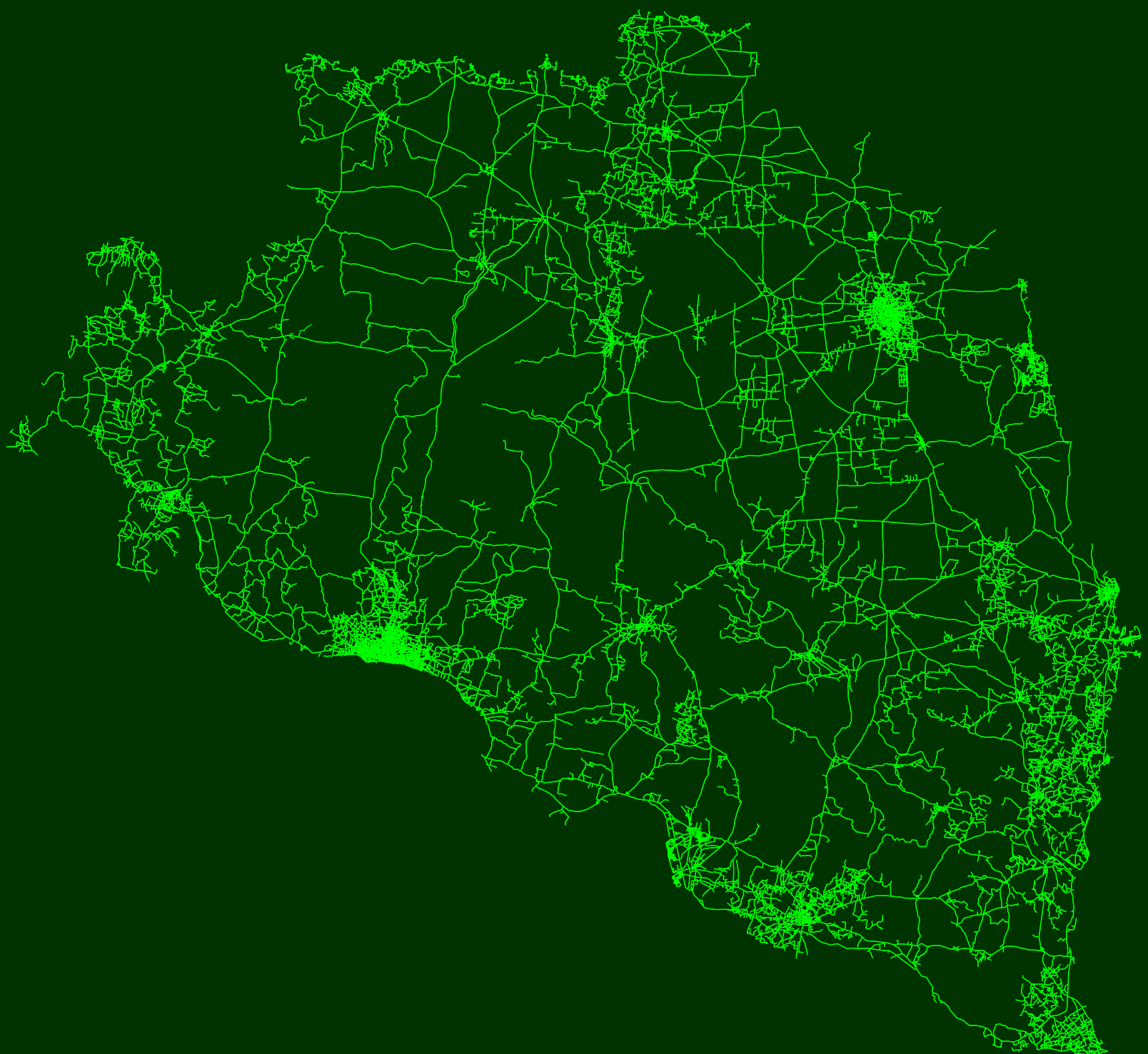
