

## AIR QUALITY

### Annex: statistics of measured variables

*RRQA - ARPA Lombardia, province Monza and Brianza, Varese and Milan metropolitan city: monitoring network*

| Name Station                  | Province | Network      | Zone type | Station type | Altitude (m.a.s.l.) | Site       |
|-------------------------------|----------|--------------|-----------|--------------|---------------------|------------|
| Monza - Libertà               | MB       | Mezzo mobile | Urban     | TRAFFIC      | 162                 | Mobile lab |
| Meda                          | MB       | Public       | Urban     | TRAFFIC      | 243                 | Fixed site |
| Monza Parco                   | MB       | Public       | Suburban  | BACKGROUND   | 181                 | Fixed site |
| Monza via Machiavelli         | MB       | Public       | Urban     | BACKGROUND   | 162                 | Fixed site |
| Arconate                      | MI       | Private      | Suburban  | BACKGROUND   | 178                 | Fixed site |
| Cassano d'Adda 2 – via Milano | MI       | Private      | Urban     | TRAFFIC      | 133                 | Fixed site |
| Cinisello Balsamo             | MI       | Public       | Urban     | TRAFFIC      | 154                 | Fixed site |
| Cormano                       | MI       | Public       | Urban     | BACKGROUND   | 149                 | Fixed site |
| Limite di Pioltello           | MI       | Public       | Urban     | BACKGROUND   | 122                 | Fixed site |
| Magenta                       | MI       | Public       | Urban     | BACKGROUND   | 141                 | Fixed site |
| Milano Verziere               | MI       | Public       | Urban     | TRAFFIC      | 118                 | Fixed site |
| Milano - via Pascal           | MI       | Public       | Urban     | BACKGROUND   | 122                 | Fixed site |
| Milano Senato                 | MI       | Public       | Urban     | TRAFFIC      | 119                 | Fixed site |
| Milano - viale Liguria        | MI       | Public       | Urban     | TRAFFIC      | 114                 | Fixed site |
| Milano - viale Marche         | MI       | Public       | Urban     | TRAFFIC      | 127                 | Fixed site |
| Motta Visconti                | MI       | Public       | Suburban  | BACKGROUND   | 100                 | Fixed site |
| Rho                           | MI       | Public       | Urban     | BACKGROUND   | 158                 | Fixed site |
| San Giuliano Milanese         | MI       | Private      | Urban     | TRAFFIC      | 97                  | Fixed site |
| Sesto San Giovanni            | MI       | Public       | Urban     | TRAFFIC      | 140                 | Fixed site |
| Turbigo                       | MI       | Private      | Urban     | BACKGROUND   | 166                 | Fixed site |

|                       |    |         |          |            |     |            |
|-----------------------|----|---------|----------|------------|-----|------------|
| Busto Arsizio Accam   | VA | Private | Suburban | BACKGROUND | 206 | Fixed site |
| Ferno                 | VA | Private | Urban    | BACKGROUND | 215 | Fixed site |
| Saronno via Santuario | VA | Public  | Urban    | BACKGROUND | 212 | Fixed site |
| Varese - via Copelli  | VA | Public  | Urban    | TRAFFIC    | 383 | Fixed site |
| Varese Vidoletti      | VA | Public  | Urban    | BACKGROUND | 425 | Fixed site |

## DESCRIPTIVE STATISTICS – EX ANTE and EX POST OPERAM MONITORING CAMPAIGNS

*Table 1. SO<sub>2</sub> - ex ante and post operam descriptive statistics.*

| <b>ex-<br/>ante</b>                       | <b>I (04 -22 mag<br/>2017)</b>     |     | <b>II (14 - 31 lug<br/>2017)</b> |     | <b>III (9 - 30 nov<br/>2017)</b>  |     | <b>IV (31 jan - 19 feb<br/>2018)</b> |     | <b>Mean</b>   |
|-------------------------------------------|------------------------------------|-----|----------------------------------|-----|-----------------------------------|-----|--------------------------------------|-----|---------------|
|                                           | mean                               | std | mean                             | std | mean                              | std | mean                                 | std |               |
| SO <sub>2</sub>                           | 3.7                                | 1.4 | 3.9                              | 2.1 | 5                                 | 1.3 | 5.3                                  | 2.2 | 3.8           |
| <b>ex-<br/>post</b>                       | <b>I (20 feb -26 mar<br/>2019)</b> |     | <b>II (08 - 21 mag<br/>2019)</b> |     | <b>III (03 - 17 lug<br/>2019)</b> |     | <b>IV (30 ott - 21 nov<br/>2019)</b> |     |               |
|                                           | mean                               | std | mean                             | std | mean                              | std | mean                                 | std |               |
| SO <sub>2</sub>                           | --                                 | --  | --                               | --  | 5.1                               | 2.5 | 2.4                                  | 0.7 | 3.5           |
| <b>Unit of measure [µg/m<sup>3</sup>]</b> |                                    |     |                                  |     |                                   |     |                                      |     | <b>-7.8 %</b> |

