FLOW – Making active modes count in transport planning

FIRM17, Session 11: Mobility as a service & Active modes, 7th April, Brussels
Bernard Gyergyay – Rupprecht Consult

FEHRL Forever Open Roads

- We propose a new model: concept for intelligent roads that are developed for urban environment
- Road adaptable
- Road automated
- Road climate change resilient
Concept: Multimodal congestion reduction

FLOW story

Transport Models

Active Modes are invisible
FLOW objectives

• **Define the role** of walking and cycling in congestion reduction

• Develop and apply tools (modelling and impact assessment) for **assessing the congestion-reducing potential** of walking and cycling measures

• **Increase awareness** of the congestion reduction potential of walking and cycling

• **Foster the market uptake** of FLOW tools in cities and transport planning consultancies

FLOW partnership

**Support partners**
- Rupprecht Consult (coordinator)
- Gdansk University of Technology
- Budapest U of Tech and Economics.
- Wuppertal Institute
- Traject
- Polis

**Technical**
- PTV
- Forum of European National Highway Research Laboratories

*Funded by the Horizon 2020 Framework Programme of the European Union*
FLOW Outputs

- FLOW multimodal definition of congestion
- Multimodal assessment methodology
- Micro- and Macroscopic Modelling Software
- Portfolio of congestion reducing walking and cycling measures
- Learning opportunities

FLOW multimodal definition of congestion

"Congestion is a state of traffic affecting all modes on a multimodal transport network (e.g. road, cycle facilities, pavements, bus lane) characterised by high densities and overused infrastructure compared to an acceptable state across all modes against previously-agreed targets and thereby leads to (perceived or actual) delay."

Key aspects
- Motorised and non-motorised modes
- Demand and capacity
- Adaptability to local circumstances
- User perspective
FLOW – Multimodal Analysis Methodology of Urban Road Transport Network Performance

Multimodal Level of Service (LOS) at a signalised junction
One or more junctions can be assessed to determine a measure’s impact on congestion (in this case, prioritising pedestrians at 2 crossings.)

FLOW – Conceptual Framework & Portfolio of Measures
FLOW Improved macroscopic simulation

1. Bike assignment
   Path-level attributes in stochastic assignment (e.g. slope or attractiveness attributes)

2. Park & Ride modelling
   Modelling platform for combination of two path legs - can also be used e.g. for Walk/Cycle & Ride

3. Bike sharing
   Enhanced mobility sharing in assignment

Example: Congestion impact of bike sharing

Launched in September 2014:
- Budapest downtown area 15 km²
- 76 docking stations (1500 stands)
- 1100 bicycles
- 1 000 000 trips since opening (2 rents/bike/day, 2200 rents/day)

Application of FLOW Assessment tools:
- Macroscopic Analysis
- Include bike sharing in assignment model
- Congestion impact
- Impact on traffic flow
FLOW Improved microscopic simulation

VISSIM – Urban Mobility Package

1. Enhanced modelling of conflict zones between cars & pedestrians

2. Behavioural parameters for cyclists ("1 bike not ½ car!")

3. Interaction of bikes and pedestrians

4. Shared Space

Example: Pedestrian Improvements

Lisbon

- Pedestrian overpass hardly used
- Fear of congestion

Application of FLOW Assessment tools:
- Microscopic analysis of level crossing
- Congestion impact
Video available at https://youtu.be/IpaNLxrtHOs
Conclusion

• Walking and cycling can play an important role in reducing congestion and improving the overall traffic performance.

• Investments should address multimodal congestion reduction.

• Assessment tools are becoming available.

• Stakeholders can learn from participating in FLOW e-learning.

FLOW eLearning

**Congestion and Your City: The FLOW Approach**
Webinar: January 2017
Course: January – February 2017

**FLOW and transport modelling: Looking at the tools**
Webinar: May 2017
Course: May – June 2017

**Putting it all together: The policy context of applying the FLOW tools**
Webinar: November 2017
Course: November – December 2017
Thank you! Danke! Köszönöm! Obrigado! Dziękuję!
благодаря! Go raibh maith agat!

Bernard Gyergyay, Rupprecht Consult
b.gyergyay@rupprecht-consult.eu
+49 (0)221 60 60 55 22