



- **Start of development:** 2000
- **Topic:** Strategic land use and transport interaction modeling
- **Coverage:** different versions from local (cities) to national (Austria), first version Vienna subdivided into 23 zones

- **Background:**   

- **Link:**

[www.ivv.tuwien.ac.at/forschung/mars-metropolitan-activity-relocation-simulator](http://www.ivv.tuwien.ac.at/forschung/mars-metropolitan-activity-relocation-simulator)



- Overview case studies (>25)

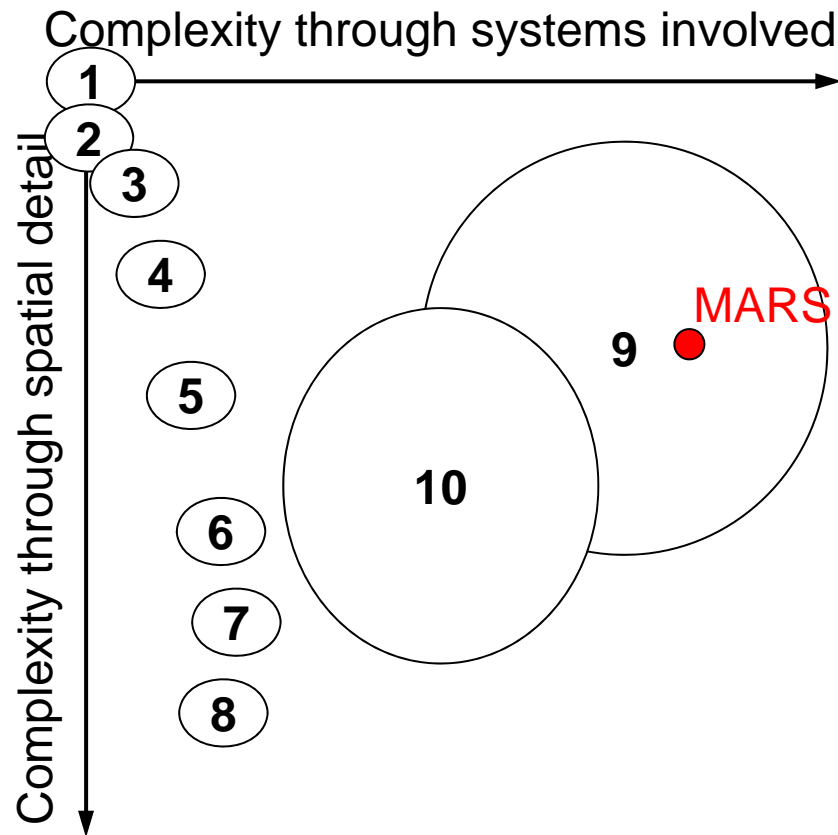




- **Modes of transport:** Walking, Cycling, Motorcycle, Private car (ice & bev), Bus/coach, Railway, Informal PT (Tuk Tuk, etc.)
- **Trip purposes:** Commuting, Others
- **Main Sub-Models/Modules:**
  - a travel demand model,
  - a household location model,
  - a workplace location model model,
  - a policy definition user interface and
  - a module calculating process and evaluation indicators.
- **Time horizon:** typically 30 years in steps of  $\frac{1}{4}$  years



- Modelling strategy




1. No model
2. Simple cost based
3. Spreadsheet model
4. Sketch planning model
5. Network assignment model without elastic assignment
6. Network assignment model with elastic assignment
7. Network assignment model in conjunction with external demand / mode-choice model
8. Four stage model
9. Land-use Transportation Interaction (LUTI) model
10. Strategic Transport/ Environment Model



