

**Table S2.** CMAQ performance statistics for hourly PM<sub>10</sub>, NO<sub>2</sub>, and O<sub>3</sub> concentrations

| Statistical measures |     | Pollutants                            |                       |                      |
|----------------------|-----|---------------------------------------|-----------------------|----------------------|
|                      |     | PM <sub>10</sub> (µg/m <sup>3</sup> ) | NO <sub>2</sub> (ppb) | O <sub>3</sub> (ppb) |
| Mean (AQMS/CMAQ)     | Jan | 51.9/35.3                             | 23.6/21.3             | 18.6/22.2            |
|                      | Apr | 54.3/21.3                             | 29.9/23.9             | 33.4/35.9            |
|                      | Jul | 43.9/15.4                             | 22.0/22.5             | 29.8/31.6            |
|                      | Oct | 39.1/21.3                             | 21.2/21.1             | 24.2/28.1            |
| r                    | Jan | 0.65                                  | 0.68                  | 0.67                 |
|                      | Apr | 0.43                                  | 0.66                  | 0.65                 |
|                      | Jul | 0.48                                  | 0.47                  | 0.6                  |
|                      | Oct | 0.52                                  | 0.64                  | 0.62                 |
| MB                   | Jan | -17.7                                 | -1.5                  | 1.4                  |
|                      | Apr | -39.4                                 | -3.6                  | 0.1                  |
|                      | Jul | -28.2                                 | 3.2                   | 2.4                  |
|                      | Oct | -18.5                                 | -5.5                  | 2.1                  |
| NMB (%)              | Jan | -30.7                                 | -6.6                  | 7.7                  |
|                      | Apr | -66.4                                 | -13.6                 | 0.9                  |
|                      | Jul | -65.9                                 | 14.8                  | 9.2                  |
|                      | Oct | -46.5                                 | -21.3                 | 8.6                  |
| NME (%)              | Jan | 40.7                                  | 27.1                  | 41.1                 |
|                      | Apr | 68.4                                  | 35.1                  | 38.8                 |
|                      | Jul | 73.7                                  | 43.5                  | 46.2                 |
|                      | Oct | 54.3                                  | 33.2                  | 45.3                 |
| RMSE                 | Jan | 30.5                                  | 9.5                   | 10.5                 |
|                      | Apr | 49.3                                  | 14.7                  | 17.7                 |
|                      | Jul | 36.9                                  | 16.1                  | 16.5                 |
|                      | Oct | 25.3                                  | 13.6                  | 14.3                 |
| IOA                  | Jan | 0.68                                  | 0.80                  | 0.81                 |
|                      | Apr | 0.50                                  | 0.79                  | 0.80                 |
|                      | Jul | 0.58                                  | 0.72                  | 0.79                 |
|                      | Oct | 0.65                                  | 0.76                  | 0.74                 |

CMAQ, Community Multiscale Air Quality; AQMS, air quality monitoring sites; ppb, parts per billion; PM<sub>10</sub>, aerodynamic diameter <10 µm; NO<sub>2</sub>, nitrogen dioxide O<sub>3</sub>, ozone; r: Pearson's correlation coefficient; MB: mean bias; NMB: mean normalized bias; NME: mean normalized error; RMSE: root mean square error; IOA: index of agreement.