# OSM Web Wizard Tokyo Project

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In this manual, I will show you, how to generate a real city map with **OSM** (**O**pen **S**treet **M**ap) Web Wizard program. First of all, I have used Eclipse **SUMO** ( **S**imulation of **U**rban **MO**bility ) open source program in Windows operation system.

SUMO link: https://www.eclipse.org/sumo/
SUMO download link: https://sumo.dlr.de/docs/Downloads.php
SUMO OSM Web Wizard tutorial: https://sumo.dlr.de/docs/Tutorials/OSMWebWizard.html
Python page: https://www.python.org/downloads/release/python-397/
Useful video from YouTube: https://youtu.be/aiOQbaB-pWo?t=0
Firefox download link: https://www.mozilla.org/hu/firefox/new/

In the SUMO Download page, you can see these files. You only need: ***Download 64 bit installer***.

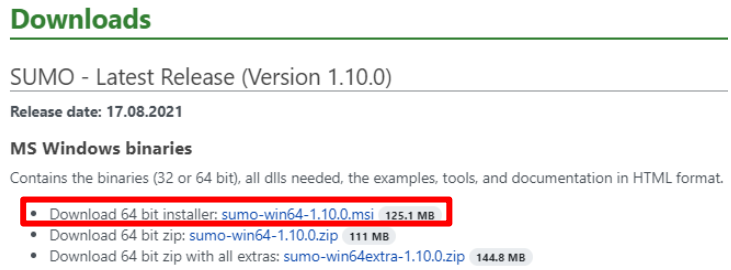



*Figure 1 SUMO Downloads page*

This program is very easy to use. After we download and install the SUMO program, we use these icons.
If we don't find these icons, but we can find with Windows search.

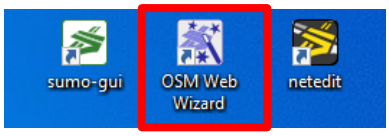



*Figure 2 SUMO program icons*

After we installed the SUMO program, we have to download python program too. From here: https://www.python.org/
Click the latest version and download and install: ***Windows installer (64-bit)***

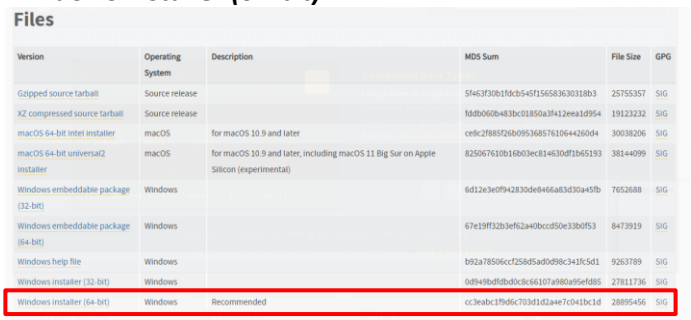



*Figure 4 Python Download file*

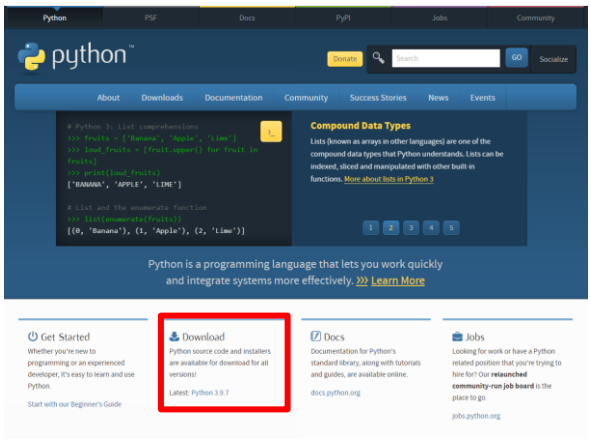



*Figure 3 Python homepage*

Now we use the **OSM Web Wizard** program.
Open this program and see two windows in our screen. Like Figure 6.
We can see a **map** which is opened by browser, and a **python command line box.**
I consider, the program will work more successful when we **open the map with Firefox** browser.
In the **command line box**, we can **watch the log info** about the generation.

