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Reg no : 20BPS1045

Emission Capture of Vehicles in SUMO

CSE2034

Experiment - 8

```
lab21@205A-scope--63:~$ sudo apt install sumo
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following package was automatically installed and is no longer required:
  gir1.2-goa-1.0
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  fastjar fonts-roboto-unhinted jarwrapper libfox-1.6-0 libjs-openlayers
  sumo-tools
The following NEW packages will be installed:
  fastjar fonts-roboto-unhinted jarwrapper libfox-1.6-0 libjs-openlayers sumo
  sumo-tools
0 upgraded, 7 newly installed, 0 to remove and 0 not upgraded.
Need to get 21.8 MB of archives.
After this operation, 143 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

```
lab21@205A-scope--63:~$ scp lab21@172.16.10.7:sumo.tar.gz .
lab21@172.16.10.7's password:
sumo.tar.gz                               100% 71MB 109.1MB/s 00:00
```

```
lab21@205A-scope--63:~$ sumo --version
Eclipse SUMO Version 1.4.0
Build features: x86_64-pc-linux-gnu GDAL GUI
Copyright (C) 2001-2019 German Aerospace Center (DLR) and others; https://sumo.dlr.de

Eclipse SUMO Version 1.4.0 is part of SUMO.
This program and the accompanying materials
are made available under the terms of the Eclipse Public License v2.0
which accompanies this distribution, and is available at
http://www.eclipse.org/legal/epl-v20.html
SPDX-License-Identifier: EPL-2.0
```

```
lab21@205A-scope--63:~/sumo/sumo-1.16.0/tools$ python3 osmWebWizard.py
Building scenario in '/home/lab21/sumo/sumo-1.16.0/tools/2023-03-21-08-54-03'.
Downloading map data
```

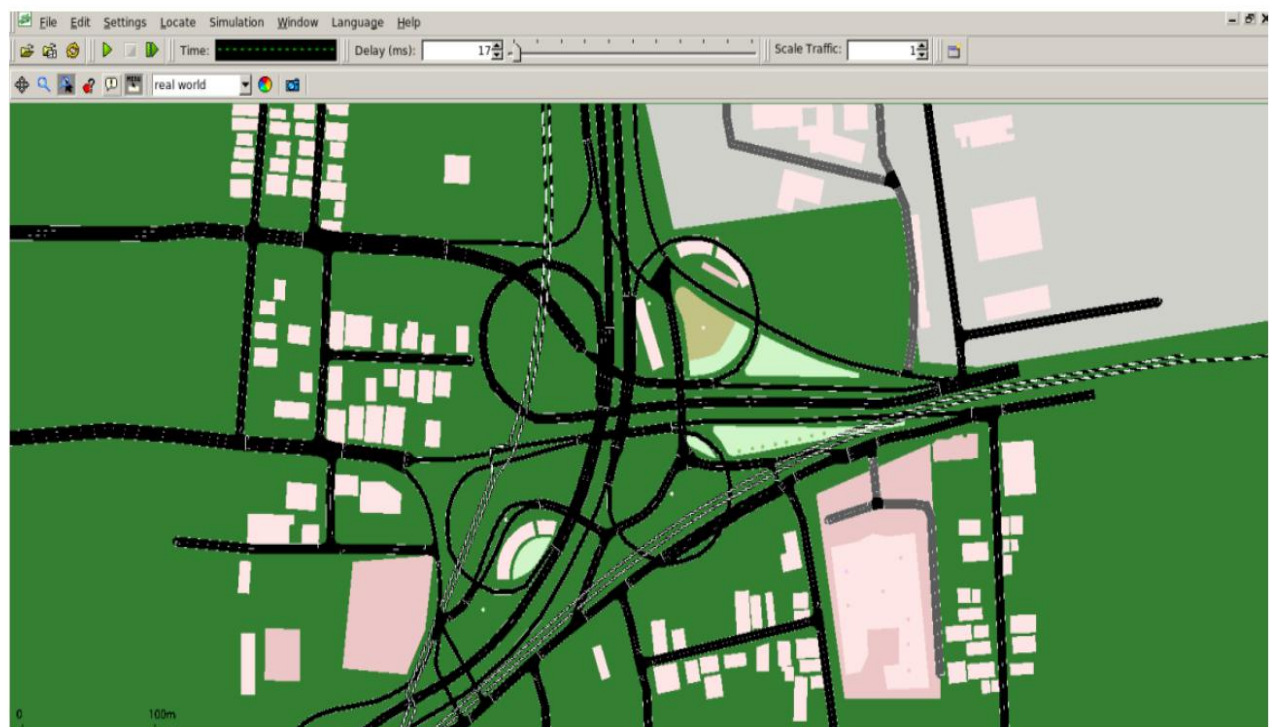
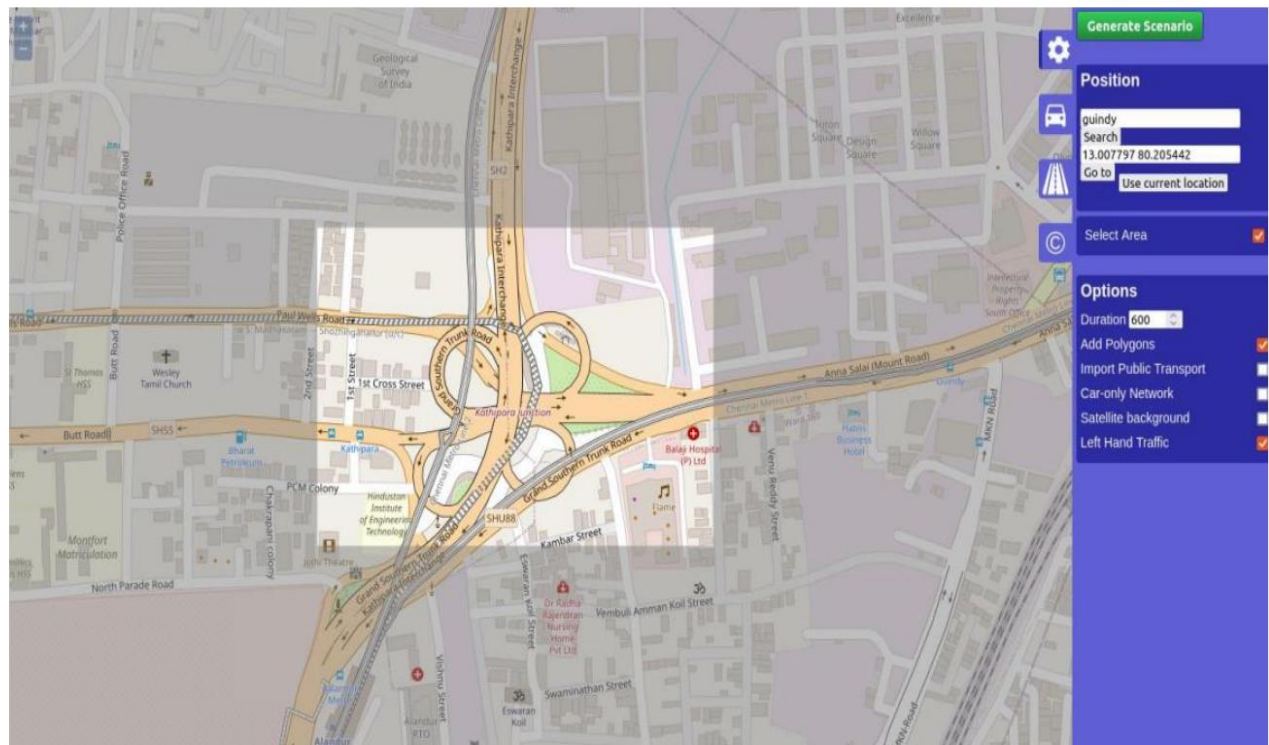
```
lab21@205A-scope--63:~/sumo/sumo-1.16.0/tools$ sudo add-apt-repository ppa:sumo/stable
SUMO is a highly portable, microscopic traffic simulation package designed to handle large road networks. SUMO is open source, licensed under the EPLV2.