*Table 2. NO<sub>2</sub> - ex ante and post operam descriptive statistics.*

| <b>ex-<br/>ante</b>                       | <b>I (04 -22 mag<br/>2017)</b>     |      | <b>II (14 - 31 lug<br/>2017)</b> |     | <b>III (9 - 30 nov<br/>2017)</b>  |     | <b>IV (31 jan - 19 feb<br/>2018)</b> |     | <b>Mean</b>   |
|-------------------------------------------|------------------------------------|------|----------------------------------|-----|-----------------------------------|-----|--------------------------------------|-----|---------------|
|                                           | mean                               | std  | mean                             | std | mean                              | std | mean                                 | std |               |
| NO <sub>2</sub>                           | 37.6                               | 8.8  | 26                               | 6.6 | 47.1                              | 8.9 | 56.9                                 | 8.6 | 40.6          |
| <b>ex-<br/>post</b>                       | <b>I (20 feb -26 mar<br/>2019)</b> |      | <b>II (08 - 21 mag<br/>2019)</b> |     | <b>III (03 - 17 lug<br/>2019)</b> |     | <b>IV (30 ott - 21 nov<br/>2019)</b> |     |               |
|                                           | mean                               | std  | mean                             | std | mean                              | std | mean                                 | std |               |
| NO <sub>2</sub>                           | 60.4                               | 15.7 | 38.8                             | 6.3 | 26.4                              | 7.0 | 37.3                                 | 9.0 | 45.1          |
| <b>Unit of measure [µg/m<sup>3</sup>]</b> |                                    |      |                                  |     |                                   |     |                                      |     | <b>+ 11 %</b> |

|                     | <b>Monza<br/>Machiavelli</b> |      | <b>Monza Parco</b> |      | <b>MI -Senato</b> |      | <b>MI- Marche</b> |      |
|---------------------|------------------------------|------|--------------------|------|-------------------|------|-------------------|------|
| <b>ex-<br/>ante</b> | mean                         | std  | mean               | std  | mean              | std  | mean              | std  |
| NO <sub>2</sub>     | 40.9                         | 17.7 | 57.5               | 16.2 | 48.4              | 17.3 | 59.0              | 22.8 |
| <b>ex-<br/>post</b> | mean                         | std  | mean               | std  | mean              | std  | mean              | std  |
| NO <sub>2</sub>     | 41.6                         | 13.2 | 34.5               | 15.0 | 42.7              | 14.4 | 57.9              | 19.8 |
| <b>Δ %</b>          | + 5%                         |      | -40 %              |      | -11.8             |      | -1.9 %            |      |

Table 3. CO - ex ante and post operam descriptive statistics.

| <b>ex-<br/>ante</b>                       | <b>I (04 -22 mag<br/>2017)</b>     |     | <b>II (14 - 31 lug<br/>2017)</b> |     | <b>III (9 - 30 nov<br/>2017)</b>  |     | <b>IV (31 jan - 19 feb<br/>2018)</b> |     | <b>Mean</b>  |
|-------------------------------------------|------------------------------------|-----|----------------------------------|-----|-----------------------------------|-----|--------------------------------------|-----|--------------|
|                                           | mean                               | std | mean                             | std | mean                              | std | mean                                 | std |              |
| NO <sub>2</sub>                           | 0.4                                | 0.2 | 0.7                              | 0.1 | 1.2                               | 0.4 | 1.0                                  | 0.3 | 0.9          |
| <b>ex-<br/>post</b>                       | <b>I (20 feb -26 mar<br/>2019)</b> |     | <b>II (08 - 21 mag<br/>2019)</b> |     | <b>III (03 - 17 lug<br/>2019)</b> |     | <b>IV (30 ott - 21 nov<br/>2019)</b> |     |              |
|                                           | mean                               | std | mean                             | std | mean                              | std | mean                                 | std |              |
| NO <sub>2</sub>                           | 0.8                                | 0.2 | 0.6                              | 0.3 | 0.7                               | 0.3 | 0.9                                  | 0.2 | 0.8          |
| <b>Unit of measure [mg/m<sup>3</sup>]</b> |                                    |     |                                  |     |                                   |     |                                      |     | <b>-11 %</b> |