**If** the OSM Web Wizard icon **doesn't** start to **work** after you clicked on the icon, then **you** have to **use Command Prompt**. **Type these keywords** to the Command Prompt:
***C:\>*** *cd Program Files (x86)\Eclipse\Sumo\tools*
***C:\Program Files (x86)\Eclipse\Sumo\tools>****osmWebWizard.py*

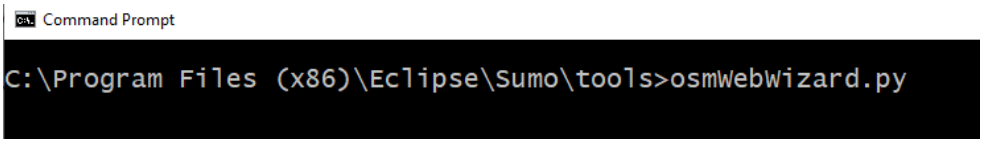



*Figure 5 OSM Web Wizard open form Command Prompt*

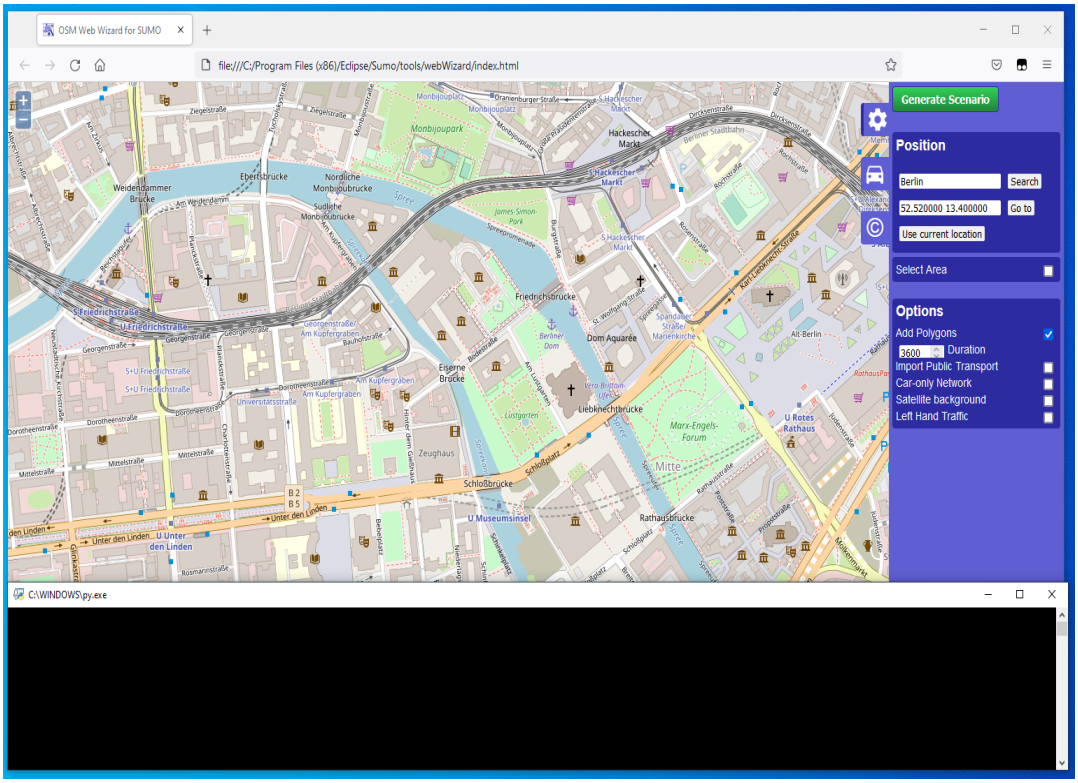



*Figure 6 On the top OSM Web Wizard Map and down at the bottom python command line box*

I consider, the program will work more successful when we **open the map with Firefox** browser.
In the **command line box**, we can **follow the generation process logs**.
The OSM web wizard starts your default browser with a *index.html* like this:
*C:/Program%20Files%20(x86)/Eclipse/Sumo/tools/webWizard/index.html*
**So copy** that line: from your default browser and **put** that **line into** your **Firefox** browser.
Now, we can generate what we want. In this project **we want to generate a SUMO map about Tokyo city centre.**

In this program we could use the ***'Select Area'*** function, but I think, it **is useless since** it often **destroyed the generation process.**
Unfortunately, **we cannot rotate this map** like the Google Maps and only **select area with a rectangle**. That's why I selected area with a browser.