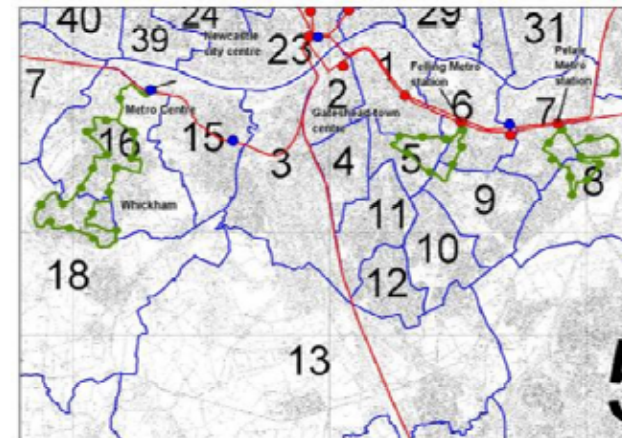
- Research questions:
  - Optimisation of single instruments and policy instrument combinations (PROSPECTS, SPECTRUM, FUNDING)
  - Assessing the effects of
    - metro line extensions (PhD thesis Vieira)
    - high occupancy and bus lanes (PhD thesis Vieira)
    - scarcity of oil supply (STEPS)
    - different scenarios of automated driving (CityMobil)
    - take up of e-mobility (Emob\_Wien, EIFER-Perithel)
    - land use policies (EISERN, MARS-Kärnten, EIFER-Perithel)
    - bus rapid transit and informal PT (PhD thesis Top), etc.
  - Identify strategies to reduce GHG-emissions (GHG-Transpord)
  - Estimate direct rebound-effect (URBE), etc.




- Assessing scenarios of automated driving 
  - Cybercar PT feeder system in Gateshead Tyne and Wear
    - A system of fully automatic, clean, driverless vehicles

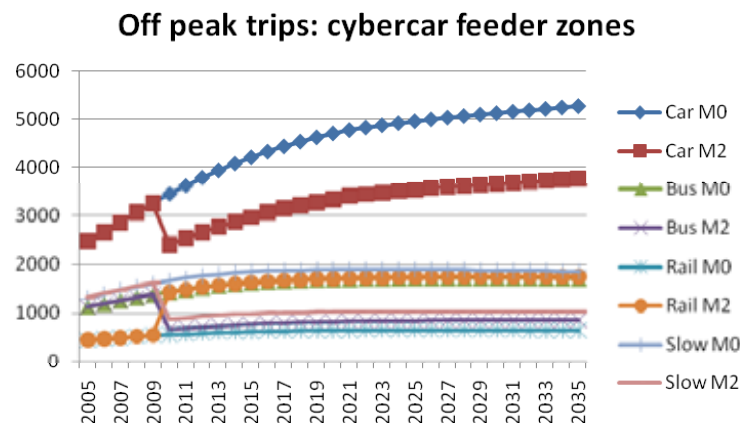
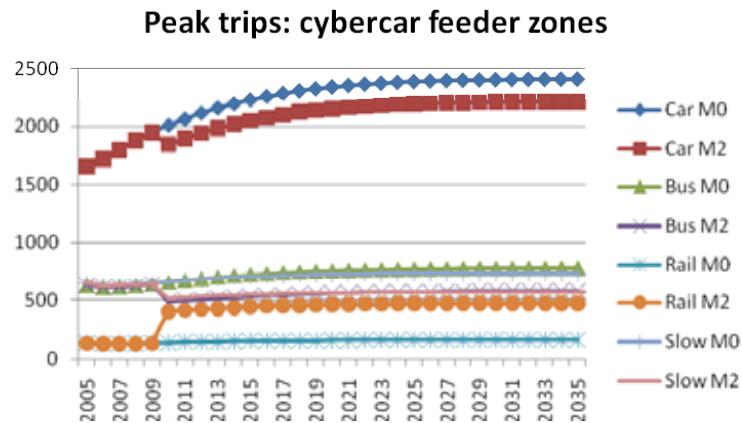


[www.citymobil-project.eu](http://www.citymobil-project.eu)





- Assessing scenarios of automated driving 
  - Cybercar PT feeder system in Gateshead Tyne and Wear



In 2035, introduction of cybercar results in:

- Car: 8% peak decrease, 30% off peak decrease
- Bus: 36% peak decrease, 50% off peak decrease
- Rail: 193% peak increase, 170% off peak increase
- Slow: 29% peak decrease, 45% off peak decrease