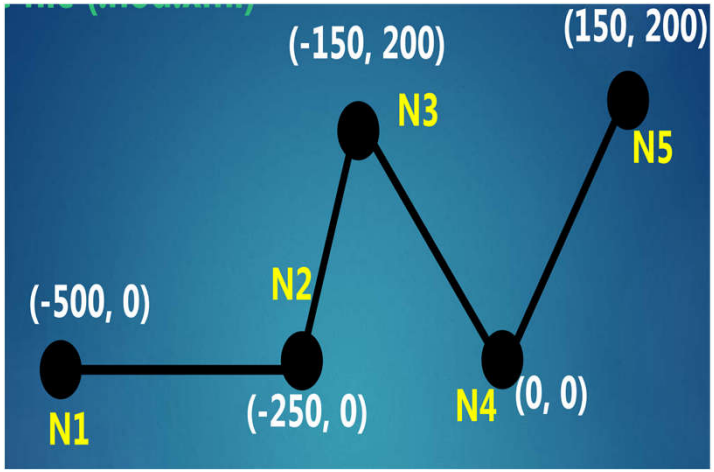
Manuel Node, Edge and Route assignement

1) node file| my_nod.**nod.xml**

```
<nodes>
<node id="n1" x = "-500" y="0" type="priority"/>
<node id="n2" x = "-250" y="0" type="traffic_light"/>
<node id="n3" x = "-150" y="200" type="traffic_light"/>
<node id="n4" x ="0" y="0"/>
<node id="n5" x ="150" y="200" />
</nodes>
```



2) Edge file | my_edge.edg.xml

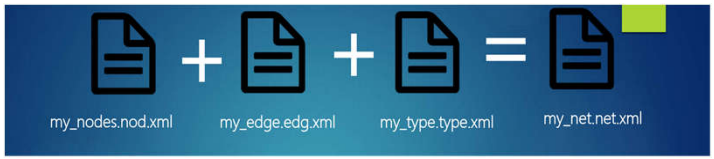
```
<edges>
<edge from="n1" to="n2" id="1to2" type="3L45"/>
<edge from="n2" to="n3" id="2to3" type="2L15"/>
<edge from="n3" to="n4" id="3to4" type="3L30"/>
<edge from="n4" to="n5" id="out" type="3L30"/>
</edges>
```

3) Type file | my_type.type.xml

```
<types>
<type id="3L45" priority="3" numLanes="3" speed="45"/>
<type id="2L15" priority="3" numLanes="2" speed="15"/>
<type id="3L30" priority="2" numLanes="3" speed="30"/>
</types>
```

4) netconvert

```
netconvert --node-files my_nodes.nod.xml --edge-files my_edge.edg.xml -t my_type.type.xml -o my_net.net.xml
```



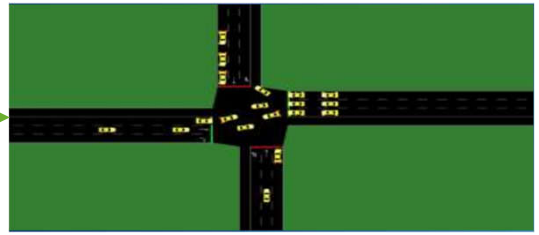
5) Route file| my_route.rou.xml

```
<routes>
<vType accel="1.0" decel="5.0" id="Car" length="2.0" maxSpeed="100.0" sigma="0.0" />
<vType accel="1.0" decel="5.0" id="Bus" length="12.0" maxSpeed="1.0" sigma="0.0" />
<route id="route0" edges="1to2 2to3"/>
<vehicle depart="10" id="veh0" route="route0" type="Bus" />
<route id="route1" edges="2to3 3to4"/>
<vehicle depart="10" id="veh1" route="route1" type="Car" />
<route id="route2" edges="3to4 out"/>
<vehicle depart="30" id="veh2" route="route2" type="Car" />
</routes>
```