After that, we can choose ***'Options'***.
**We should never change** the ***'Add Polygons 3600 Duration'*** because our generation will be failed.

I haven't tried the ***'Import Public Transport'*** option, but it **is not important at this time.**

***'Car-only Network'*** option is very useful skill. If we don't want to generate any pedestrian, bike, tram, metro, or train system, we will **select this.**

We have an opportunity to use the ***'Satellite background'*** option but it **doesn't work.** I tried in Windows and Linux system It **always failed.**

**We don't have to select *'Left Hand Traffic'*** option, because the program recognizes which country use Left-Hand or Right-Hand Traffic system.

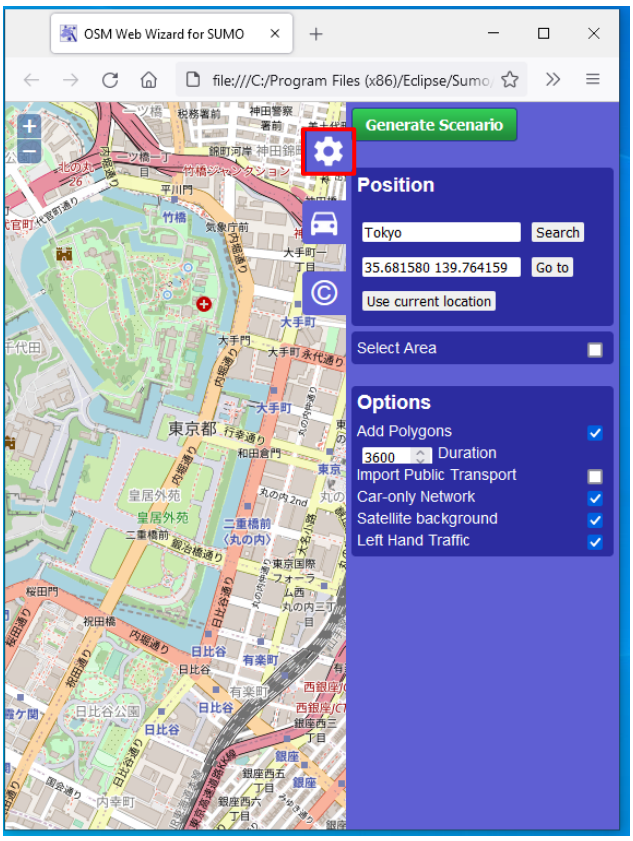


*Figure 7 OSM Web Wizard for SUMO opened by Firefox browser*

We can **select** what kind of **vehicle** move in this generated map. We could use all options without any problem. After we **chose *'Car-only Network'*** option we **don't select railway vehicles** and **pedestrian** because they can't move in the generated map.
Ok, we selected all options what we wanted. Now **push the *'Generate Scenario'*** button.
If everything goes well, you see printout in your log info box. Usually, the **generation is created in your Desktop directory.**

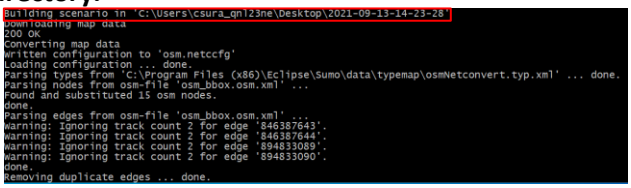


*Figure 9 Generation to the Desktop directory*

But sometimes it puts files in different places. **Please check** where you can find **your SUMO map location:**

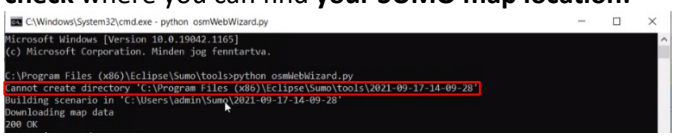


*Figure 10 Generate to the SUMO directory*

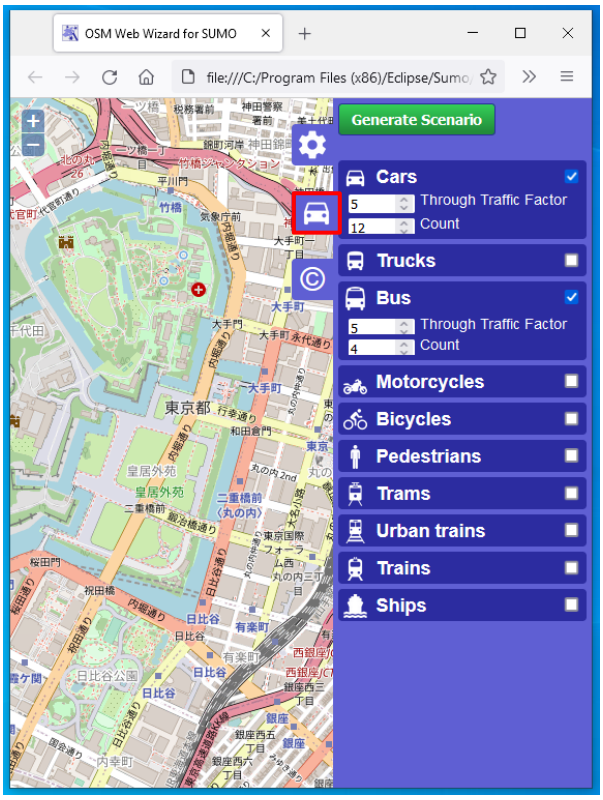


*Figure 8 Traffic generates to this map section*

After the generation, the **Sumo-gui automatically opens the generated map** and we can play the simulation. We can change a lot of things in generated map (I mean the xml files), forexample the traffic or the road system parameters.

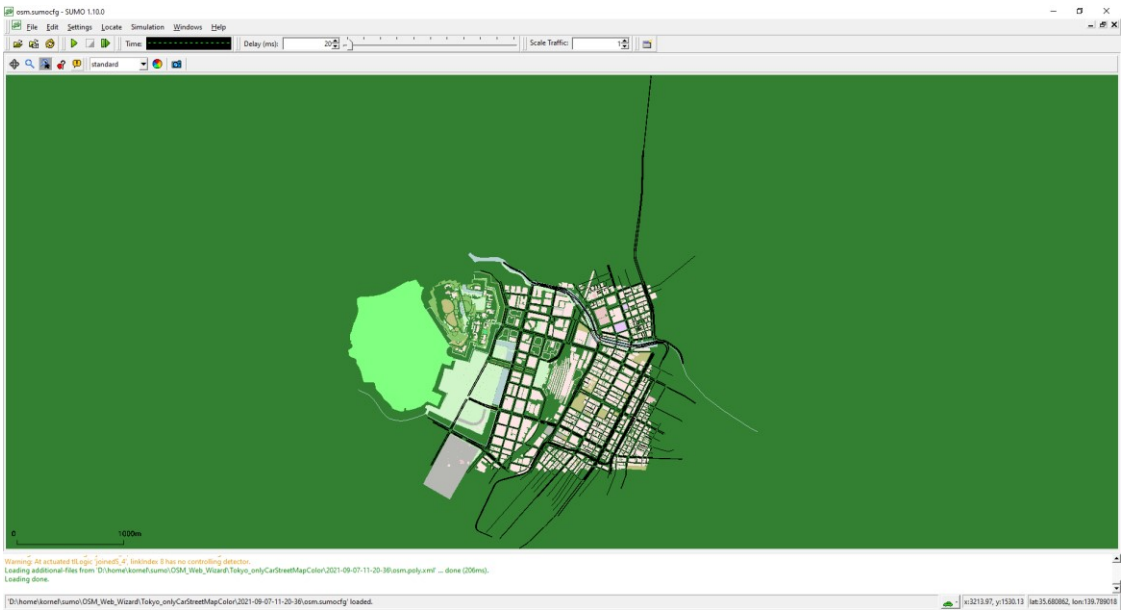


*Figure 11 Generated Tokyo city centre*

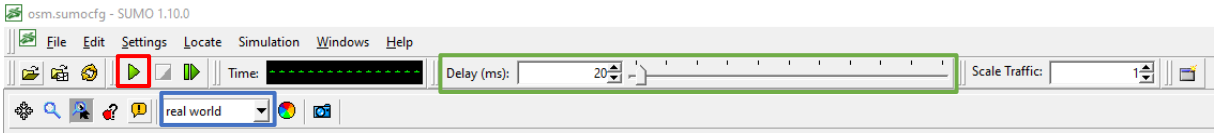
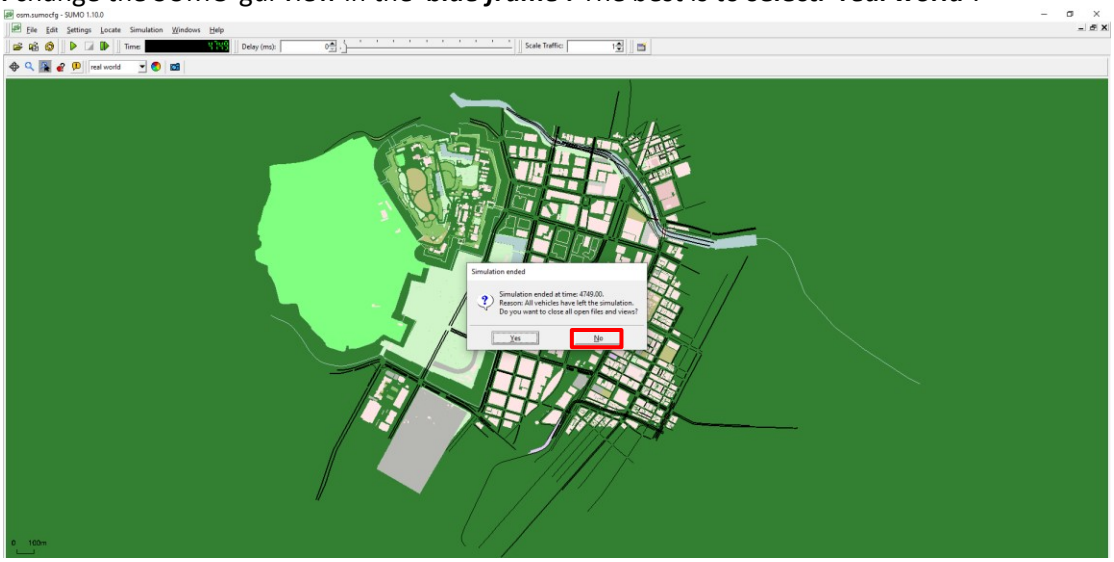



*Figure 12 SUMO-Gui useful buttons*

After the generation **click the *'Play button'*** (green triangle with red frame). We can change the ***'Delay'*** (with green frame) next to the time display. This allows you to slow down the simulation by waiting for the given number of milliseconds between simulation steps.
I prefer **50 ms** delay, because we can see vehicles moving in this city.
**We can** change the SUMO-gui view in the ***'blue frame'.*** The best is to **select*: 'real world'***.




I consider, **after the simulation** better to **choose** the **No** answer in the *'Simulation ended'* window. Because we can't repeat the simulation without reopend this file from its folder. We can **use** the **refresh button** (with red frame).

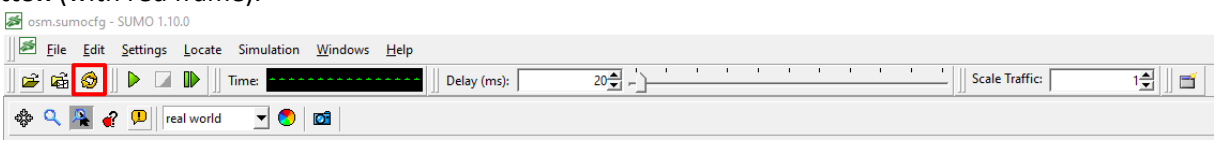
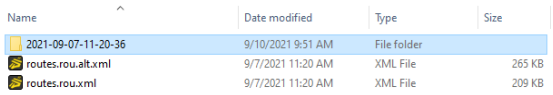



*Figure 13 SUMO refresh button location*

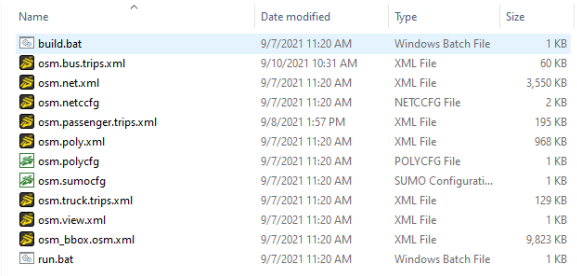
Result of the successful generation when you see these icons in your **“Desktop”**.
When you made a generation first time, the program doesn’t put these XML Files: *routes.rou.alt.xml* and *routes.rou.xml*.
to the folder.



| Name | Date modified | Type | Size |
|---|---|---|---|
| 2021-09-07-11-20-36 | 9/10/2021 9:51 AM | File folder | |
| routes.rou.alt.xml | 9/7/2021 11:20 AM | XML File | 265 KB |
| routes.rou.xml | 9/7/2021 11:20 AM | XML File | 209 KB |

*Figure 14 First successful generation folder and files*

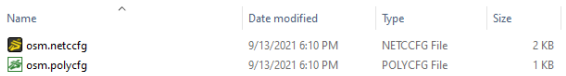
In the folder you have to see these XML and config files.
With the **‘Notepad++’** you can modify XML file.
You can use the **‘netedit’** program also.
(See Figure 2).



| Name | Date modified | Type | Size |
|---|---|---|---|
| build.bat | 9/7/2021 11:20 AM | Windows Batch File | 1 KB |
| osm.bus.trips.xml | 9/10/2021 10:31 AM | XML File | 60 KB |
| osm.net.xml | 9/7/2021 11:20 AM | XML File | 3,550 KB |
| osm.netccfg | 9/7/2021 11:20 AM | NETCCFG File | 2 KB |
| osm.passenger.trips.xml | 9/8/2021 1:57 PM | XML File | 195 KB |
| osm.poly.xml | 9/7/2021 11:20 AM | XML File | 968 KB |
| osm.polycfg | 9/7/2021 11:20 AM | POLYCFG File | 1 KB |
| osm.sumocfg | 9/7/2021 11:20 AM | SUMO Configurati... | 1 KB |
| osm.truck.trips.xml | 9/7/2021 11:20 AM | XML File | 129 KB |
| osm.view.xml | 9/7/2021 11:20 AM | XML File | 1 KB |
| osm_bbox.osm.xml | 9/7/2021 11:20 AM | XML File | 9,823 KB |
| run.bat | 9/7/2021 11:20 AM | Windows Batch File | 1 KB |

*Figure 15 Files from the folder*

Sometimes when the generation fails, in the target folder you will see only these files.
So then, retry the generation with the same parameters.



| Name | Date modified | Type | Size |
|---|---|---|---|
| osm.netccfg | 9/13/2021 6:10 PM | NETCCFG File | 2 KB |
| osm.polycfg | 9/13/2021 6:10 PM | POLYCFG File | 1 KB |

*Figure 16 Unsuccessful generation*

If you still have any question about SUMO program, you can reach me by email.
My email address is: csuraikornel@gmail.com.