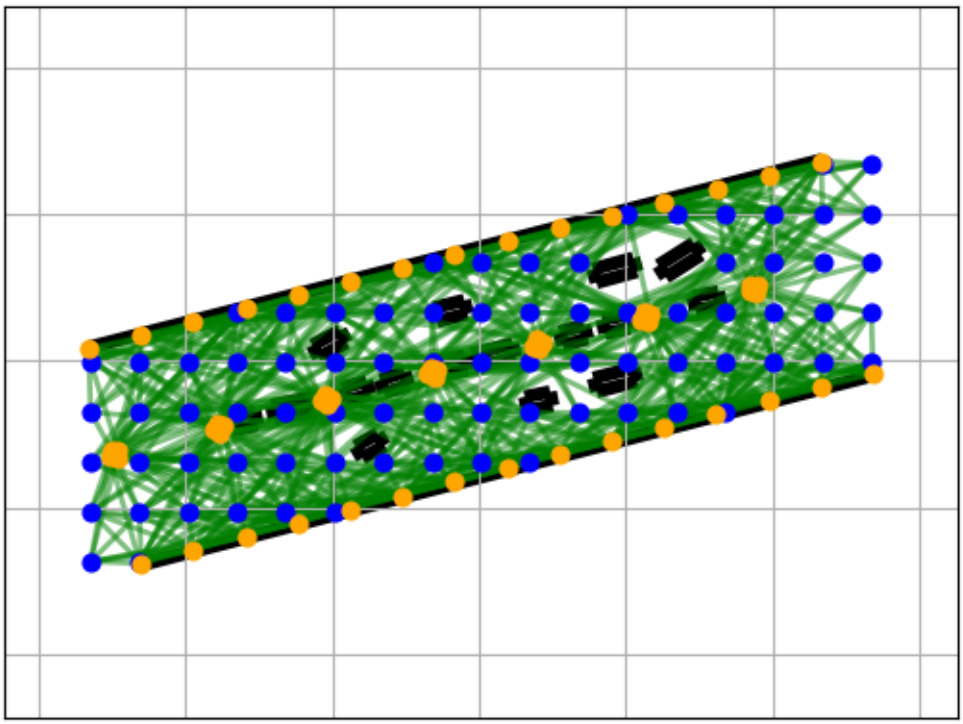
BMW_version test

December 1, 2024

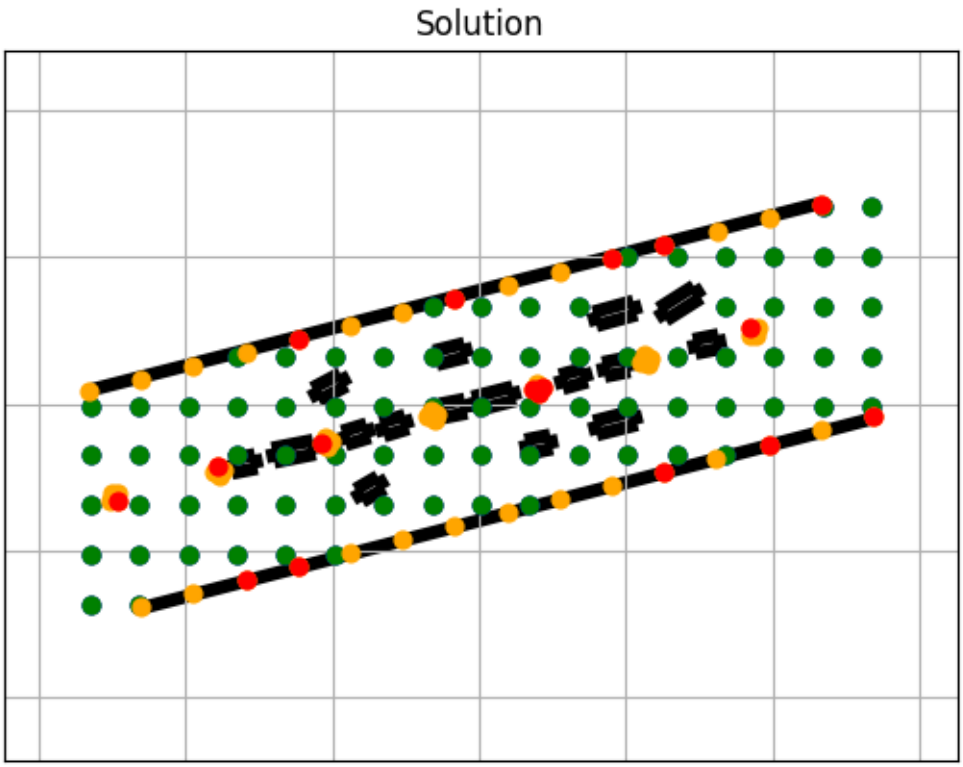
[10]:
```
import neal
import numpy as np

from data.sp_data import SPData
from models import SPQuboBinary
from evaluation.evaluation import SPEvaluation
from plotting.sp_plot import SPPlot

params = {"lidar_density": 0.15, "street_point_density": 0.15}
data = SPData().create_problem_from_glb_file(**params)
num_edges = data.G.number_of_edges()
print(f"num_edges: {num_edges}")
plt = SPPlot(data).plot_problem()
plt.show()
```

```
num_edges: 719
```



[12]:
```
config = {"num_reads": 1500, "num_sweeps": 1500}
solve_func = neal.SimulatedAnnealingSampler().sample_qubo
qubo_model_bin = SPQuboBinary(data, P1=0.8, P2=2, P3=1)
answer = qubo_model_bin.solve(solve_func, **config)

evaluation = SPEvaluation(data, answer["solution"])
#print(f"solution clean: {evaluation.solution}")

#print(f"objective = {evaluation.get_objective()}")
for constraint, violations in evaluation.check_solution().items():
    if len(violations) > 0:
        print(f"constraint {constraint} was violated {len(violations)} times")



print("done")

plt = SPPlot(data, evaluation).plot_solution(hide_never_covered=True)
plt.show()
```

```
done
```



Activated Lidars: 17
missing achievable coverage: []