6) Sumo Configuration file|my_config_file.sumocfg

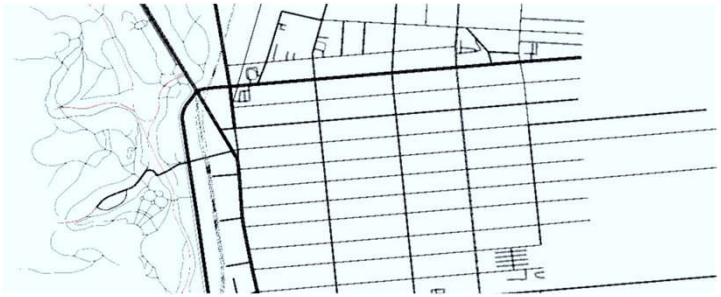
```
<configuration>
<input>
<net-file value="my_net.net.xml"/>
<route-files value="my_route.rou.xml"/>
</input>
<time>
<begin value="0"/>
<end value="2000"/>
</time>
</configuration>
```

sumo -c my_config_file.sumocfg
Or
sumo-gui -c my_config_file.sumocfg



From OSM to Network
+ Random Trips Simulation

1) Search and Download Open Street Map (OSM)



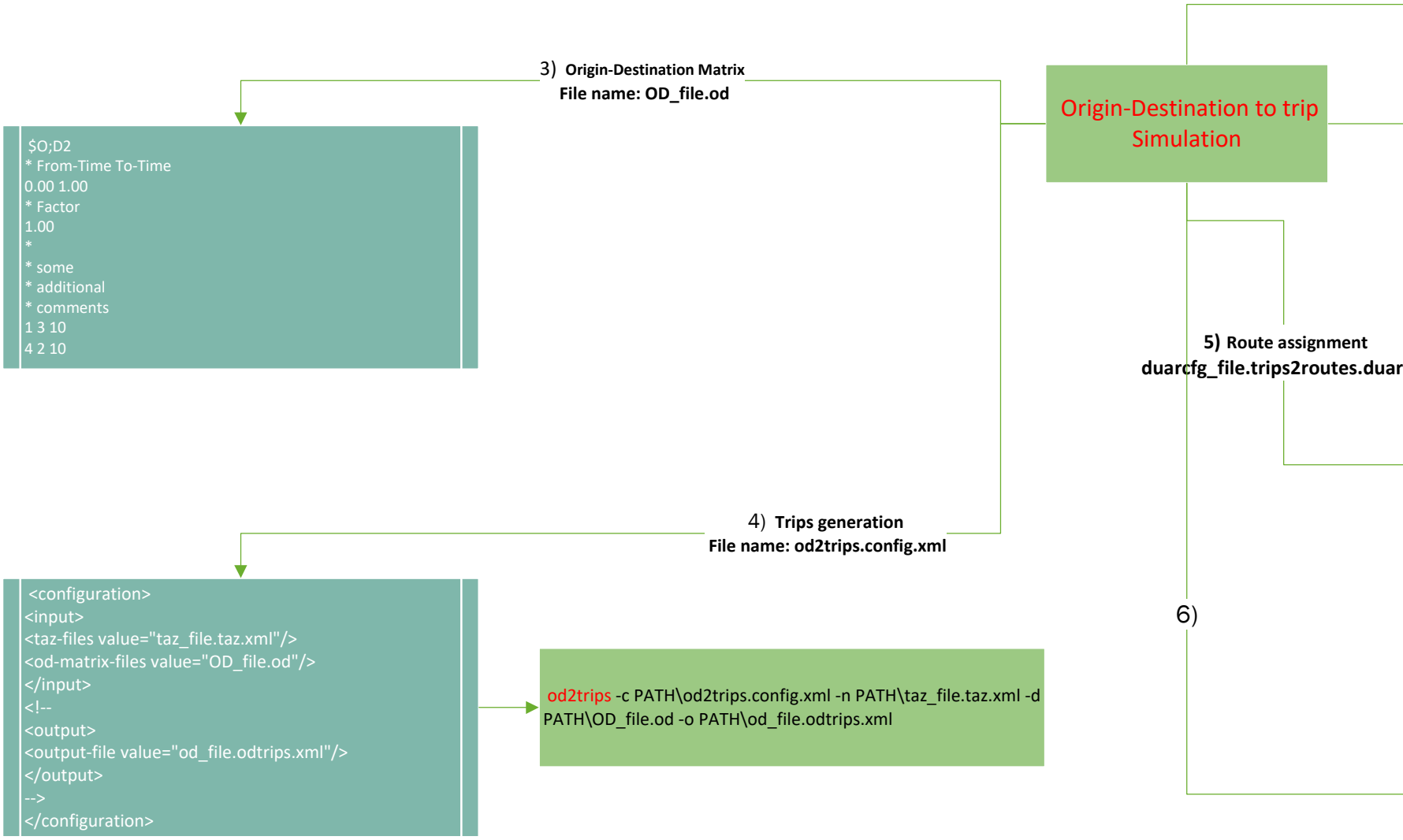
2) Convert the Map into SUMO Network
netconvert --osm-files map.osm -o test.net.xml