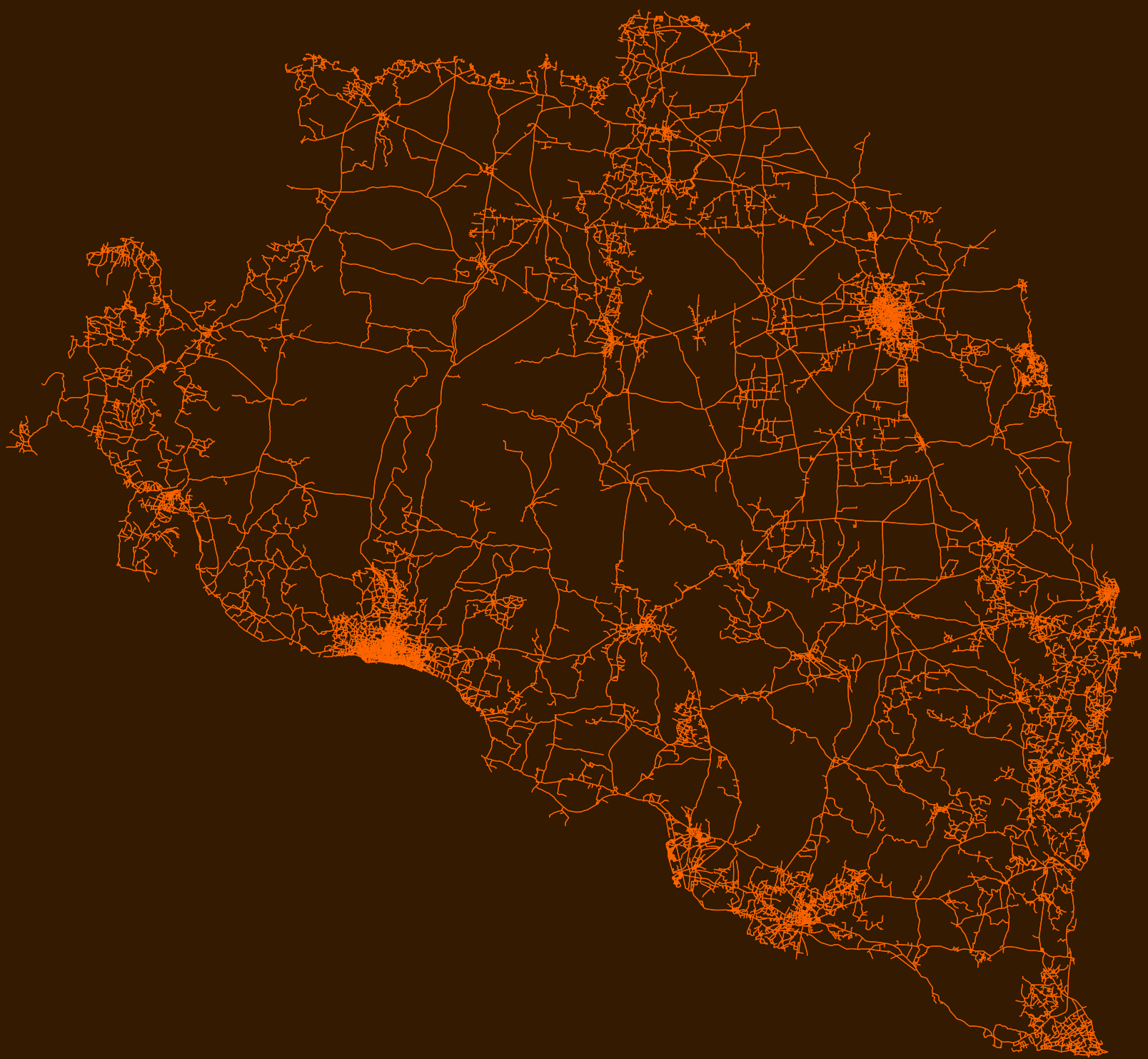
Road Network of Rajshahi, Bangladesh



