Street Map (http://www.openstreetmap.org/).

Supplementary Table

Table S1. Typical spatial and temporal sampling coverage values and sampling schemes.

Sampling coverage	Sample unit	Stratification basis	Typical sampling coverage
Spatial sampling coverage	road segment	Road types [1]	2%, 5%, 10%, 21%, 50% and 79% (correspond sample size in this study: 3, 6, 12, 24, 57 and 90 road segments)
Temporal sampling coverage	hour	Daytime and Nighttime [2]	8%, 16%, 25%, 50% and 80% (correspond sample size in this study: 2, 4, 6, 12 and 20 hours)

[1] Road types can be divided into three categories: expressways, arterial roads, and local roads.

[2] Daytime is from 07:00 to 18:59. Nighttime is from 00:00 to 06:59 and from 19:00 to 23:59.

Table S2. Uncertainty quantification results corresponding to spatiotemporal sampling coverage combinations.

NO.	Spatial sampling coverage	Temporal sampling coverage	NOx uncertainties	CO_2 uncertainties
1	2%	8%	(-48%, 100%)	(-5%, 9%)
2	2%	16%	(-46%, 86%)	(-5%, 8%)
3	2%	25%	(-46%, 84%)	(-4%, 8%)
4	2%	50%	(-45%, 80%)	(-4%, 7%)
5	2%	80%	(-44%, 78%)	(-4%, 7%)
6	10%	8%	(-32%, 51%)	(-3%, 5%)
7	10%	16%	(-31%, 39%)	(-3%, 3%)
8	10%	25%	(-30%, 36%)	(-2%, 3%)
9	10%	50%	(-29%, 35%)	(-2%, 3%)
10	11%	80%	(-29%, 35%)	(-2%, 3%)
11	21%	8%	(-29%, 42%)	(-2%, 4%)
12	21%	16%	(-23%, 29%)	(-2%, 2%)
13	21%	25%	(-21%, 26%)	(-2%, 2%)
14	21%	50%	(-21%, 22%)	(-2%, 2%)
15	21%	80%	(-20%, 21%)	(-2%, 2%)
16	50%	8%	(-26%, 33%)	(-2%, 4%)
17	50%	16%	(-16%, 21%)	(-2%, 2%)
18	50%	25%	(-15%, 18%)	(-2%, 1%)
19	50%	50%	(-13%, 13%)	(-1%, 1%)
20	50%	80%	(-12%, 12%)	(-1%, 1%)
21	79%	8%	(-25%, 31%)	(-2%, 3%)
22	79%	16%	(-15%, 19%)	(-1%, 2%)
23	79%	25%	(-12%, 14%)	(-1%, 1%)
24	79%	50%	(-8%, 10%)	(-1%, 1%)
25	79%	80%	(-5%, 6%)	(-0.4%, 0.4%)