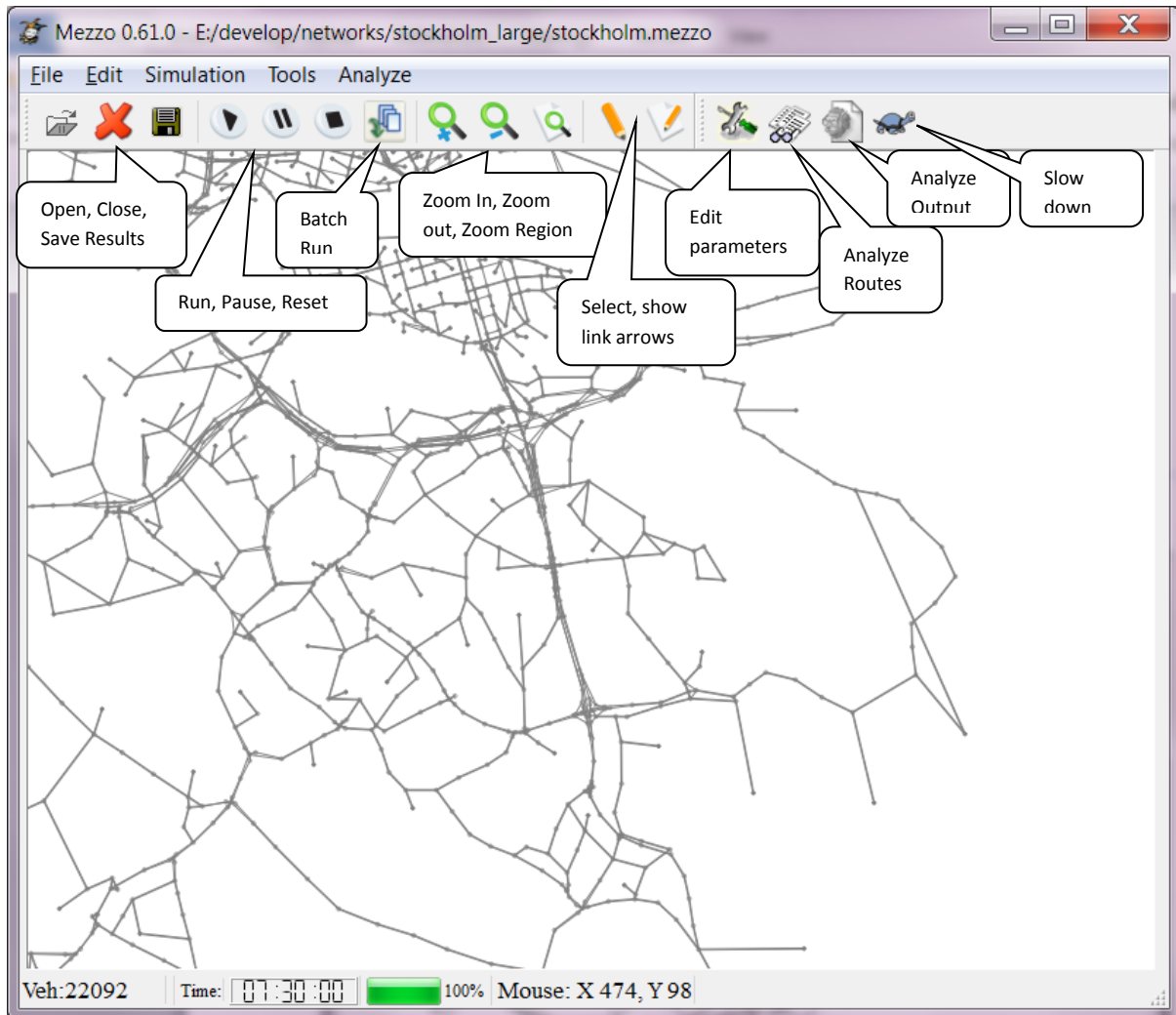# Quick and dirty Mezzo GUI tutorial

Version 0.3

Open, Close, Save Results

- Open: Opens a Mezzo master file, (*.mezzo) and reads in the network, demand etc files as defined in the master file.
- Close: Closes the network.
- Save Results: Saves the results. After Opening and running the network, press Save Results to save to the output files defined in the master file.

Run, Pause, Reset, Slow(turtle)

- Run: After opening the network, press Run to run the simulation
- Pause: When a simulation is running press Pause to interrupt. Press Run again to continue.
- Reset: When pressed, the simulation is stopped and reset to the beginning.
- Slow down: Slows down the simulation to enable studying queue build up and dissipations, for instance at signal controlled intersections.

Zoom in, Zoom out, Zoom region

Zooms the network view in, out , or zooms in on a region selected by the user. Alternatively the keyboard + and – keys can be used.
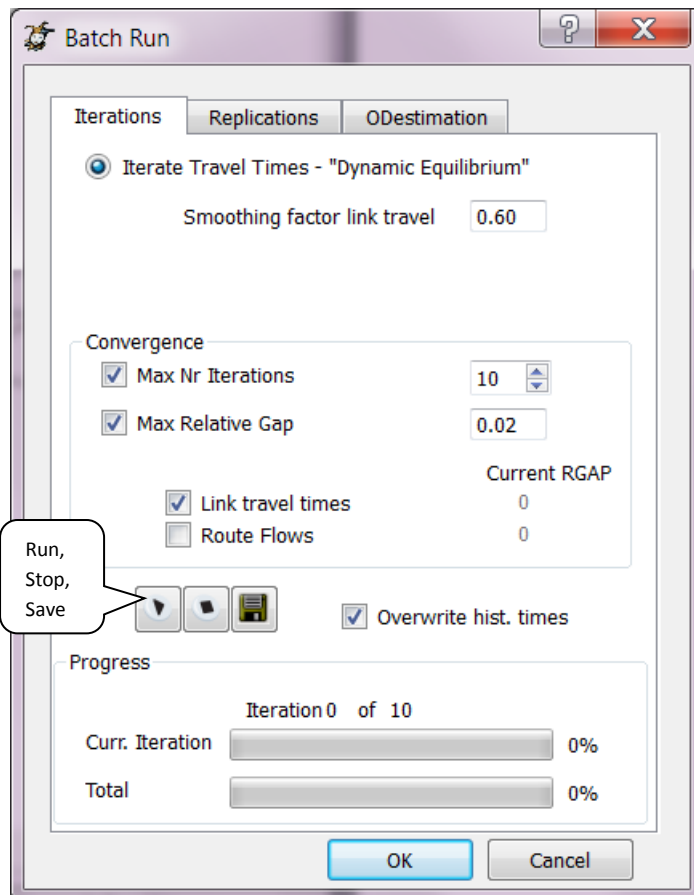
Panning

Panning the network is done by using the up, down, left and right arrows on the keyboard. To reset the view to show the whole network, press 'C'.

Select, Show link arrows

These functions have not fully been implemented yet

Batch Run

In the Iterations tab (Replications and OD estimation have not yet been implemented), the simulation can be run in batch mode to establish a dynamic equilibrium. The user indicates the exponential smoothing factor for the input-output link travel times (see file format doc for more info), the max nr of iterations and which relative gap needs to be met. (See file format doc for more info on relative gap definitions). In general the link travel times RGAP is a stricter criterion than the route flows RGAP. The RGAP values can be interpreted as the relative change from one iteration to another. For instance an Link travel time RGAP of 0.02 means that there is a total average difference of 2% between all link travel times (for all links, and all time periods).

The simulations are started by pressing the Run button, and can be stopped by pressing the Stop button. If the stop button is pressed, the simulation will finish the current iteration, to ensure that the results are valid and can be saved.

When the Save button is pressed the results are saved, and if the 'Overwrite hist. times' is checked, the input (historical) link travel times file is overwritten, ensuring that future runs of this network will start from the current equilibrium.

After the iterations terminate, the Analyze Output view is activated automatically.

Analyze Output
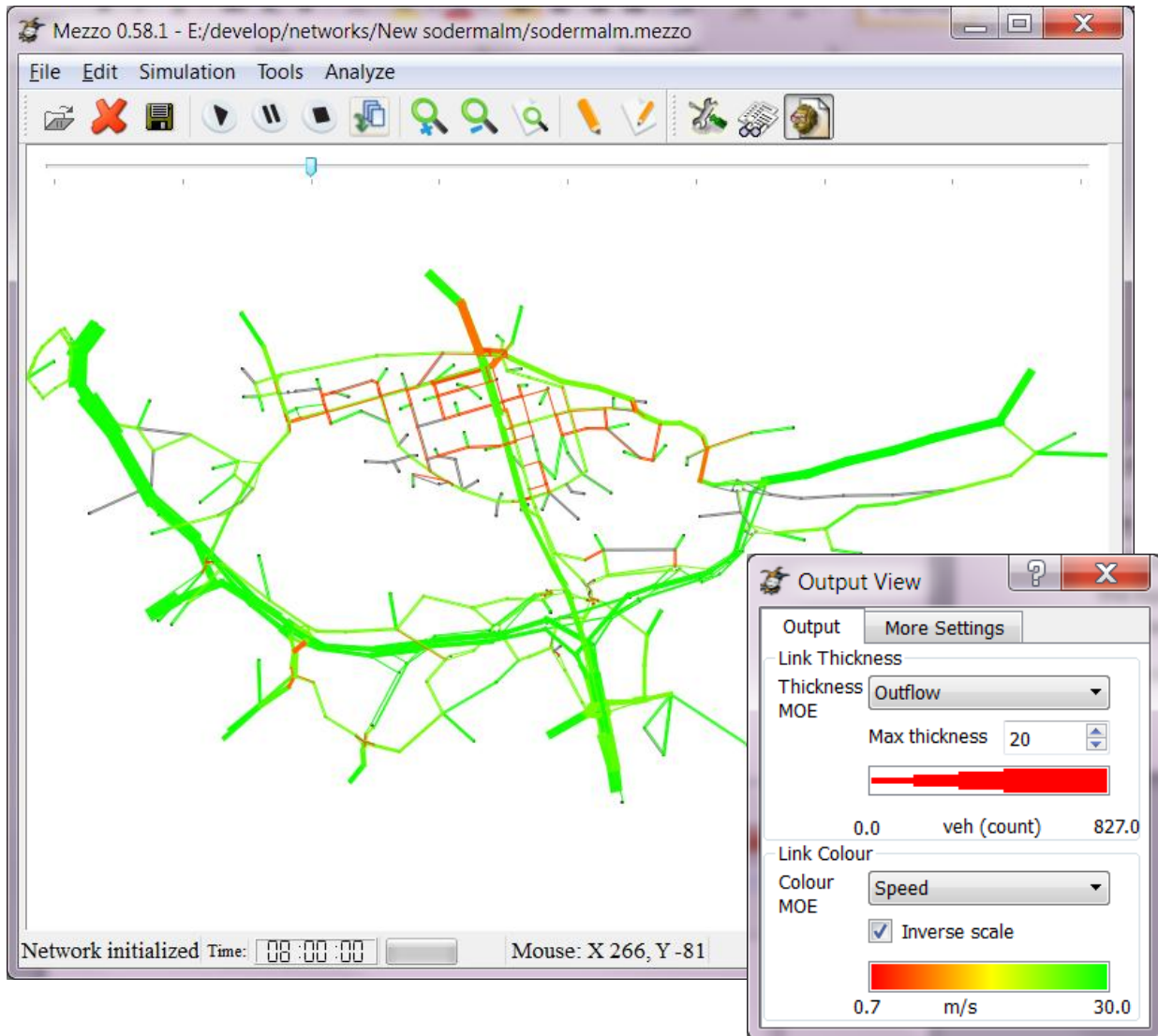
The Analyze Output view shows the simulation results as link colours and thickness. In the Output View window the user can select MOEs for thickness and colour. By moving the slider to the right the view steps through the time periods. The definition of the time periods for the MOEs is found in the parameters file (see further the file format doc).
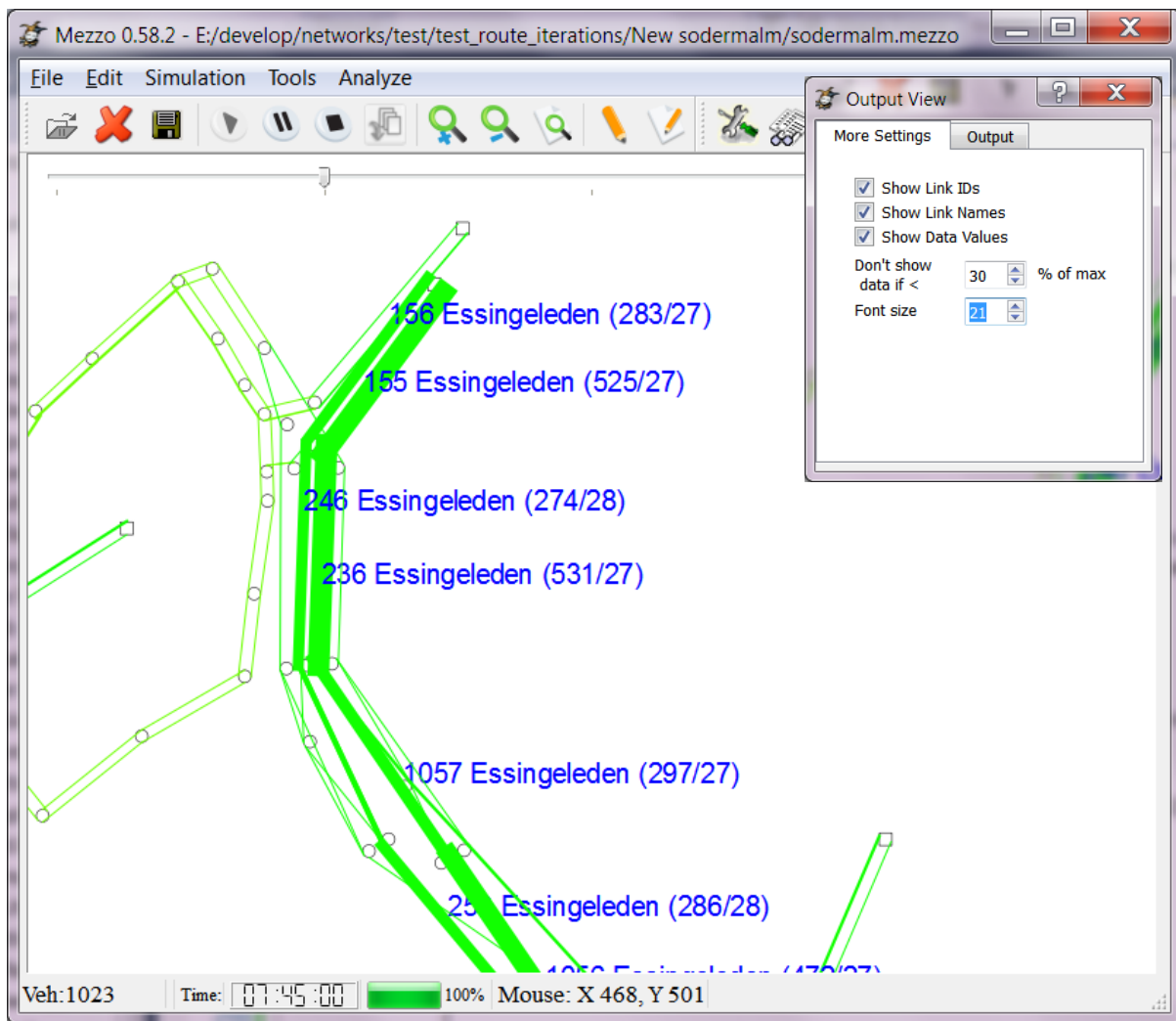
In the Output View, More Settings tab, you can choose whether or not to show the link IDs, Link Names and or Data Values. The data values are shown as (Thickness value, Colour value) according to the MOEs selected for thickness and colour. Remember they are in the internal units, so speed in m/s, flows in counts etc. The "Don't show data if" filters out the small values, so the remainder will be legible. Set it to 0 if you want all data values to be shown. Use font size to adapt to your zoom level, number of links etc.

Edit Parameters
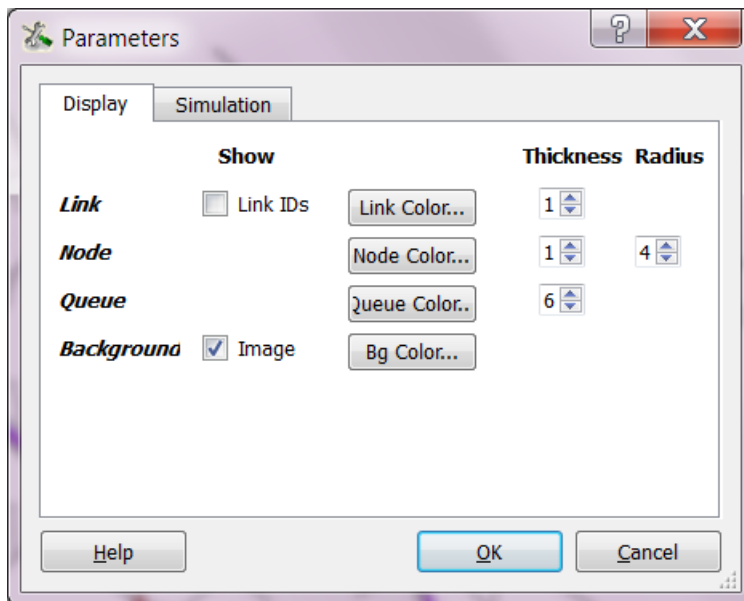
In the Edit Parameters window some display and simulation parameters can be set. In the Display tab, parameters can be set such as link, node, queue and background color; link, node, queue thickness and node radius. If a background image has been set, this can be shown or hidden using the checkbox. Also Link IDs can be shown next to the links, although given the density of most networks, they may not always be legible.
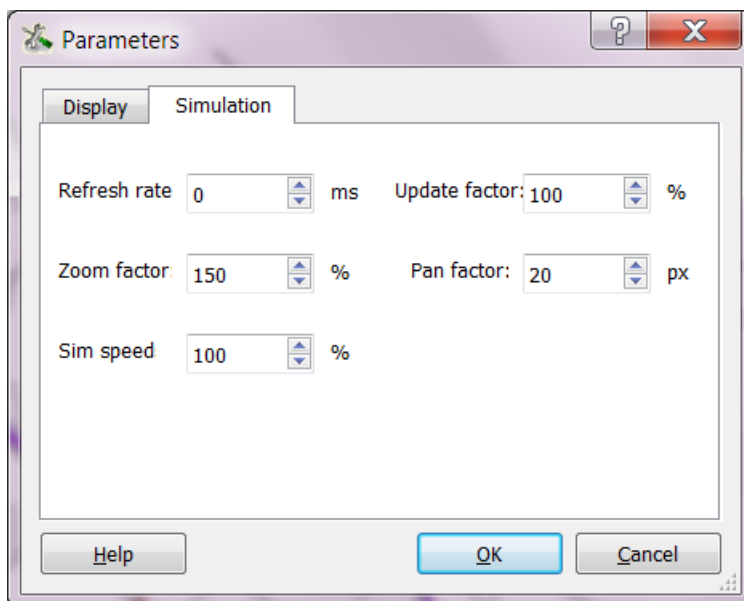
In the Simulation tab, the Refresh rate determines how often the screen is re-drawn, Zoom factor is the factor by which the network zooms in or out when the zoom buttons are pressed. Pan factor is the factor by which the network pans when the arrow keys are pressed.

Sim speed and Update factor are factors to slow down the simulation or peg it to a fixed real-time speed. However these are only used in the hybrid simulation (to synch with external signal control).

Inspect Routes / Mezzo Analyzer

The Mezzo Analyzer (likely to change name) can be used to inspect which routes connect specific OD pairs, and how they compare for instance in distance, travel time. The user selects the Origin and Destination nodes and clicks Check. The routes will be listed in the table as shown. **Click on the top left square of the table to show all listed routes colored in the network**. Individual routes can also be shown, by clicking and selecting the color for a specific route.
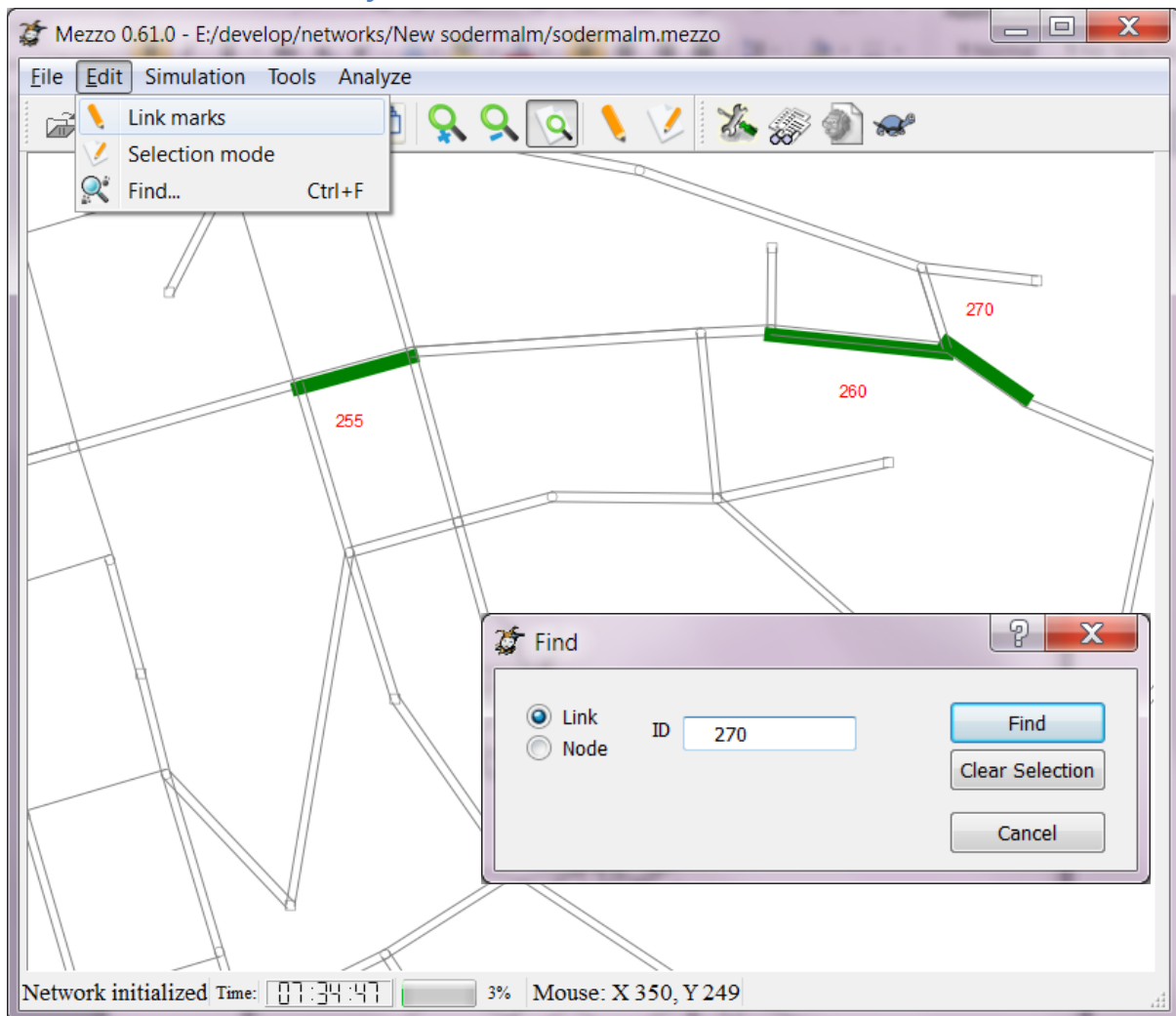
Tools and other functions
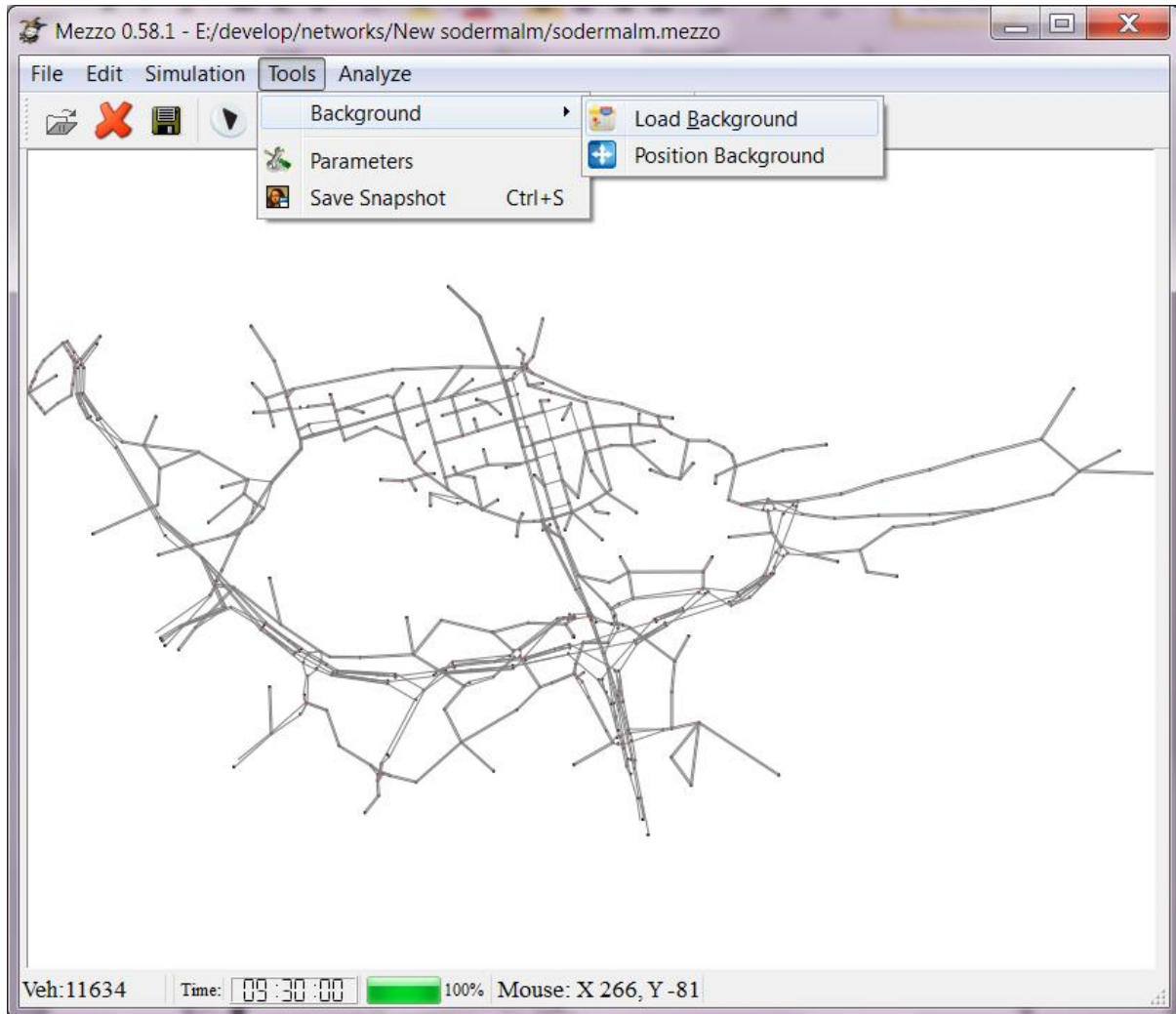
Load background loads a background image (*.PNG) and Position Background allows the user to scale and position the background image so it fits the network.

Find Links and Nodes by ID

Use the Find dialog to find and select nodes or links by ID. Each new find is added to the previous selection, until erased by pressing Clear Selection or closing the Find dialog.