More info: https://launchpad.net/~sumo/+archive/ubuntu/stable
Press [ENTER] to continue or Ctrl-c to cancel adding it.

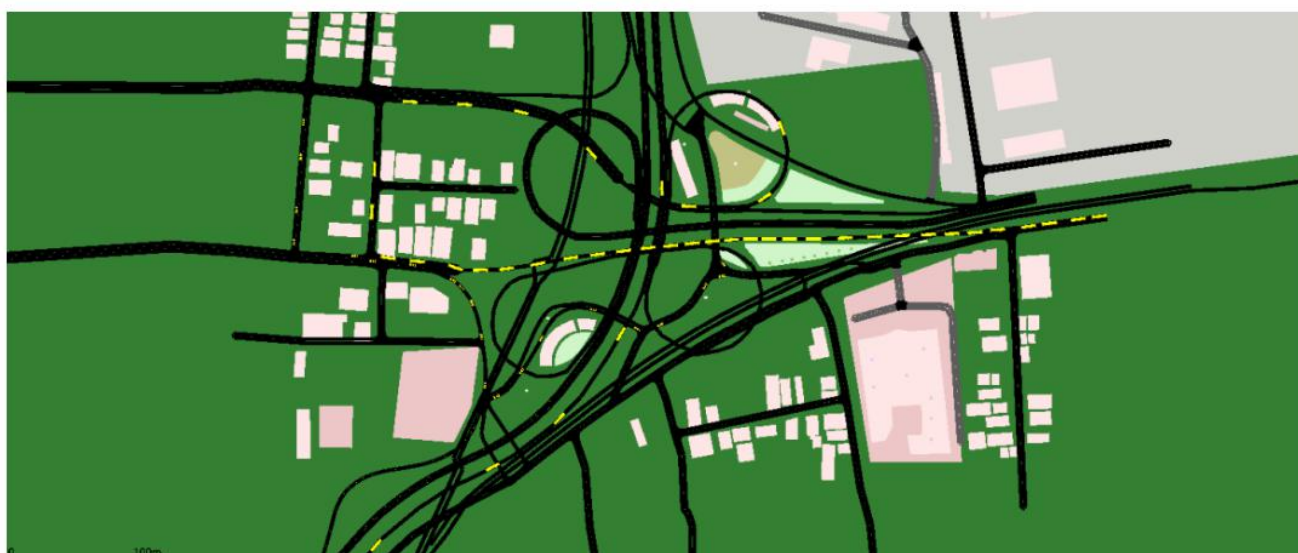
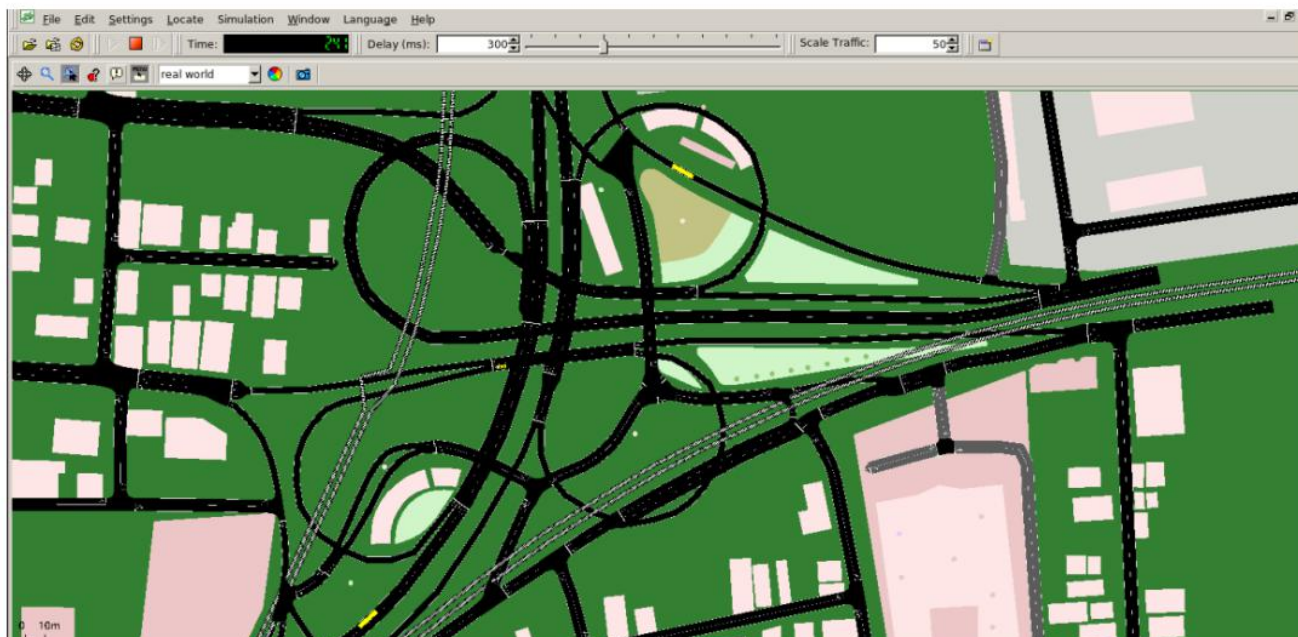
Hit:1 http://packages.microsoft.com/repos/code stable InRelease
Hit:2 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:3 http://in.archive.ubuntu.com/ubuntu focal InRelease
Hit:4 http://ppa.launchpad.net/linuxuprising/java/ubuntu focal InRelease
Hit:5 http://packages.ros.org/ros/ubuntu focal InRelease
Hit:6 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease
Get:7 http://ppa.launchpad.net/sumo/stable/ubuntu focal InRelease [17.5 kB]
Get:8 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Ign:10 http://ppa.launchpad.net/webupd8team/java/ubuntu focal InRelease
Get:11 http://ppa.launchpad.net/sumo/stable/ubuntu focal/main amd64 Packages [948 B]
Get:12 http://ppa.launchpad.net/sumo/stable/ubuntu focal/main i386 Packages [704 B]
Get:13 http://ppa.launchpad.net/sumo/stable/ubuntu focal/main Translation-en [404 B]
Err:14 http://ppa.launchpad.net/webupd8team/java/ubuntu focal Release
```

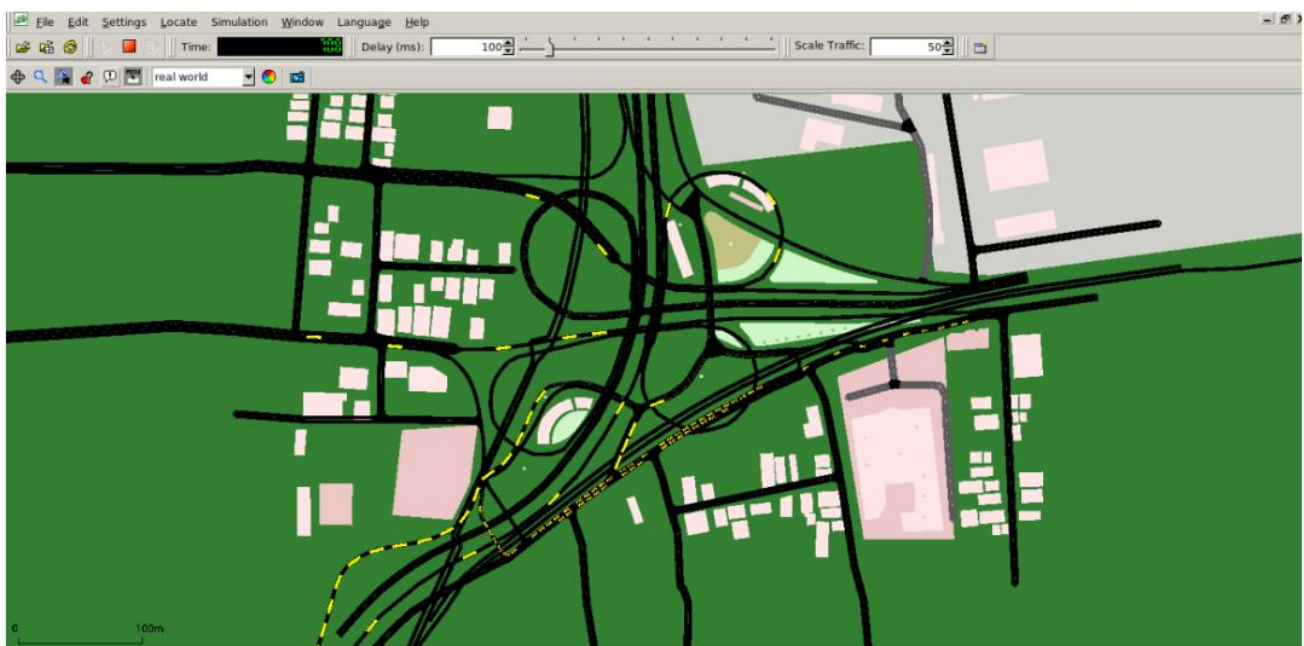
```