Table 4.  $O_3$  - ex ante and post operam descriptive statistics.

| <b>ex-<br/>ante</b>                       | <b>I (04 -22 mag<br/>2017)</b>     |      | <b>II (14 - 31 lug<br/>2017)</b> |      | <b>III (9 - 30 nov<br/>2017)</b>  |      | <b>IV (31 jan - 19 feb<br/>2018)</b> |     | <b>Mean</b>  |
|-------------------------------------------|------------------------------------|------|----------------------------------|------|-----------------------------------|------|--------------------------------------|-----|--------------|
|                                           | mean                               | std  | mean                             | std  | mean                              | std  | mean                                 | std |              |
| O <sub>3</sub>                            | 90.3                               | 31.7 | 142                              | 31.3 | --                                | --   | 11.1                                 | 7.6 | 81           |
| <b>ex-<br/>post</b>                       | <b>I (20 feb -26 mar<br/>2019)</b> |      | <b>II (08 - 21 mag<br/>2019)</b> |      | <b>III (03 - 17 lug<br/>2019)</b> |      | <b>IV (30 ott - 21 nov<br/>2019)</b> |     |              |
|                                           | mean                               | std  | mean                             | std  | mean                              | std  | mean                                 | std |              |
| O <sub>3</sub>                            | 30.8                               | 16.6 | 50.7                             | 16.6 | 78.8                              | 12.7 | 18.5                                 | 5.6 | 38.8         |
| <b>Unit of measure [µg/m<sup>3</sup>]</b> |                                    |      |                                  |      |                                   |      |                                      |     | <b>-51 %</b> |

Table 5. Benzene - ex ante and post operam descriptive statistics.

| <b>ex-ante</b> | <b>I (04 -22 mag 2017)</b>     |     | <b>II (14 - 31 lug 2017)</b> |     | <b>III (9 - 30 nov 2017)</b>  |     | <b>IV (31 jan - 19 feb 2018)</b> |     | <b>Mean</b>  |
|----------------|--------------------------------|-----|------------------------------|-----|-------------------------------|-----|----------------------------------|-----|--------------|
|                | mean                           | std | mean                         | std | mean                          | std | mean                             | std |              |
| Benzene        | -                              | -   | 0.3                          | 0.1 | 3.3                           | 1.8 | 2.0                              | 1.1 | 1.8          |
| <b>ex-post</b> | <b>I (20 feb -26 mar 2019)</b> |     | <b>II (08 - 21 mag 2019)</b> |     | <b>III (03 - 17 lug 2019)</b> |     | <b>IV (30 ott - 21 nov 2019)</b> |     |              |
|                | mean                           | std | mean                         | std | mean                          | std | mean                             | std |              |
| Benzene        | 1.0                            | 0.5 | 0.3                          | 0.1 | 0.6                           | 0.3 | 1.0                              | 0.3 | 0.8          |
| <b>Δ %</b>     |                                |     |                              |     |                               |     |                                  |     | <b>-55 %</b> |

  

|                | <b>Sondrio-Mazzini</b> | <b>MI -Senato</b> | <b>MI- Marche</b> |
|----------------|------------------------|-------------------|-------------------|
| <b>ex-ante</b> | mean                   | mean              | mean              |
| Benzene        | 0.8                    | 1.7               | 2.3               |
| <b>ex-post</b> | mean                   | mean              | mean              |
| Benzene        | 0.4                    | 1.4               | 1.7               |
| <b>Δ %</b>     | <b>-50 %</b>           | <b>-1.7</b>       | <b>-26 %</b>      |

