

## EXPERIMENTS

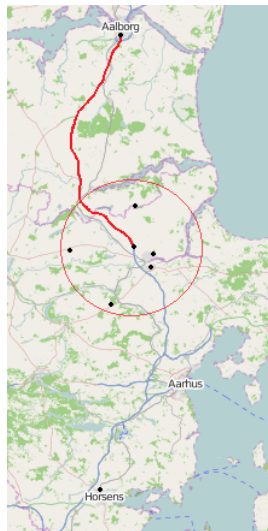
## EXPERIMENTS

- ▶ Why experiments?
- ▶ Map data (Open Street Maps)
- ▶ Conversion to road network

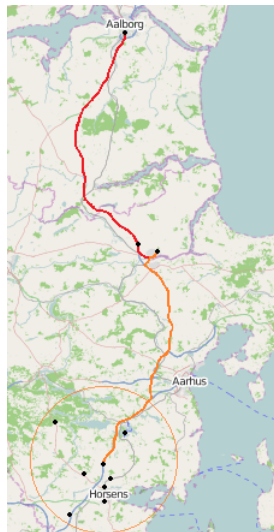
# EXPERIMENTS: THE SETUP

- ▶ Battery capacity: 50 kWh
- ▶ Consumption rate:  $0.019v^2 - 0.77v + 184.4$  wH/km
- ▶ Driving distance: 300 km
- ▶ Charge rates: 10-100 kW
- ▶ Charge station density: 20 km

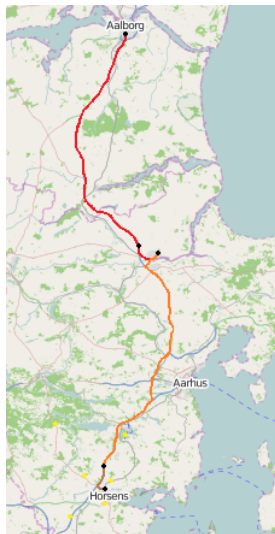
# EXPERIMENTS: THE NAIVE ALGORITHM



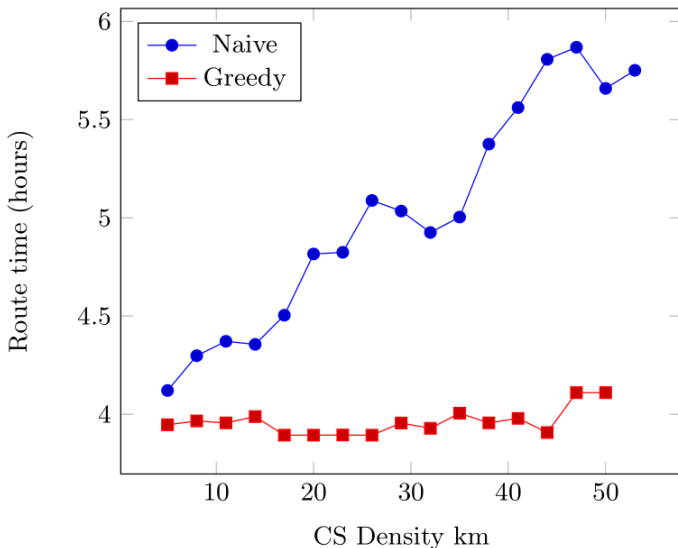
# EXPERIMENTS: THE NAIVE ALGORITHM



# EXPERIMENTS: THE NAIVE ALGORITHM



## EXPERIMENTS: CHARGE STATION DENSITY



# EXPERIMENTS: CHARGE STATION DENSITY

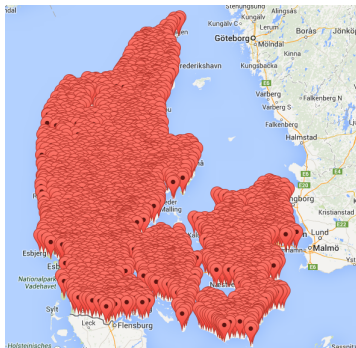


Figure: 5 km between Charge Stations

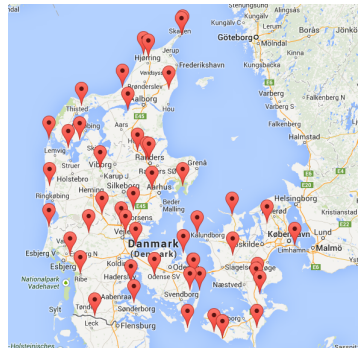


Figure: 50 km between Charge Stations



# EXPERIMENTS: QUALITY ASSESSMENT

- ▶ Standard setup
- ▶ Average from 8 experiments

Results:

Naive	7.461
LP	5.684

Greedy	5.238
LP	5.228

# CONCLUSION

- ▶ Not influenced much by CS density
- ▶ 0.198% worse than LP
- ▶ Too slow in practice