Created by: Imtiaj Iqbal Mahfuj

Road Network of Rajshahi, Bangladesh



Created by: Imtiaj Iqbal Mahfuj

Visualizing Road Networks of Rajshahi City, Bangladesh

Importing Libraries

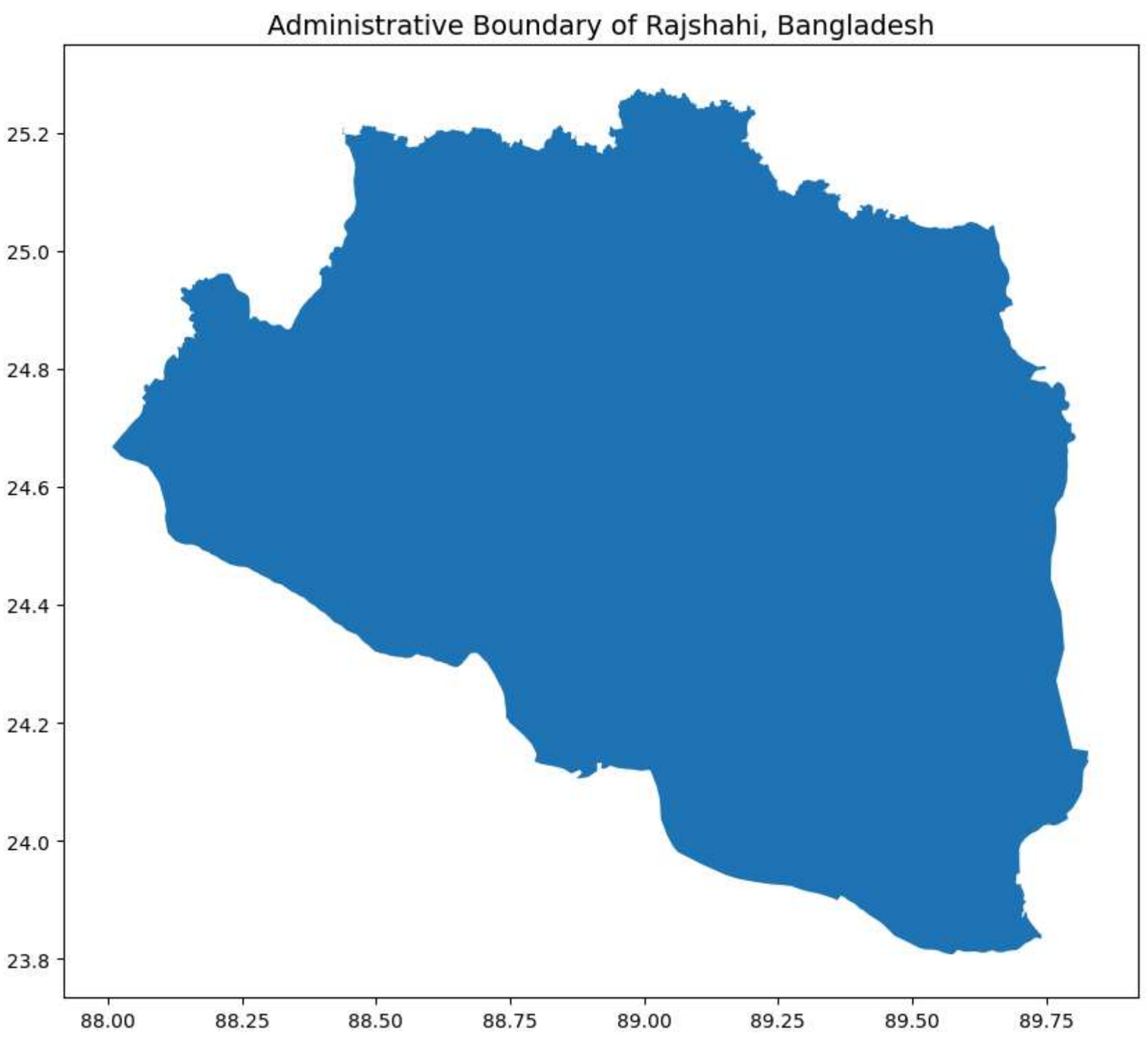
In [4]:
```
import osmnx as ox
import matplotlib.pyplot as plt
```