Table 6 benzene – mean concentrations (passive sampling monitoring)

| Punto | Latitudine (N) | Longitudine (E) | Descrizione                      | Benzene estivo ( $\mu\text{g}/\text{m}^3$ ) | Benzene invernale ( $\mu\text{g}/\text{m}^3$ ) | Benzene media ( $\mu\text{g}/\text{m}^3$ ) | Benzene media (AO) ( $\mu\text{g}/\text{m}^3$ ) | $\Delta$ ( $\mu\text{g}/\text{m}^3$ ) |
|-------|----------------|-----------------|----------------------------------|---------------------------------------------|------------------------------------------------|--------------------------------------------|-------------------------------------------------|---------------------------------------|
| p1    | 45.59136       | 9.30643         | V.le Libertà (ITC Mapelli)       | 1.08                                        | 0.51                                           | 0.80                                       | 0.74                                            | <b>0.06</b>                           |
| p2    | 45.59069       | 9.30266         | V.le Libertà (Centro Civico)     | 1.31                                        | 0.53                                           | 0.92                                       | 0.81                                            | <b>0.11</b>                           |
| p3    | 45.59147       | 9.30160         | Via Parmenide                    | 1.18                                        | 0.55                                           | 0.87                                       | 0.81                                            | <b>0.06</b>                           |
| p4    | 45.59008       | 9.29736         | V.le Libertà, 93                 | 1.70                                        | 0.80                                           | 1.25                                       | 1.25                                            | <b>0.00</b>                           |
| p5    | 45.59294       | 9.29966         | Via Impastato                    | 0.97                                        | 0.50                                           | 0.73                                       | 0.66                                            | <b>0.07</b>                           |
| p6    | 45.58818       | 9.29679         | Via Gallarana                    | 1.19                                        | 0.52                                           | 0.85                                       | 0.83                                            | <b>0.02</b>                           |
| p7    | 45.58860       | 9.29870         | Via Correggio, 81                | 1.28                                        | 0.56                                           | 0.92                                       | 0.88                                            | <b>0.04</b>                           |
| p8    | 45.58736       | 9.29989         | Via della Guerrina (Liceo Porta) | 1.43                                        | 0.69                                           | 1.06                                       | 1.02                                            | <b>0.04</b>                           |
| p9    | 45.58904       | 9.30310         | Via Modigliani                   | 1.18                                        | 0.51                                           | 0.84                                       | 0.79                                            | <b>0.05</b>                           |
| p10   | 45.58707       | 9.30461         | Via della Guerrina, 31           | 1.16                                        | 0.58                                           | 0.87                                       | 0.82                                            | <b>0.05</b>                           |
| p11   | 45.59282       | 9.30432         | Via Ragazzi del '99              | 0.98                                        | 0.50                                           | 0.74                                       | 0.65                                            | <b>0.09</b>                           |
| p12   | 45.58909       | 9.30531         | Via Papini                       | 1.19                                        | 0.52                                           | 0.86                                       | 0.75                                            | <b>0.11</b>                           |
| p13   | 45.58961       | 9.31086         | V.le Stucchi (autolavaggio)      | 1.21                                        | 0.60                                           | 0.90                                       | 0.92                                            | <b>-0.02</b>                          |
| p14   | 45.57413       | 9.26378         | Via Machiavelli                  | 1.01                                        | 0.51                                           | 0.76                                       | 0.65                                            | <b>0.11</b>                           |
| p15   | 45.58541       | 9.31010         | V.le Stucchi (palazzetto)        | 1.32                                        | 0.66                                           | 0.99                                       | 0.88                                            | <b>0.11</b>                           |
| p16   | 45.58177       | 9.30198         | V.le Sicilia                     | 1.39                                        | 0.58                                           | 0.98                                       | 0.89                                            | <b>0.09</b>                           |
| p17   | 45.58612       | 9.30390         | Via Vasari                       | 1.09                                        | 0.64                                           | 0.87                                       | n.d.                                            | <b>n.d</b>                            |
| p18   | 45.58392       | 9.29992         | Via Correggio, 26                | 1.41                                        | 0.59                                           | 1.00                                       | 0.95                                            | <b>0.05</b>                           |
| p19   | 45.58243       | 9.29480         | Via Amati (Policlinico)          | 1.15                                        | 0.50                                           | 0.83                                       | 0.77                                            | <b>0.06</b>                           |
| p20   | 45.58632       | 9.29299         | Via Aguggiari                    | 1.09                                        | 0.50                                           | 0.79                                       | 0.70                                            | <b>0.09</b>                           |

