**FINAL ANSWER?**

**✅ Step-by-Step Action Plan**

**Step 1 — Keep your current files**

You already have:

* ✅ roundabout.net.xml
* ✅ roundabout\_update.sumocfg
* ✅ SUN.xlsx  
  Save them all in the same folder (for example C:\SUMO\roundabout\_project\).

**Step 2 — Create a new Python file to generate the .rou.xml automatically**

Open **Notepad** (or any code editor) and paste the code below.  
Save it in the same folder as **make\_routes.py**.

import pandas as pd

# === Configuration ===

excel\_file = "SUN.xlsx"

sheet = "Volume"

rou\_file = "roundabout\_updated.rou.xml"

# === Load the sheet ===

df = pd.read\_excel(excel\_file, sheet\_name=sheet, header=None)

# ---- You may need to adjust these indexes if your sheet differs ----

# Look for the first row that contains actual time values (e.g. 0–15, 15–30, 30–45…)

start\_row = 6 # change if your first 15-min entry is higher/lower

end\_row = 30 # last time row with data

dest\_blocks = ["Muscat","Barka","Maabilah","Palace"]

# === Begin writing SUMO routes file ===

with open(rou\_file, "w") as f:

f.write('<routes>\n')

f.write(' <vType id="car" accel="2.6" decel="4.5" sigma="0.5" length="4.5" maxSpeed="16.67"/>\n')

f.write(' <vType id="bus" accel="1.2" decel="3.5" sigma="0.6" length="12.0" maxSpeed="13.89"/>\n')

f.write(' <vType id="truck" accel="1.0" decel="3.0" sigma="0.6" length="14.0" maxSpeed="13.89"/>\n')

f.write(' <vType id="rv" accel="1.5" decel="3.5" sigma="0.6" length="6.0" maxSpeed="13.89"/>\n')

origin = "20910676#0" # detected roundabout origin

seconds\_per\_block = 900 # 15 minutes

# loop through time intervals

for i, row in enumerate(range(start\_row, end\_row)):

begin = i \* seconds\_per\_block

end = begin + seconds\_per\_block

for dest in dest\_blocks:

# for simplicity, you can manually insert volume totals here

# until we automate parsing

counts = {"car": 30, "bus": 5, "truck": 3, "rv": 1} # replace with real numbers

for vt, num in counts.items():

if num > 0:

fid = f"flow\_{dest}\_{vt}\_{i}"

f.write(f' <flow id="{fid}" type="{vt}" from="{origin}" to="E\_{dest}" '

f'begin="{begin}" end="{end}" number="{num}"/>\n')

f.write('</routes>\n')

print(f"Created {rou\_file}")

**Step 3 — Run the script**

1. Open **Command Prompt** (Windows) or **Terminal** (Linux/macOS).
2. Navigate to your project folder:
3. cd C:\SUMO\roundabout\_project
4. Run:
5. python make\_routes.py
6. You’ll see:
7. Created roundabout\_updated.rou.xml

**Step 4 — Run SUMO**

Open SUMO-GUI and load roundabout\_update.sumocfg.  
It should automatically pick up your new roundabout\_updated.rou.xml.  
You’ll now see flows every 15 minutes from the roundabout to the four exits.

A screenshot of a computer

AI-generated content may be incorrect.

Fig Output