Download City Admin Boundary and Roads from OSM

In [12]:
```
city = 'Rajshahi, Bangladesh'
f, ax = plt.subplots(1,1,figsize=(10,10))
admin = ox.geocode_to_gdf(city)
ax.set_title(f"Administrative Boundary of {city}", fontsize=14)
display(admin)
admin.plot(ax = ax)
```

	geometry	bbox_west	bbox_south	bbox_east	bbox_north	place_id	osm_type	osm_id	lat	lon	class	type	place_rank	impo
0	POLYGON ((88.00792 24.66782, 88.01506 24.66134...	88.007915	23.807144	89.82969	25.275979	223510931	relation	3859335	24.628543	89.037686	boundary	administrative	8	0.5

Out[12]: <Axes: title={'center': 'Administrative Boundary of Rajshahi, Bangladesh'}>



In [13]:
```
Roadnet = ox.graph_from_polygon(admin.geometry.to_list()[0], network_type='drive')
nodes = Roadnet.number_of_nodes()
edges = Roadnet.number_of_edges()
```

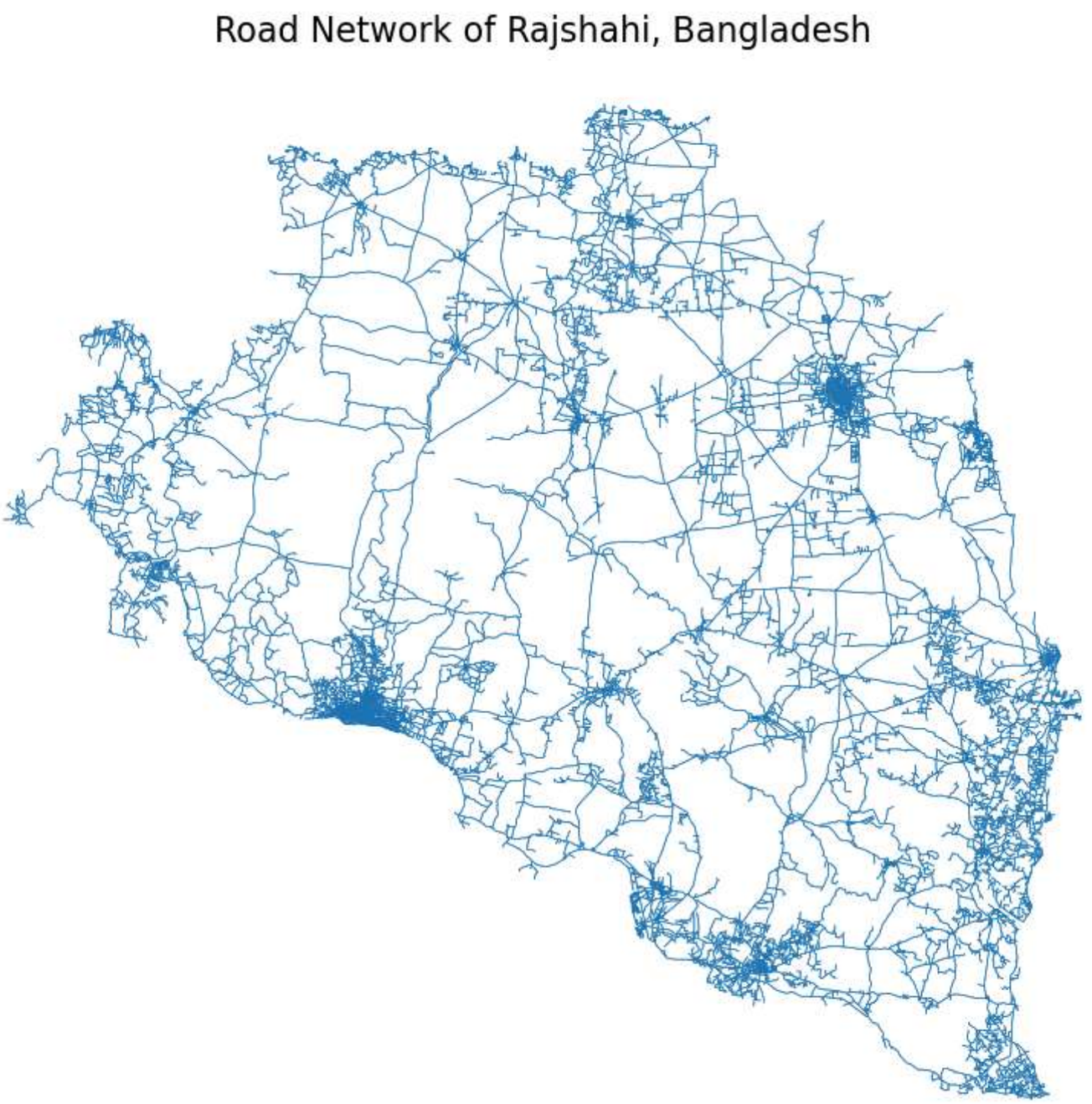
In [14]:
```
print('Number of intersections:', nodes)
print('Number of road segments:', edges)
```

```
Number of intersections: 23559
Number of road segments: 56530
```