| <b>Punto</b> | <b>Latitudine (N)</b> | <b>Longitudine (E)</b> | <b>Descrizione</b>          | <b>Benzene estivo (<math>\mu\text{g}/\text{m}^3</math>)</b> | <b>Benzene invernale (<math>\mu\text{g}/\text{m}^3</math>)</b> | <b>Benzene media (<math>\mu\text{g}/\text{m}^3</math>)</b> | <b>Benzene media (AO) (<math>\mu\text{g}/\text{m}^3</math>)</b> | <b><math>\Delta</math> (<math>\mu\text{g}/\text{m}^3</math>)</b> |
|--------------|-----------------------|------------------------|-----------------------------|-------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------|
| <b>p21</b>   | 45.58836              | 9.28870                | V.le Libertà, 33            | 1.78                                                        | 0.86                                                           | 1.32                                                       | 1.17                                                            | <b>0.15</b>                                                      |
| <b>p22</b>   | 45.59762              | 9.29546                | Via Lecco (ang. Gioia)      | 1.16                                                        | 0.53                                                           | 0.85                                                       | 0.78                                                            | <b>0.07</b>                                                      |
| <b>p23</b>   | 45.58257              | 9.30645                | Via Tognini (stadio)        | 0.99                                                        | 0.50                                                           | 0.75                                                       | 0.69                                                            | <b>0.06</b>                                                      |
| <b>p24</b>   | 45.59215              | 9.29026                | Via Lecco (ang. Verrazzano) | 1.37                                                        | 0.70                                                           | 1.04                                                       | 0.91                                                            | <b>0.13</b>                                                      |
| <b>p25</b>   | 45.59599              | 9.29139                | Parco di Monza              | 0.82                                                        | 0.50                                                           | 0.66                                                       | 0.57                                                            | <b>0.09</b>                                                      |

Table 7. Toluene - ex ante and post operam descriptive statistics.

| <b>ex-ante</b> | <b>I (04 -22 mag 2017)</b>     |     | <b>II (14 - 31 lug 2017)</b> |     | <b>III (9 - 30 nov 2017)</b>  |     | <b>IV (31 jan - 19 feb 2018)</b> |     | <b>Mean</b>  |
|----------------|--------------------------------|-----|------------------------------|-----|-------------------------------|-----|----------------------------------|-----|--------------|
|                | mean                           | std | mean                         | std | mean                          | std | mean                             | std |              |
| Toluene        | -                              | -   | 1.6                          | 1.2 | 13.3                          | 4.5 | 7                                | 4.5 | 7.3          |
| <b>ex-post</b> | <b>I (20 feb -26 mar 2019)</b> |     | <b>II (08 - 21 mag 2019)</b> |     | <b>III (03 - 17 lug 2019)</b> |     | <b>IV (30 ott - 21 nov 2019)</b> |     |              |
|                | mean                           | std | mean                         | std | mean                          | std | mean                             | std |              |
| Toluene        | 4.6                            | 2.6 | 2.0                          | 0.8 | 3.5                           | 1.7 | 4.3                              | 2.1 | 3.9          |
| <b>Δ %</b>     |                                |     |                              |     |                               |     |                                  |     | <b>-46 %</b> |

  

|                | <b>Sondrio-<br/>Mazzini</b> | <b>MI -Senato</b> | <b>MI- Marche</b> |
|----------------|-----------------------------|-------------------|-------------------|
| <b>ex-ante</b> | mean                        | mean              | mean              |
| Toluene        | 2.0                         | 7.2               | 13.3              |
| <b>ex-post</b> | mean                        | mean              | mean              |
| Toluene        | 0.4                         | 5.0               | 3.4               |
| <b>Δ %</b>     | <b>-80 %</b>                | <b>-30%</b>       | <b>-74 %</b>      |

