

## INPUT

## MODELING FRAMEWORK

Car fleet

- share of BEVs
- share of long-distance drivers
- traffic load

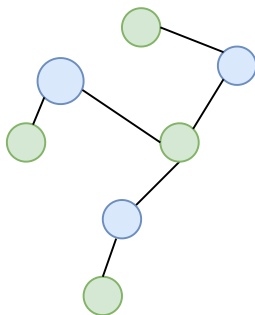
BEV technology

- energy consumption
- driving range
- charging capacity

Infrastructure specifics

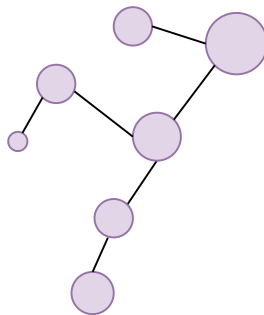
- peak capacity of charging station
- grid constraint
- infrastructure costs

Highway network topology



- node type 1
- node type 2

### Demand calculation



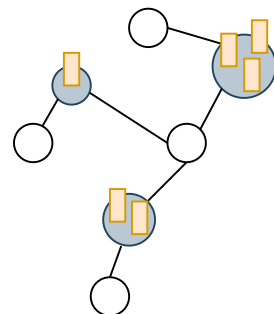
● demand at nodes

*HighCharge*  
mixed-integer linear program

- mixed-integer linear program
- node-based allocation approach
- consideration of traffic flow in highway network

### Allocation and sizing of charging infrastructure

- charging station
- charging point



## OUTPUT