3) Add trip and route to the network using build-in Python scripts **randomTrips.py**

python PATH\randomTrips.py -n test.net.xml -r test.rou.xml -e 50 -l

4) Setup the configuration file and run the simulation

```
<configuration>
<input>
<net-file value="my_net.net.xml"/>
<route-files value="my_route.rou.xml"/>
</input>
<time>
<begin value="0"/>
<end value="2000"/>
</time>
</configuration>
```


3) Origin-Destination Matrix
File name: OD_file.od
$O;D2
* From-Time To-Time
0.00 1.00
* Factor
1.00
*
* some
* additional
* comments
1 3 10
4 2 10
Origin-Destination to trip Simulation
5) Route assignment
duarcfg_file.trips2routes.duar
6)
4) Trips generation
File name: od2trips.config.xml
<configuration>
<input>
<taz-files value="taz_file.taz.xml"/>
<od-matrix-files value="OD_file.od"/>
</input>
<!--
<output>
<output-file value="od_file.odtrips.xml"/>
</output>
-->
</configuration>
od2trips -c PATH\od2trips.config.xml -n PATH\taz_file.taz.xml -d PATH\OD_file.od -o PATH\od_file.odtrips.xml

1) Make/have the **network file** ready (.net.xml)

trip

2) **Traffic Assignment Zone (TAZ) definition**
File name: TAZ_file.taz.xml

```
<tazs>
<taz id="1" edges="put_your_taz_edge_id_here">
</taz>
<taz id="2" edges="put_your_taz_edge_id_here">
</taz>
<taz id="3" edges="put_your_taz_edge_id_here">
</taz>
<taz id="4" edges="put_your_taz_edge_id_here">
</taz>
<taz id="5" edges="put_your_taz_edge_id_here">
</taz>
</tazs>
```

ssignment
s2routes.duarcfg

```
<configuration>
<!-- The duarouter configuration file takes as input your network and
the OD Trips File and output
the route file -->
<input>
<net-file value="my_net.net.xml"/> <!-- Your SUMO Network File -->
<route-files value="od_file.odtrips.xml"/> <!-- Your SUMO OD Trips
File -->
</input>
<output>
<output-file value="od_route_file.odtrips.rou.xml"/>
</output>
<report>
<xml-validation value="never"/>
<no-step-log value="true"/>
</report>
</configuration>
```

duarouter –c PATH\duarcfg_file.trips2routes.duarcfg

Setup the configuration file and run the simulation

The Sumo
Configuration file
File name:
config_file.sumocfg

```
<configuration>
<input>
<net-file value="my_net.net.xml"/>
<route-files value="od_route_file.odtrips.rou.xml"/>
</input>
<time>
<begin value="0"/>
<end value="2000"/>
</time>
</configuration>
```

sumo -c my_config_file.sumocfg
Or
sumo-gui -c my_config_file.sumocfg