Table 8. toluene mean concentrations (passive sampling monitoring)

| <b>Punto</b> | <b>Latitudine (N)</b> | <b>Longitudine (E)</b> | <b>Descrizione</b>               | <b>Toluene invernale (<math>\mu\text{g}/\text{m}^3</math>)</b> | <b>Toluene estivo (<math>\mu\text{g}/\text{m}^3</math>)</b> | <b>Toluene medio (<math>\mu\text{g}/\text{m}^3</math>)</b> | <b>Toluene medio (AO) (<math>\mu\text{g}/\text{m}^3</math>)</b> | <b><math>\Delta</math> (<math>\mu\text{g}/\text{m}^3</math>)</b> |
|--------------|-----------------------|------------------------|----------------------------------|----------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------|
| <b>p1</b>    | 45.59136              | 9.30643                | V.le Libertà (ITC Mapelli)       | 4.29                                                           | 2.78                                                        | 3.53                                                       | 3.35                                                            | <b>0.18</b>                                                      |
| <b>p2</b>    | 45.59069              | 9.30266                | V.le Libertà (Centro Civico)     | 5.03                                                           | 2.85                                                        | 3.94                                                       | 3.08                                                            | <b>0.86</b>                                                      |
| <b>p3</b>    | 45.59147              | 9.30160                | Via Parmenide                    | 4.67                                                           | 2.81                                                        | 3.74                                                       | 3.64                                                            | <b>0.10</b>                                                      |
| <b>p4</b>    | 45.59008              | 9.29736                | V.le Libertà, 93                 | 6.32                                                           | 3.57                                                        | 4.95                                                       | 3.22                                                            | <b>1.73</b>                                                      |
| <b>p5</b>    | 45.59294              | 9.29966                | Via Impastato                    | 4.13                                                           | 2.74                                                        | 3.43                                                       | 3.51                                                            | <b>-0.08</b>                                                     |
| <b>p6</b>    | 45.58818              | 9.29679                | Via Gallarana                    | 4.72                                                           | 2.77                                                        | 3.75                                                       | 3.72                                                            | <b>0.03</b>                                                      |
| <b>p7</b>    | 45.58860              | 9.29870                | Via Correggio, 81                | 4.89                                                           | 3.04                                                        | 3.97                                                       | 5.77                                                            | <b>-1.80</b>                                                     |
| <b>p8</b>    | 45.58736              | 9.29989                | Via della Guerrina (Liceo Porta) | 5.46                                                           | 3.20                                                        | 4.33                                                       | 5.63                                                            | <b>-1.30</b>                                                     |
| <b>p9</b>    | 45.58904              | 9.30310                | Via Modigliani                   | 4.60                                                           | 2.76                                                        | 3.68                                                       | 2.84                                                            | <b>0.84</b>                                                      |
| <b>p10</b>   | 45.58707              | 9.30461                | Via della Guerrina, 31           | 4.55                                                           | 2.79                                                        | 3.67                                                       | 3.19                                                            | <b>0.48</b>                                                      |
| <b>p11</b>   | 45.59282              | 9.30432                | Via Ragazzi del '99              | 4.00                                                           | 2.74                                                        | 3.37                                                       | 4.04                                                            | <b>-0.67</b>                                                     |
| <b>p12</b>   | 45.58909              | 9.30531                | Via Papini                       | 4.83                                                           | 2.76                                                        | 3.80                                                       | 4.09                                                            | <b>-0.29</b>                                                     |
| <b>p13</b>   | 45.58961              | 9.31086                | V.le Stucchi (autolavaggio)      | 4.58                                                           | 3.31                                                        | 3.94                                                       | 3.75                                                            | <b>0.19</b>                                                      |
| <b>p14</b>   | 45.57413              | 9.26378                | Via Machiavelli                  | 4.74                                                           | 2.78                                                        | 3.76                                                       | 3.74                                                            | <b>0.02</b>                                                      |
| <b>p15</b>   | 45.58541              | 9.31010                | V.le Stucchi (palazzetto)        | 5.18                                                           | 2.92                                                        | 4.05                                                       | 4.48                                                            | <b>-0.43</b>                                                     |
| <b>p16</b>   | 45.58177              | 9.30198                | V.le Sicilia                     | 5.56                                                           | 2.91                                                        | 4.23                                                       | 4.59                                                            | <b>-0.36</b>                                                     |
| <b>p17</b>   | 45.58612              | 9.30390                | Via Vasari                       | 4.32                                                           | 2.74                                                        | 3.53                                                       | 3.31                                                            | <b>0.22</b>                                                      |
| <b>p18</b>   | 45.58392              | 9.29992                | Via Correggio, 26                | 5.50                                                           | 2.83                                                        | 4.17                                                       | 3.26                                                            | <b>0.91</b>                                                      |
| <b>p19</b>   | 45.58243              | 9.29480                | Via Amati (Policlinico)          | 4.79                                                           | 2.74                                                        | 3.76                                                       | 3.61                                                            | <b>0.15</b>                                                      |
| <b>p20</b>   | 45.58632              | 9.29299                | Via Aguggiari                    | 4.29                                                           | 2.74                                                        | 3.51                                                       | 3.88                                                            | <b>-0.37</b>                                                     |
| <b>p21</b>   | 45.58836              | 9.28870                | V.le Libertà, 33                 | 6.79                                                           | 3.98                                                        | 5.39                                                       | 2.41                                                            | <b>2.98</b>                                                      |
| <b>p22</b>   | 45.59762              | 9.29546                | Via Lecco (ang. Gioia)           | 4.56                                                           | 2.81                                                        | 3.68                                                       | 2.81                                                            | <b>0.87</b>                                                      |
| <b>p23</b>   | 45.58257              | 9.30645                | Via Tognini (stadio)             | 4.09                                                           | 2.74                                                        | 3.42                                                       | 3.48                                                            | <b>-0.06</b>                                                     |

