MoniGraph 3.0.1, May 24th, 2014

MoniGraph

MoniGraph is a software program, written by Henk Taale, to process traffic data in the format of Rijkswaterstaat (MoniCa and MoniBas data). The program reads the data files and processes them. From the data traffic indicators are calculated and plotted in graphs and files. Hence the name 'MoniGraph', not original, but it will do the job.
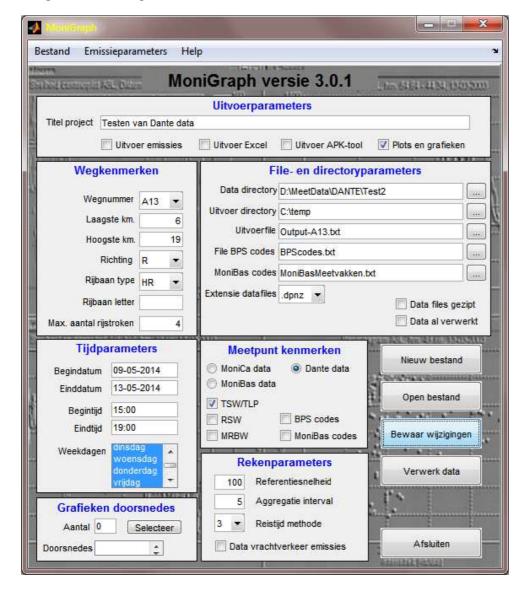
In version 3.0.1 a connection between MoniGraph and the data exported from DANTE is realised. This document explains how that works.

But first two remarks:
1. MoniGraph is still in Dutch. Most of the buttons and options are straightforward, but if you have a problem understanding something, let me know.
2. The progam needs MATLAB libraries. The program MCRinstaller needs to be installed first. It can be downloaded via the link http://www.rijkswaterstaat.nl/zakelijk/verkeersmanagement/evaluatietools_verkeersmanagement/documenten/index.aspx. Also some other documents on MoniGraph can be found there.

MoniGraph and Dante

To use Dante data with MoniGraph first the data has to be exported from the Dante website to a local folder on your computer. The Dante Export Manual explains that in the first three paragraphs. Forget about the rest, because from that point on MoniGraph takes over! Start MoniGraph and you will get the following screen:

There are some important and less important inputs. These will be explained from the top of the screen.

Output parameters ('Uitvoerparameters') are not so important. Just give your project a decent title and check 'Plots en grafieken' to get nice graphs. The other ones are not so relevant or not operational.

Road characteristics ('Wegkenmerken') are also not so important, because most of them are derived from the Dante data directly. The only thing that these inputs are used for is the structure of the output files. If you have more than one day of data, output is put into different folders for each day and these folders have a name based on these inputs. So, it can be useful to give these the correct values.

Four file and directory inputs (File- and directoryparameters) are important. The data directory should be the folder where the Dante data is stored. The output directory ('uitvoer directory') can be anywhere on your local disc. Give your output file ('uitvoerfile') a relevant name. And last but not least, the extension of the data files ('extensie data files') should be defined. In case of Dante data that is always '.dpnz'.

Concerning time ('Tijdparameters') you can chose any date and time which is also in the Dante data. You can analyse one day if end date ('Einddatum') and begin date ('Begindatum') are the same. If you analyse more than one day, you can choose which days in the week to analyse: only Mondays, only weekdays or the whole week. Highlight the days you want in 'Weekdagen'.

And finally you have to choose 'Dante data' option in the 'Meetpunt kenmerken'.

You can save the input data for the next run in a project file via the button 'Save changes' ('Bewaar wijzigingen'). This is a readable text file, which can also be opened again.

Now you are ready for the processing of the data. Just hit the button 'Process data' ('Verwerk data').

Steps in the process

MoniGraph will load the network in the Dante data folder and will display it, as described in paragraph 4.1 of the Dante Export Manual. Also you have the define a route in the same way as is described in paragraph 4.2, with one difference: you don't have to remember the hash number, because MoniGraph will do that for you. But be sure that the final two hashes you double click, are defining the route you want!

Then close the network viewer and MoniGraph will continue. You will see some progress bars and output graphs. These are displayed and stored in the output directory. So, you can always look them up.

After MoniGraph finishes you can start the real work: collect the indicators from the output and analyse them! The indicators are stored in the output file, which is a plain text file. The most important ones are at the bottom:

```
Netwerk indicatoren voor het hele traject
-----------------------------------------
Aantal voertuigkilometers (x 1000)        =    251.95 vrt.km.
Totaal doorgebrachte tijd                 =   4094.68 vrt.uren
Aantal voertuigverliesuren                =   1575.19 vrt.uren
Voertuigkilometers in congestie (x 1000)  =     40.36 vrt.km.
Gemiddelde netwerksnelheid                =     61.53 km/hr
Filezwaarte (wegvaksnelheid < 50 km/uur)  =    562.07 km.min.
```

Number of vehicle kilometers (aantal voertuigkilometers), Total Time Spent (Totaal doorgebracht tijd) en Total Delay (Aantal voertuigverliesuren) are the ones you normally use for an evaluation.

Example output graphs (speed countours and average travel times)

Snelheid contourplot A13R, km. 6.4-18.4996, 13-05-2014

Gemiddelde reistijd A13R, hm. 6.4 - 18.4996

legend:
- gemiddelde
- mediaan
- 15-percentiel
- 85-percentiel