lab21@205A-scope--63:~/sumo/sumo-1.16.0/tools$ sudo apt install sumo sumo-tools sumo-doc
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  fonts-roboto-unhinted gir1.2-goa-1.0
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libis-underscore libspatialindex-c6 libspatialindex-dev libspatialindex6 python3-pyproj python3-rtree

```







A	B	C	D	E	F	G	H
vehicle/0/_id	vehicle/0/_eclass	vehicle/0/_CO2	vehicle/0/_CO	vehicle/0/_HC	vehicle/0/_NOx	vehicle/0/_PMx	vehicle/0/_fuel
motorcycle0	HBEFA3/LDV_G_EU6	1228.61	179.19	0.64	0.31	0.17	391.94
motorcycle0	HBEFA3/LDV_G_EU6	6421.96	309.94	1.32	1.35	0.43	2048.6
motorcycle0	HBEFA3/LDV_G_EU6	12148.3	490.2	2.2	2.49	0.77	3875.27
motorcycle0	HBEFA3/LDV_G_EU6	23401.33	938.67	4.27	4.69	1.52	7464.95
motorcycle0	HBEFA3/LDV_G_EU6	11892.91	407.17	1.91	2.45	0.68	3793.75
motorcycle0	HBEFA3/LDV_G_EU6	0	0	0	0	0	0
motorcycle0	HBEFA3/LDV_G_EU6	0	0	0	0	0	0
motorcycle0	HBEFA3/LDV_G_EU6	2396.97	135.7	0.53	0.57	0.15	764.63
motorcycle0	HBEFA3/LDV_G_EU6	1754.61	102.84	0.39	0.44	0.1	559.71
motorcycle0	HBEFA3/LDV_G_EU6	10241.78	414.16	1.85	2.12	0.64	3267.1
motorcycle0	HBEFA3/LDV_G_EU6	17581.9	689.36	3.14	3.56	1.11	5608.57
motorcycle0	HBEFA3/LDV_G_EU6	28422.05	1147.58	5.23	5.65	1.86	9066.54