In [8]:
```
nodesgdf, edgesgdf = ox.graph_to_gdfs(Roadnet)
```

Visualize Road Network

In [27]:
```
f, ax = plt.subplots(1, 1, figsize=(10, 10))

edgesgdf.plot(ax=ax, linewidth=0.5, alpha=0.9)

ax.set_title(f"Road Network of {city}", fontsize=16)

ax.axis('off')
plt.show()
```



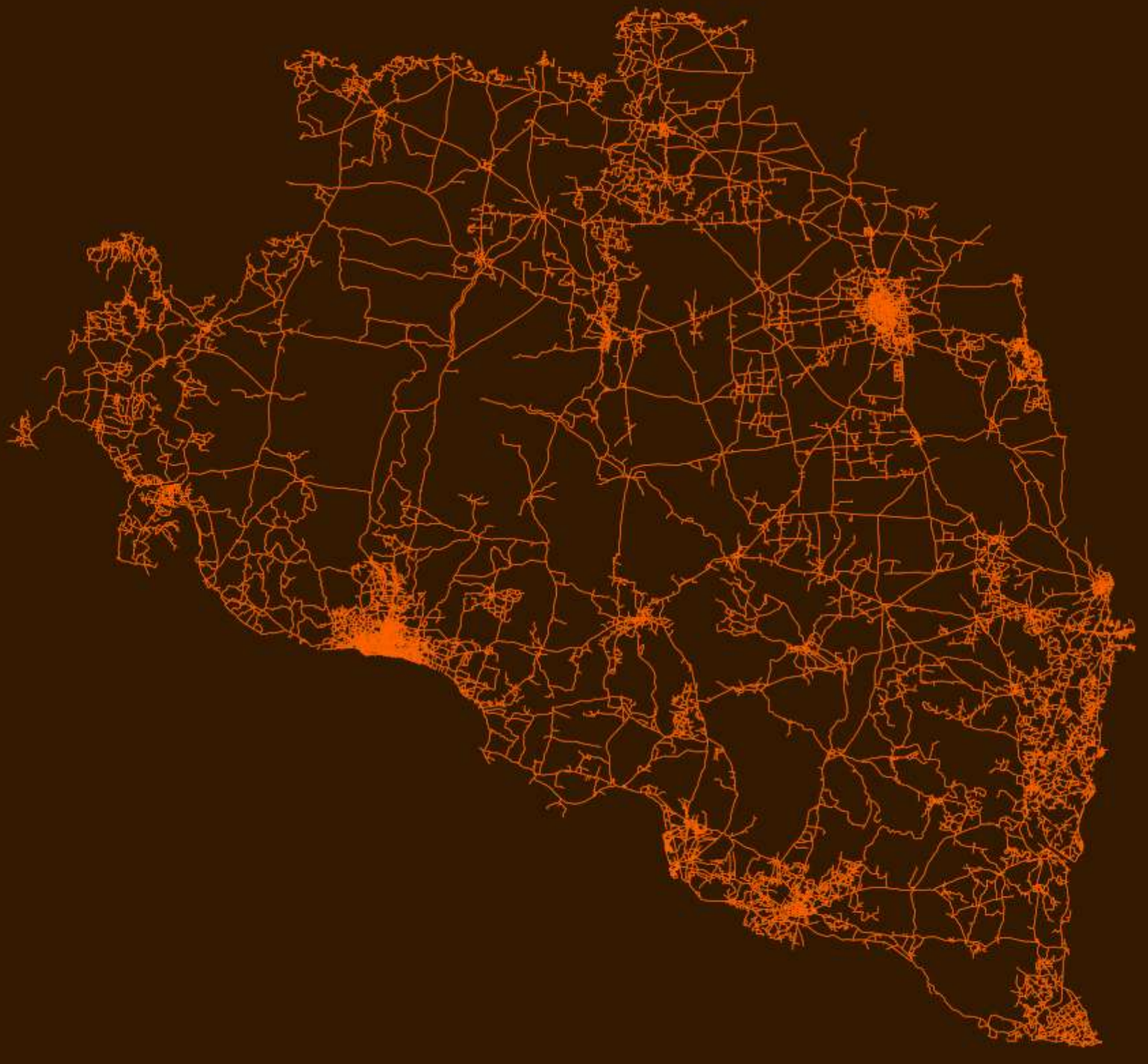
Add Custom Styles

In [56]:

```
f, ax = plt.subplots(1, 1, figsize=(12, 12))

color_palette = {"Neon": "#ff6600",  "Background": "#331a00"}

edgesgdf.plot(ax=ax, color=color_palette['Neon'], linewidth=0.5, alpha=0.9)
ax.set_facecolor(color_palette['Background'])
```

```python
# Remove ticks and labels for a clean neon look
for xlabel_i in ax.get_xticklabels(): xlabel_i.set_visible(False)
for ylabel_i in ax.get_yticklabels(): ylabel_i.set_visible(False)
for tick in ax.get_xticklines(): tick.set_visible(False)
for tick in ax.get_yticklines(): tick.set_visible(False)

ymin, ymax = plt.ylim()
extension = 0.1 * (ymax - ymin)
ax.set_ylim(ymin, ymax + extension)
ax.set_title(f"Road Network of {city}", fontsize=20, color=color_palette['Neon'], weight='bold', y=0.9, family='sans-serif')
plt.text(0.95, 0, "Created by: Imtiaj Iqbal Mahfuj", color='white', fontsize=10,
         transform=ax.transAxes, ha='right', va='bottom', family='monospace')

plt.savefig("road_network_raj_red.jpg", dpi=500, bbox_inches='tight', facecolor=color_palette['Background'])
plt.savefig("road_network_raj_red.pdf", dpi=500, bbox_inches='tight', facecolor=color_palette['Background'])
plt.show()
```

