

## **UNDERSTANDING THE EFFECTS OF TRANSPORT INFRASTRUCTURES**

### **Optimizing mobility without adverse effects**

*contact person:* Hermann Knoflacher (TU University of Technology),  
[hermann.knoflacher@tuwien.ac.at](mailto:hermann.knoflacher@tuwien.ac.at)

The workshop introduced transformative research (TR) in the fields of transport, land-use and urban planning with regard to the question "What can be done to support TR in our universities?". The input for discussion was the ongoing Paradigm Change in Transport, the replacement of existing core hypotheses in this field, based on "Growth of Mobility, Time Saving by Speed and Freedom of Modal Choice" by the real behavior of the System. The average number of trips per day/year do not change with increasing motorization, travel time in the system is a constant and "freedom of modal choice" does not exist without countless constraints from inner and outer structures of people. If we want to prevent the mistakes in the transport system, caused by lack of understanding of system effects, these scientific based principles have to be implemented. This opens new areas of research approaches. The workshop resulted in a number of insights, among which the following were ranked highest:

- TR in the transport sciences can contribute to a sustainable development in Europe by changing the way of knowledge production and showing how science is accountable to society. Paradigm change in transport sciences means, the change from adaptation of the environment and the society to the uncontrolled eigendynamic of the technological driven transport system toward the control of this eigendynamic by superior social, cultural and environmental goals.
- The current science – and (financial) supporting and selection system itself, with disciplines as power systems and missing cooperation and the focus on (disciplinary, competitive) excellence, is the main barrier in establishing TR at universities. Especially in the engineering fields, which change our environment a much broader approach in awareness and responsibility for the effects caused by engineering interventions is necessary.
- In order to strengthen TR it needs support from top-down and from bottom-up, a broad participation of / discussion among all university members, evaluation criteria that account for the "societal impact" of research and rewards for research that fulfils these criteria. Moreover it needs support from society and a call for TR from society. Last but not least, according monetary funds are necessary.
- At the level of universities, TR can be supported by providing "space" for TR (as time, money, rewards, room, etc.), enlarging the group of stakeholders that is integrated in research and by balancing academic knowledge and practical experiences – also in teaching.
- In order to personally contribute to supporting TR at universities, one can build alliances and networks and raise awareness for the need of TR not only at universities,

but also with practitioners. Students can play an important role by demanding TR from their teachers. A paradigm change is in general a generation change and hat to overcome heavy mental and institutional barriers.

The group of discussants comprised students, young and experienced researchers from different disciplines, perfect for an interesting and stimulation discussion. Thanks a lot for the very positive and productive meeting.