| <b>Punto</b> | <b>Latitudine (N)</b> | <b>Longitudine (E)</b> | <b>Descrizione</b>          | <b>Toluene invernale (µg/m³)</b> | <b>Toluene estivo (µg/m³)</b> | <b>Toluene mean (µg/m³)</b> | <b>Toluene mean (AO) (µg/m³)</b> | <b>Δ (µg/m³)</b> |
|--------------|-----------------------|------------------------|-----------------------------|----------------------------------|-------------------------------|-----------------------------|----------------------------------|------------------|
| <b>p24</b>   | 45.59215              | 9.29026                | Via Lecco (ang. Verrazzano) | 5.42                             | 3.38                          | 4.40                        | 3.61                             | <b>0.79</b>      |
| <b>p25</b>   | 45.59599              | 9.29139                | Parco di Monza              | 3.43                             | 2.74                          | 3.09                        | 3.64                             | <b>-0.55</b>     |

Table 9. PM10 - ex ante and post operam descriptive statistics.

| <b>ex-<br/>ante</b>            | <b>I (04 -22 mag<br/>2017)</b>     |      | <b>II (14 - 31 lug<br/>2017)</b> |      | <b>III (9 - 30 nov<br/>2017)</b>  |      | <b>IV (31 jan - 19 feb<br/>2018)</b> |      | <b>Mean</b>     |
|--------------------------------|------------------------------------|------|----------------------------------|------|-----------------------------------|------|--------------------------------------|------|-----------------|
|                                | mean                               | std  | mean                             | std  | mean                              | std  | mean                                 | std  |                 |
| PM10                           | 16.7                               | 5.7  | 17.9                             | 8.0  | 52.9                              | 25.7 | 44.1                                 | 22.8 | 32.8            |
| <b>ex-<br/>post</b>            | <b>I (20 feb -26 mar<br/>2019)</b> |      | <b>II (08 - 21 mag<br/>2019)</b> |      | <b>III (03 - 17 lug<br/>2019)</b> |      | <b>IV (30 ott - 21 nov<br/>2019)</b> |      |                 |
|                                | mean                               | std  | mean                             | std  | mean                              | std  | mean                                 | std  |                 |
| PM10                           | 39.0                               | 16.7 | 16.0                             | 4.4  | 19.7                              | 6.1  | 20.9                                 | 6.3  | 27.0            |
| <b>Unit of measure [µg/m³]</b> |                                    |      |                                  |      |                                   |      |                                      |      | <i>- 17.7 %</i> |
| <b>ex-<br/>ante</b>            | <b>Monza<br/>Machiavelli</b>       |      | <b>Monza Parco</b>               |      | <b>MI -Senato</b>                 |      | <b>MI- Pascal</b>                    |      |                 |
|                                | mean                               | std  | mean                             | std  | mean                              | std  | mean                                 | std  |                 |
| PM10                           | 33.6                               | 23.2 | 27.4                             | 23.2 | 33.9                              | 22.5 | 31.6                                 | 22.5 |                 |
| <b>ex-<br/>post</b>            | mean                               | std  | mean                             | std  | mean                              | std  | mean                                 | std  |                 |
| PM10                           | 27.6                               | 18.2 | 23.3                             | 15.1 | 31.8                              | 18.5 | 27.5                                 | 18.3 |                 |
| <b>Δ %</b>                     | <b>-19.4%</b>                      |      | <b>-15 %</b>                     |      | <b>-6.3%</b>                      |      | <b>-13.0%</b>                        |      |                 |