motorcycle0	HBEFA3/LDV_G_EU6	0	0	0	0	0	0
motorcycle0	HBEFA3/LDV_G_EU6	16360.02	636.54	2.9	3.32	1.03	5218.79
motorcycle0	HBEFA3/LDV_G_EU6	15596.67	578.52	2.67	3.17	0.95	4975.26
motorcycle0	HBEFA3/LDV_G_EU6	10437.16	338.26	1.61	2.16	0.58	3329.36
motorcycle0	HBEFA3/LDV_G_EU6	0	0	0	0	0	0
motorcycle0	HBEFA3/LDV_G_EU6	0	0	0	0	0	0
motorcycle0	HBEFA3/LDV_G_EU6	2947.75	98.34	0.43	0.7	0.13	940.31
bus1	HBEFA3/Bus	21281.48	25.07	6.81	147.71	2.93	6737.47
bus1	HBEFA3/Bus	19112.92	22.58	6.53	132.29	2.67	6051.23
bus1	HBEFA3/Bus	12250.36	14.74	5.63	83.53	1.82	3879.55
bus1	HBEFA3/Bus	21281.48	25.07	6.81	147.71	2.93	6737.47
bus1	HBEFA3/Bus	19112.92	22.58	6.53	132.29	2.67	6051.23
bus1	HBEFA3/Bus	12250.36	14.74	5.63	83.53	1.82	3879.55
bus1	HBEFA3/Bus	3357	4.64	4.47	20.47	0.73	1065.21
bus1	HBEFA3/Bus	27569.47	32.55	7.63	192.98	3.73	8727.22
bus1	HBEFA3/Bus	15091.22	18.19	6	104.13	2.19	4778.48
bus1	HBEFA3/Bus	38025.68	44.53	9	267.33	5.02	12036.1
bus1	HBEFA3/Bus	21728.86	25.69	6.87	151.11	3	6879
bus1	HBEFA3/Bus	0	0	0	0	0	0
bus1	HBEFA3/Bus	30487.81	35.9	8.02	213.74	4.09	9650.73
bus1	HBEFA3/Bus	29724.42	34.93	7.92	208.12	3.99	9409.18
bus1	HBEFA3/Bus	0	0	0	0	0	0