Road Network of Rajshahi, Bangladesh

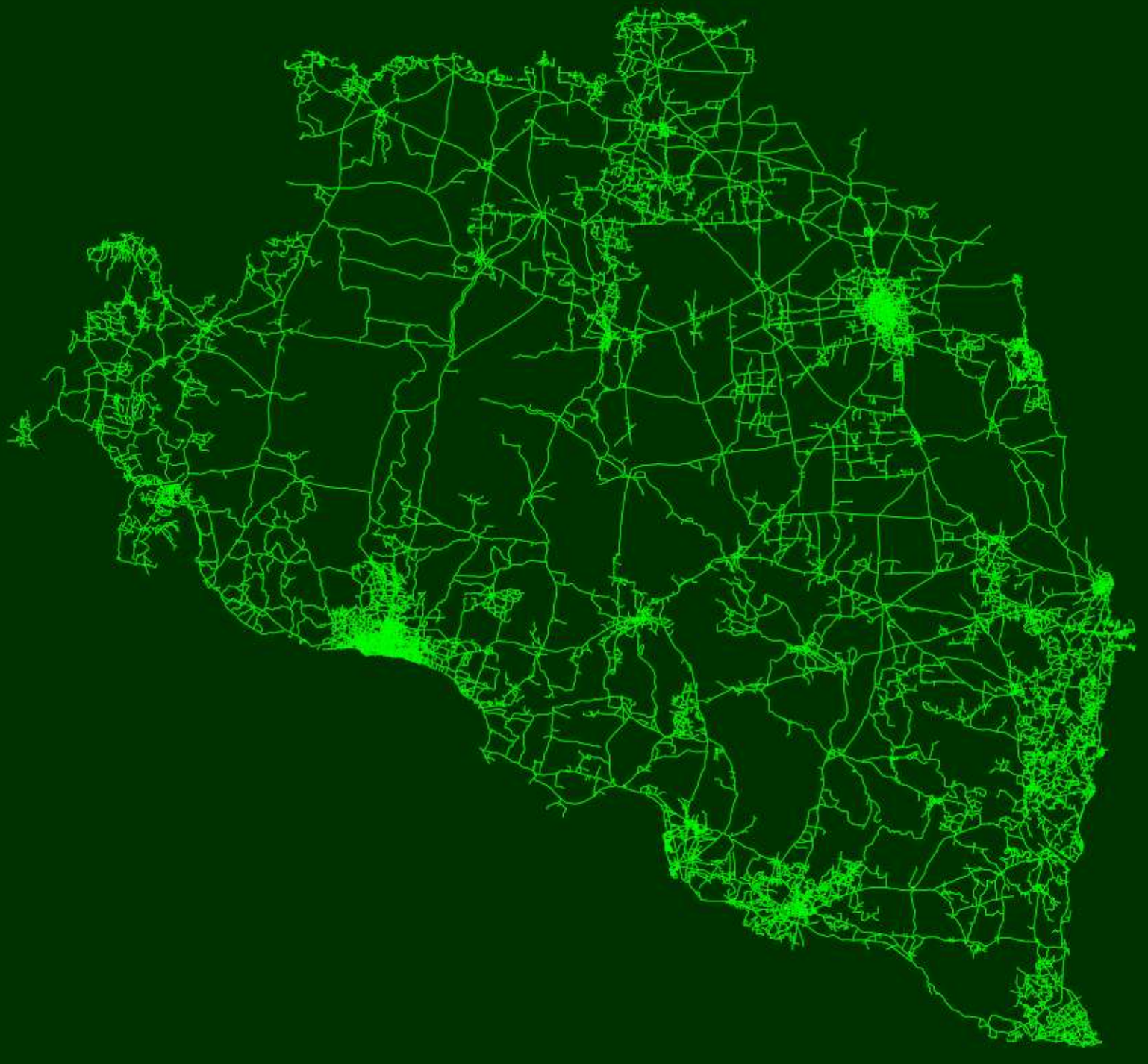


Created by: Imtiaj Iqbal Mahfuj

In [55]:

```
f, ax = plt.subplots(1, 1, figsize=(12, 12))

color_palette = {"Neon": "#00ff00",  "Background": "#003300"}

edgesgdf.plot(ax=ax, color=color_palette['Neon'], linewidth=0.5, alpha=0.9)
ax.set_facecolor(color_palette['Background'])

# Remove ticks and labels for a clean neon look
for xlabel_i in ax.get_xticklabels(): xlabel_i.set_visible(False)
for ylabel_i in ax.get_yticklabels(): ylabel_i.set_visible(False)
for tick in ax.get_xticklines(): tick.set_visible(False)
for tick in ax.get_yticklines(): tick.set_visible(False)

ymin, ymax = plt.ylim()
extension = 0.1 * (ymax - ymin)
ax.set_ylim(ymin, ymax + extension)
ax.set_title(f"Road Network of {city}", fontsize=20, color=color_palette['Neon'], weight='bold', y=0.9, family='sans-serif')
plt.text(0.95, 0, "Created by: Imtiaj Iqbal Mahfuj", color='white', fontsize=10,
         transform=ax.transAxes, ha='right', va='bottom', family='monospace')

plt.savefig("road_network_raj_green.jpg", dpi=500, bbox_inches='tight', facecolor=color_palette['Background'])
plt.savefig("road_network_raj_green.pdf", dpi=500, bbox_inches='tight', facecolor=color_palette['Background'])
plt.show()
```

Road Network of Rajshahi, Bangladesh



Created by: Imtiaj Iqbal Mahfuj

In [ ]: