RAFAŁ KUCHARSKI

politechnika krakowska pk.edu.pl
m: rafalkucharski@gazeta.pl
t:+48 501 694 896

map layer add-in in Visum

preface

This paper presents a Script that automatically adds precisely geo-located map layers into your Visum network.

Script that is being presented uses various programming techniques to gain data from multiple online map providers and uses it as Visum backgrounds.

Due to copyright issues this paper will not show the application structure in details, but will focus on the idea.

The Script will be presented briefly within this paper and by means of video presentation showing how it works (link at the end of presentation).

description

Each Visum user knows how important is data-feed in transport modeling. One of first steps in modeling tasks is selecting a map, being network background. Now this step can be automated, and users do not need to bother what kind of map they need, or which area shall they focus on. Users do not need to download data from server, or choose provider, or map type. They do not need to rescale map, or place it in certain coordinates.

Map Layer will do it automatically. You can choose one of eleven map providers including Google, Yahoo, Bing, and OpenStreetMap, you can choose from roadmap, satellite, terrain, or hybrid maps. Maps will render at proper location with chosen resolution (up. to 10k pixel width).

Thanks to this software you may easily switch between various map providers to find the data you need (intersection geometry, POI, bus stop location, or whatever you might want to see). You may increase resolution and get highly detailed map you may zoom in and keep quality high, or you may work with lower resolution and map will reload each time you need greater zoom.

You may still use any other maps (Orthophoto, map server, geodesy, etc.) combined with background provided by my software.

This software is in phase of beta-testing, I've tested in on my several computers, and approached few problems that should have been solved. It works browser independently and does not require any additional commercial software to be installed (only open-source packages). Also my intention was not to harm terms of service of any provider and as far as I am concerned it does not, although I cannot be sure.

usage

1. We shall start with the basic Visum network.
2. We shall make sure the network has is projected in any of Visum supported projections.
3. We shall change the projection to WGS84 projection which is specific for Google and most commercial providers like Yahoo and Bing.
4. Now we can run the script from Add-Ins menu.
5. Small user interface pops-up with all navigation buttons needed.
6. We choose one of eleven available layers, one of twelve available resolution factors and press render.
7. We may switch auto-update on and each 10 seconds script checks if network was resized, or panned. If so new background is loaded.
8. Now you can play with your network like with Google maps: focus on selected area to get accuracy you need, or zoom out to see where you are.
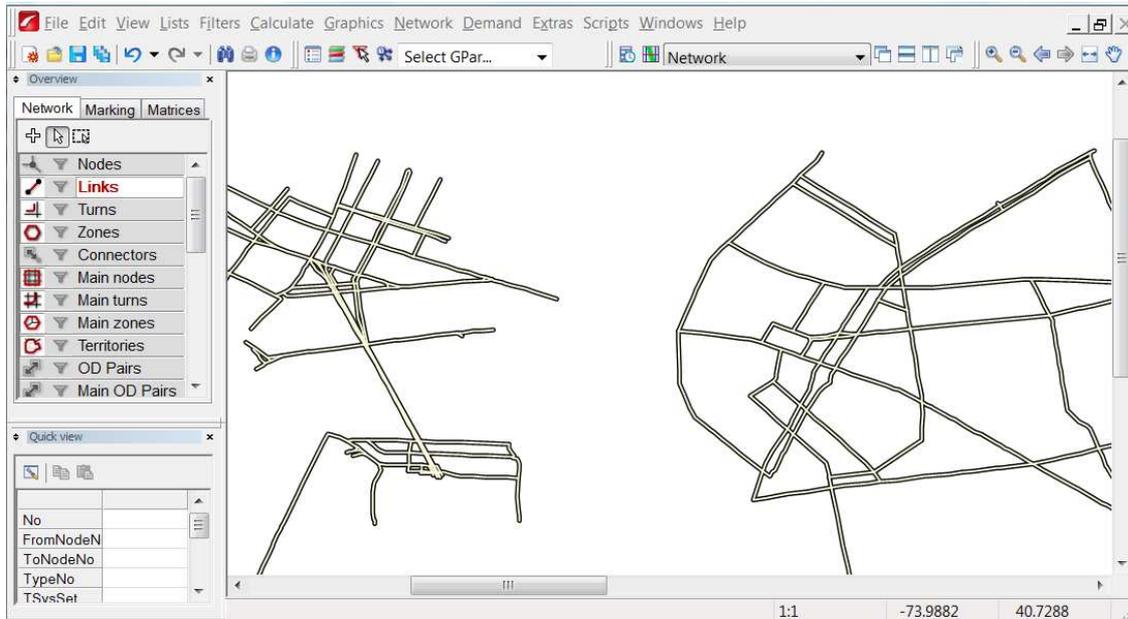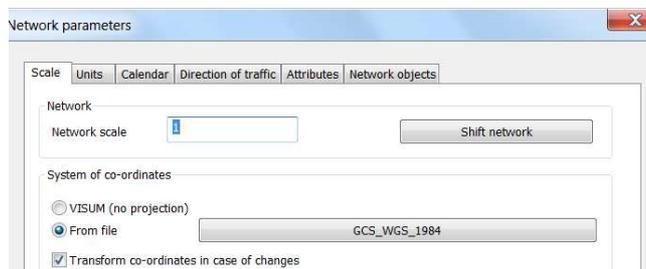
just take a look

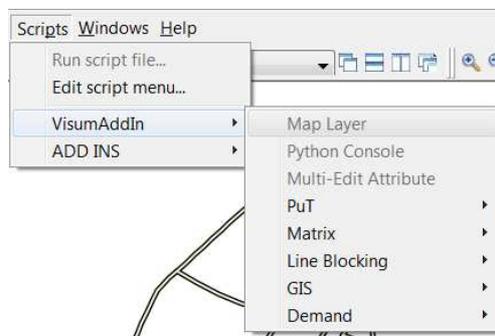**Figure 1 Plain NYC Network**

Figure 2 WGS84 Projection

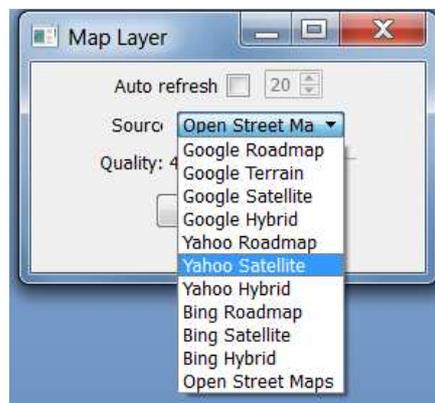**Figure 3 Scripts -> VisumAddIn -> MapLayer**

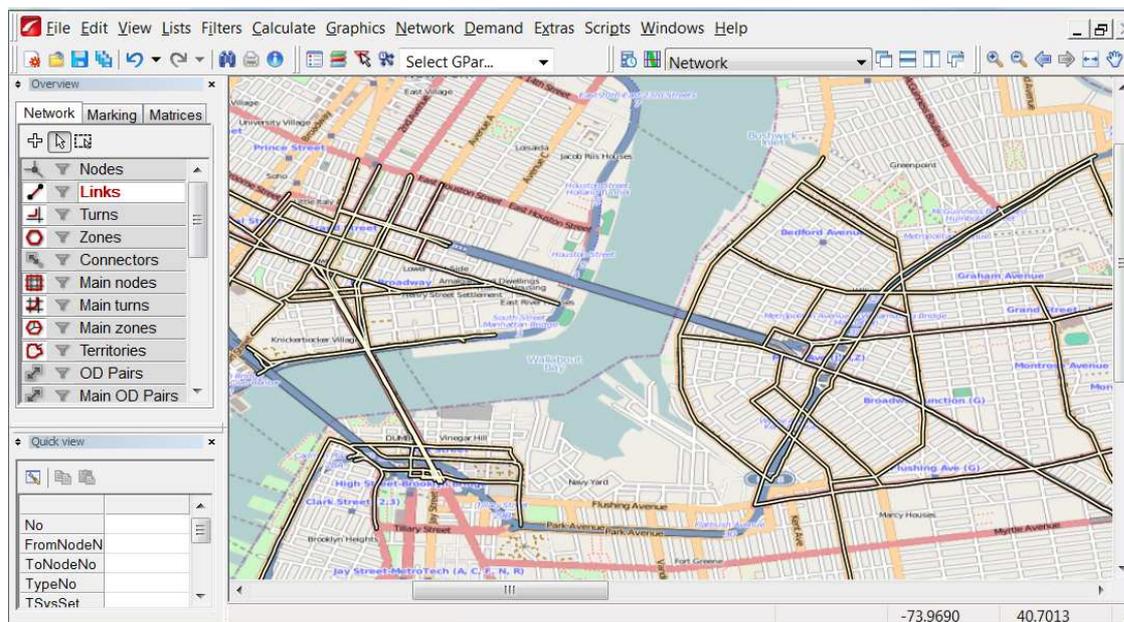**Figure 4 User Interface**

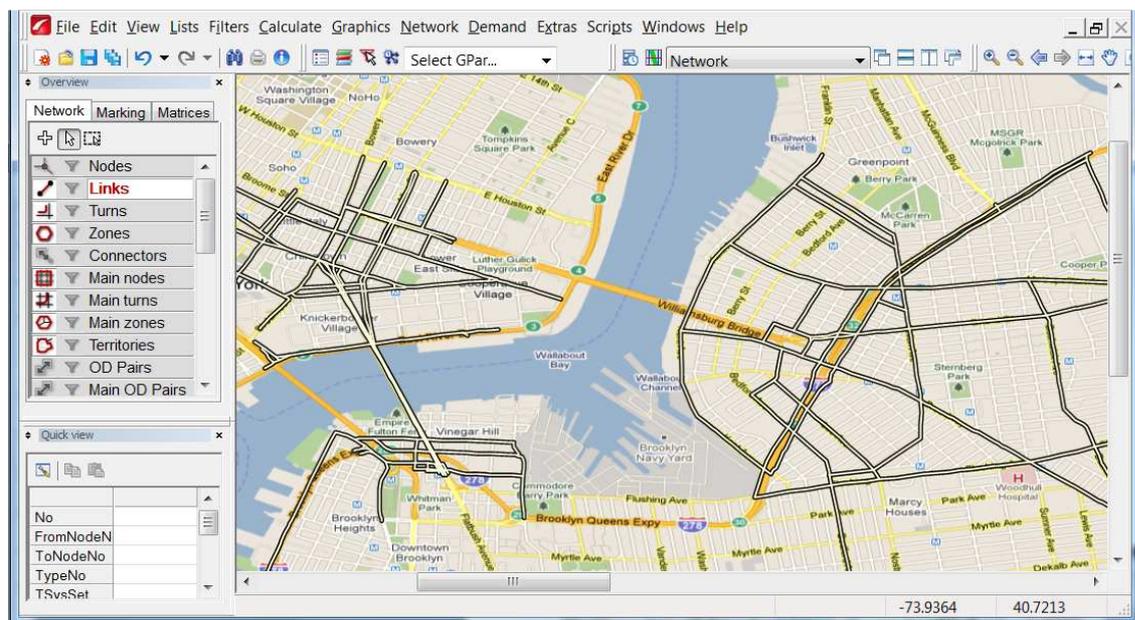**Figure 5 Available Layers**

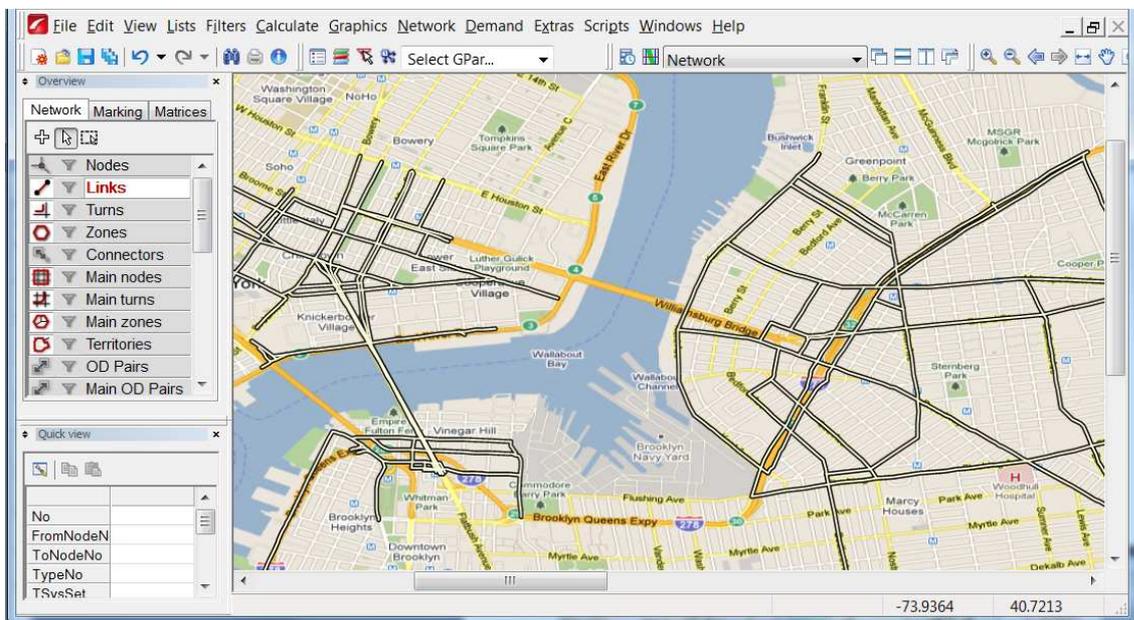**Figure 6 OpenStreetMap**
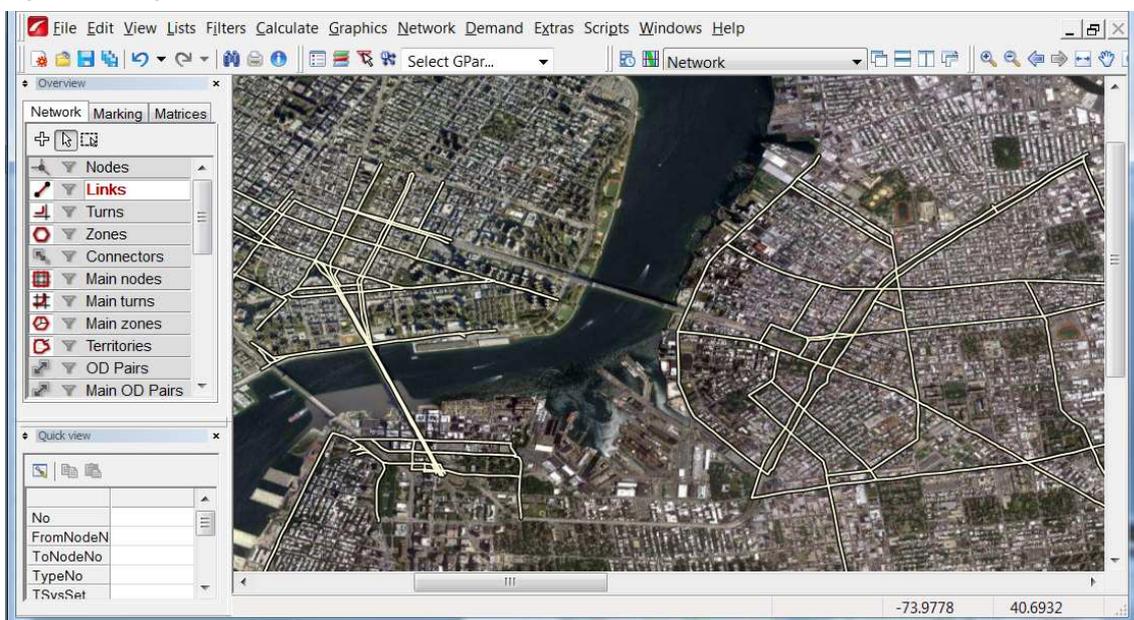
Figure 7 Google Roadmap

