

Travel demand

(regional & inter-regional origin-destination travel data by product | travel purpose)

Modes | vehicle types | drive-train technologies | fuels

Consumer-specific data

(monetary budget, value of time)

Fuel prices | technology costs |
fueling infrastructure costs | mode
infrastructure costs | route-
related/location-specific/ consumer-
specific costs...

Optimization model

- mixed-linear integer program
- system cost-minimization
- graph-based conceptualization of transport connections
- flexible allocation of charging activity
- considered dimensions: years y , products p , OD pairs r , paths k , modes m vehicle types v , technologies t , fuel types f



Trips per mode | vehicle type |
technology

Vehicle stock | modal shift

Fueling demand by location

Fueling infrastructure expansion

Mode infrastructure expansion