bus1	HBEFA3/Bus	45158.63	52.71	9.93	318.07	5.9	14293.32
bus1	HBEFA3/Bus	8049.19	9.96	5.08	53.72	1.31	2550.07
bus1	HBEFA3/Bus	25279.68	29.83	7.33	176.5	3.44	8002.64
bus1	HBEFA3/Bus	15427.55	18.5	6.05	106.36	2.22	4884.94
bus1	HBEFA3/Bus	27254.76	32.11	7.59	190.58	3.68	8627.65
bus3	HBEFA3/Bus	36490.48	45.38	8.83	261.62	5.03	11549.39
bus3	HBEFA3/Bus	12109.76	17.28	5.64	87.92	2.01	3834.13
bus3	HBEFA3/Bus	19588.54	25.9	6.62	141.21	2.94	6200.78
bus3	HBEFA3/Bus	19116.89	25.34	6.55	137.82	2.88	6051.54
bus3	HBEFA3/Bus	0	0	0	0	0	0
bus3	HBEFA3/Bus	17995.49	24.21	6.41	130.13	2.75	5696.62
bus3	HBEFA3/Bus	19490.84	25.91	6.6	140.75	2.94	6169.82
bus3	HBEFA3/Bus	18594.18	24.87	6.49	134.34	2.83	5886.08
bus3	HBEFA3/Bus	21704.06	28.41	6.89	156.42	3.21	6870.21
bus3	HBEFA3/Bus	18183.34	24.34	6.43	131.31	2.77	5756.09
bus3	HBEFA3/Bus	13393.95	18.86	5.81	97.27	2.18	4240.48
bus3	HBEFA3/Bus	10191.75	15.26	5.39	74.63	1.79	3227.12
bus3	HBEFA3/Bus	36684.93	45.64	8.85	263.08	5.06	11610.9
bus3	HBEFA3/Bus	19569.72	25.85	6.61	141	2.93	6194.84
bus3	HBEFA3/Bus	10346.4	15.28	5.41	75.42	1.8	3276.11
bus3	HBEFA3/Bus	14014.2	19.57	5.89	101.67	2.26	4436.76
bus3	HBEFA3/Bus	11668.52	16.94	5.58	85.1	1.97	3694.45