Figure 8 Google Terrain

Figure 9 Google Satellite
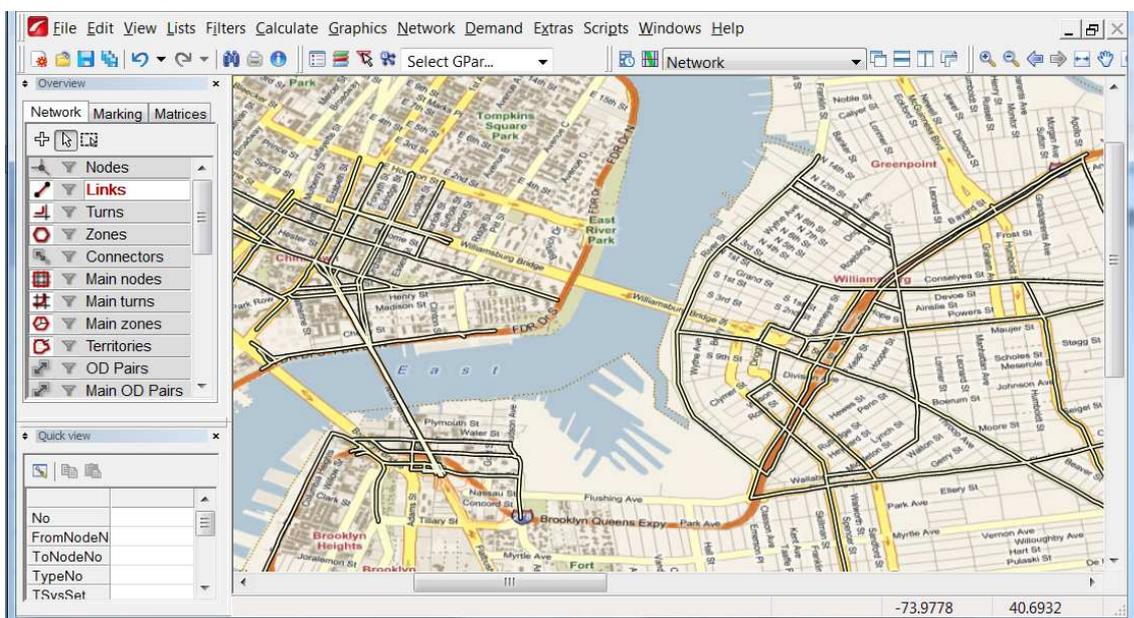

Figure 10 Bing Road Map

rafał kucharski
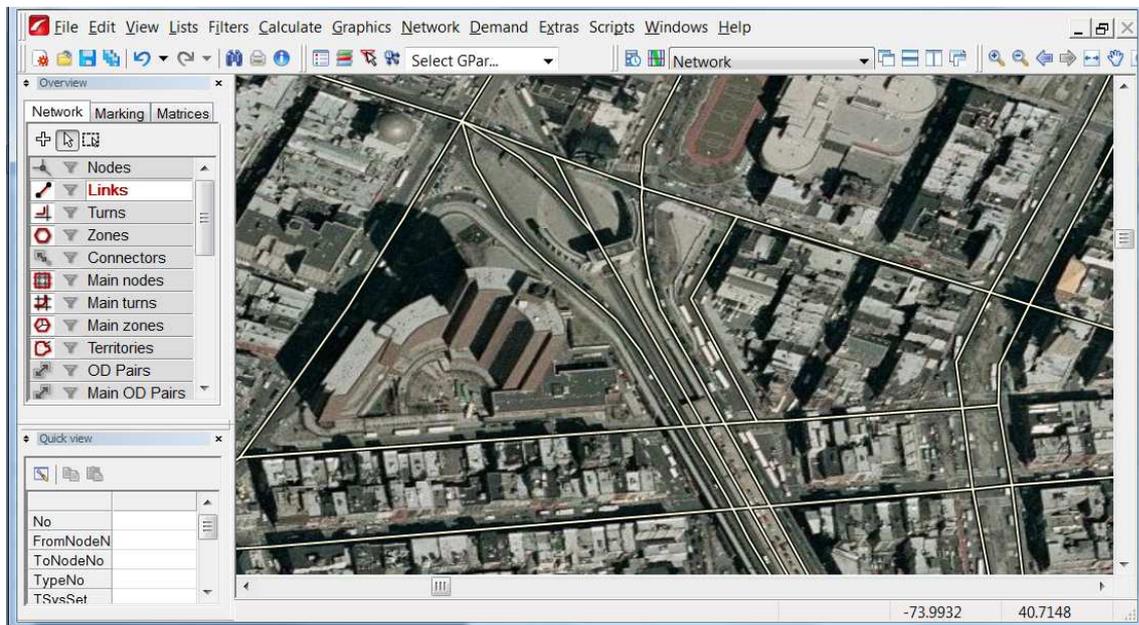rafalkucharski @gazeta.pl
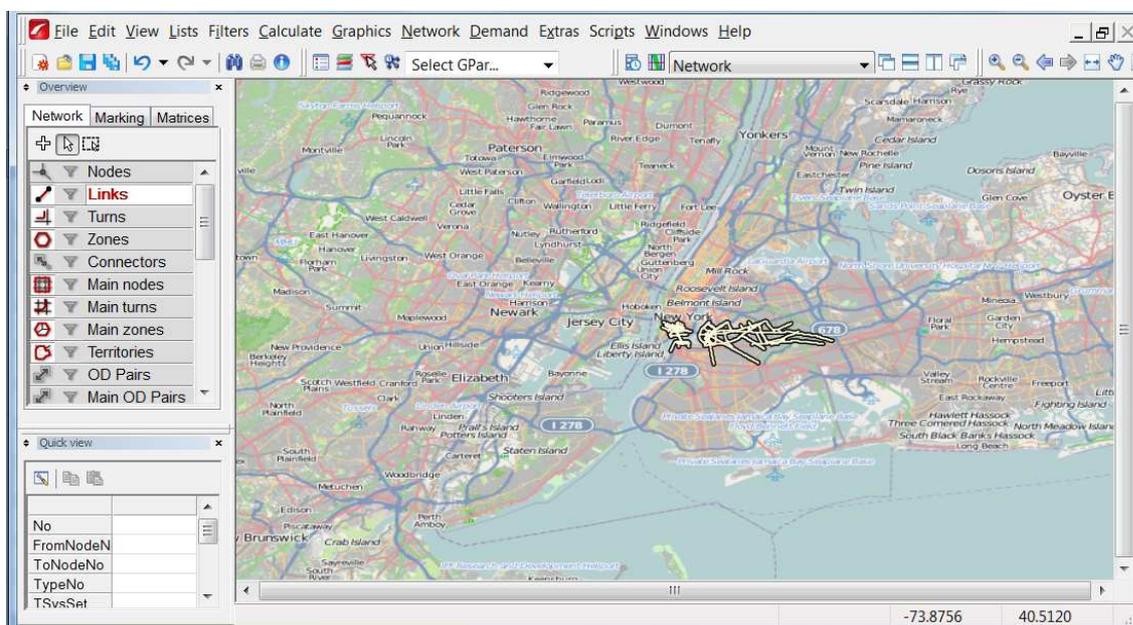
Figure 11 Some serious zoom with Yahoo Satellite

Figure 12 Open Street Maps showing greater area

video

video presentation of how the script works can be found here

http://vimeo.com/20145271 (watch in HD)

rafał kucharski

rafalkucharski @gazeta.pl