

The city of Dravograd lies at the point where two minor valleys from the south join the main valley of the river Drava. Mobile station was situated on the western periphery of the city. The road connecting Slovenia and Austria is app. 160 meters to the north of the station location. Main residential quarters are spread to the north-east, on both sides of that road, while the western and southern surroundings are sparsely populated.

According to the emission data of larger industrial facilities in Slovenia, which are available on the web (<http://www.arso.gov.si>), there are no major sources of air pollution in the city of Dravograd. The sources of pollutants from wood industry to the south-east (organic carbon compounds, carbon monoxide, nitrogen oxides, sulphur dioxide) and ironworks to the south-west are remote enough so that they do not affect the air quality in Dravograd significantly in our estimation. The location of mobile station in Dravograd is classified as suburban residential background.

Measurements were carried out in early springtime (March) when air pollution is somewhat less than during winter and in summer (August) when air is generally most clean. The fact is that air pollution in the interior Slovenia increases during wintertime due to unfavorable weather conditions (temperature inversions, low wind speed), and additional emission from heating devices, especially individual heating.

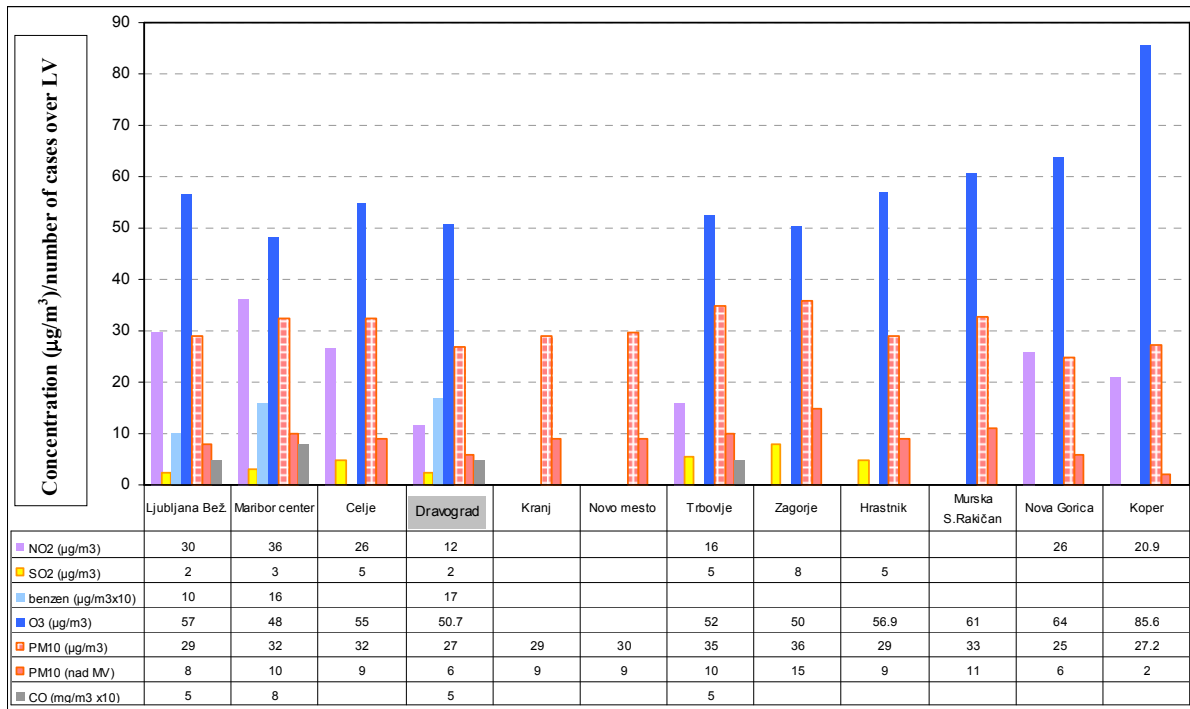
In both monitoring periods (1. 3. to 6. 4. 2011 and 2. 8. to 31. 8. 2011) there were a prevailing north-east wind over Slovenia. Till 11. 3. it was still wintry cold with rather high concentrations of particulate matter. Then followed a real spring and cleaner air. In August the air pollution was low over the entire Slovenia.

Air pollution depends on traffic density, on heating devices and on industrial facilities. As Dravograd is a small city without big industry, the measured air pollution at the mobile station was rather low. Results of measurements at the mobile station and at other sites of national air quality monitoring network are the following:

- Pollution with ***PM<sub>10</sub>*** particulate matter at the mobile station was at lower level among the sites of the interior Slovenia. This is understandable as there are no heavy traffic roads, no heating devices, and no industry near the monitoring site. Concentrations were higher with more limit value exceedences at urban sites with traffic as the main emission source, somewhere also with individual heating and local industry (cities of Zasavje).
- At the mobile station, concentration of ***NO<sub>2</sub>***, which is emitted mostly from traffic, was the lowest among all monitoring sites. It was the highest at the sites of Ljubljana and Maribor - the cities with most traffic. Hourly concentrations exceeded merely the lower assessment threshold at some urban sites.
- Air pollution with ***SO<sub>2</sub>*** has been no problematic for about last five years in Slovenia. During the mobile monitoring in Dravograd concentrations were below the lower assessment threshold everywhere.
- ***Benzene*** concentration at the Dravograd monitoring site was rather high compared with the sites of Ljubljana and Maribor, which are influenced predominantly by traffic. We don't know the reason for this. Concentrations were still below the lower assessment threshold of the yearly average at all three sites.
- ***Ozone*** pollution in Dravograd was on the level of other non-traffic monitoring sites in the interior Slovenia.

From the monitoring in Dravograd we may draw a conclusion that the annual limit number of daily exceedences of PM<sub>10</sub> concentration could be exceeded in the years with most unfavorable weather conditions when this occurs at the most of monitoring sites in Slovenia, and that the annual average concentration remains below the limit value. Concentrations of PM<sub>10</sub> as well as of other pollutants may be slightly higher in the Centre of Dravograd than at the site of mobile station due to larger influence from traffic and heating devices.

The juncture of three valleys makes the local wind conditions at the monitoring site in Dravograd very complex. So we did not make any evaluation of the effect of industrial emissions from the farther surroundings (Ravne ironworks, wood industry of Šentjanž and Otiški vrh) on the air quality in Dravograd, as this requires some model calculation. All we can say is that this effect cannot be very significant.



**Picture 1:** Concentrations of pollutants on the location Dravograd and on some stations from state measuring network in Slovenia for the time 1. 3. to 6. 4. 2011 and 2. 8. to 31. 8. 2011.