Table 10. PM<sub>2.5</sub> - ex ante and post operam descriptive statistics.

| <b>ex-<br/>ante</b>            | <b>I (04 -22 mag<br/>2017)</b>     |     | <b>II (14 - 31 lug<br/>2017)</b> |     | <b>III (9 - 30 nov<br/>2017)</b>  |      | <b>IV (31 jan - 19 feb<br/>2018)</b> |      | <b>Mean</b>   |
|--------------------------------|------------------------------------|-----|----------------------------------|-----|-----------------------------------|------|--------------------------------------|------|---------------|
|                                | mean                               | std | mean                             | std | mean                              | std  | mean                                 | std  |               |
| PM10                           | 12.2                               | 3.9 | 10.3                             | 3.5 | 40.7                              | 20.5 | 32.9                                 | 17.9 | 24            |
| <b>ex-<br/>post</b>            | <b>I (20 feb -26 mar<br/>2019)</b> |     | <b>II (08 - 21 mag<br/>2019)</b> |     | <b>III (03 - 17 lug<br/>2019)</b> |      | <b>IV (30 ott - 21 nov<br/>2019)</b> |      |               |
|                                | mean                               | std | mean                             | std | mean                              | std  | mean                                 | std  |               |
| PM10                           | --                                 | --  | --                               | --  | 15.3                              | 3.9  | 15.9                                 | 5.3  | 15.6          |
| <b>Unit of measure [µg/m³]</b> |                                    |     |                                  |     |                                   |      |                                      |      | <b>- 35 %</b> |

Table 11. BC, OC, EC and TC - ex ante and post operam descriptive statistics.

| ex-<br>ante | I (04 -22 mar 2017)       |     | II (14 - 31 lug 2017) |     | III (9 - 30 nov 2017)  |     | IV (31 jan - 19 feb 2018) |     |
|-------------|---------------------------|-----|-----------------------|-----|------------------------|-----|---------------------------|-----|
|             | mean (µg/m3)              | std | mean                  | std | mean                   | std | mean                      | std |
| <b>BC</b>   | 2                         | 1.2 | 1.7                   | 1   | 6.7                    | 3.4 | 4.3                       | 2.5 |
| <b>OC</b>   | 5.5                       | 1   | 6.1                   | 1.4 | 15.5                   | 4.9 | 11.3                      | 3.9 |
| <b>EC</b>   | 1.6                       | 0.4 | 1.4                   | 0.4 | 4.7                    | 1.7 | 2.7                       | 0.9 |
| <b>TC</b>   | 7.1                       | 1.3 | 7.6                   | 1,7 | 20.2                   | 6.1 | 14                        | 4.5 |
| ex-<br>post | I (20 feb -26 mar 2019)   |     | II (08 - 21 mar 2019) |     | III (03 - 17 lug 2019) |     | IV (30 ott - 21 nov 2019) |     |
|             | mean (µg/m <sup>3</sup> ) | std | mean                  | std | mean                   | std | mean                      | std |
| <b>BC</b>   | 3.7                       | 1.9 | 1.6                   | 0.4 | 1.1                    | 0.3 | 3.1                       | 0.8 |
| <b>OC</b>   | 9.0                       | 8.9 | 4.5                   | 0.6 | 6.1                    | 1.0 | 6.6                       | 1.5 |
| <b>EC</b>   | 2.2                       | 0.9 | 0.9                   | 0.2 | 0.8                    | 0.2 | 1.6                       | 0.6 |
| <b>TC</b>   | 11.1                      | 4.1 | 5.4                   | 0.7 | 6.9                    | 1.2 | 8.5                       | 2.0 |

Unit of measure  
[µg/m<sup>3</sup>]