Valuing Mobility – the MoTiV Project

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Dr. Giuseppe Lugano

H2020 MoTiV Project Manager

ERAdiate Team, University of Žilina (Slovakia)

giuseppe.lugano@uniza.sk

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Valuing Mobility: the bigger picture

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- **Liveable Smart City Transition:** enhance perceived and experienced “quality of time” for higher quality of life (QoL)

- **Why “worthwhile time” instead of “productive time”?**
  - Quality of living is not only about “effective” and “productive” use of time
  - Extend “time and cost savings” objective with other relevant dimensions and indicators of value

EUR per person-hour	Commuting / Leisure/ Other	Work/ Business trip
Travel time	12.14 €	51.64 €
Delays (bicycle, car)	18.21 €	77.45 €
Delays (public transport)	36.42 €	154.91 €
Waiting Time	24.28 €	103.27 €
Transfer time	18.21 €	77.45 €

Example of monetary travel time values used by the Danish ministry of Transport (2018 values).

Motivation

Value of Travel Time (VTT): shift focus from "*what is currently measured*" to "*what is currently not (sufficiently) measured*"

- Are VTT models socially inclusive / fair?
  - Shall VTT models acknowledge what value of mobility means for children (e.g. safety, comfort factors)?
- To what extent we can rely on use of VTT as proxy for other travel variables?

Motivation

Open and critical assessment of some VTT assumptions

- Is it always the case that travel time savings
  - on a business trip are used for work (e.g. one may decide to sleep)?
  - during holidays are not used to work?
- Why shall “work time” be always more valuable than any other “time”
  - Should sustainable mobility perspective not imply ‘*time value equality*’?
- Can we assume that digital connectivity in transport (e.g. Wi-Fi) always leads to higher productivity? How about accounting for negative impacts (e.g., cognitive, social)?

About MoTiV: project figures

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- **European-wide exploration of "Mobility and Time Value"**
  How value of travel time is perceived and experienced across transport modes, generations, genders and cultures

- **30-month project:** Nov. 2017 – Apr. 2020 (now: M11)
- **Overall funding:** ~2M EUR
- **Small consortium:** 7 partners
  - 3 academic institutions/research organisations (UNIZA, SK; Eurecat, ES; INESC-ID, PT)
  - 2 business partners (routeRANK, CH; CoReorient, FI)
  - 1 mobility consultancy organization (TIS.pt, PT)
  - 1 European-wide association (ECF, BE)

  and additional Linked Third Parties affiliated with ECF

Approach: smartphone-based data collection of travel experiences

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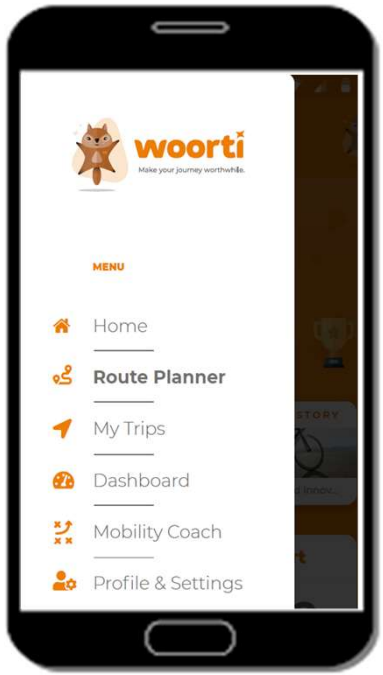
- **Focus on the individual Travel Experience**
  - identifying “satisfiers/dissatisfiers” of worthwhile travel time
- **Smartphone-based data collection via the Woorti app**
- **Continuous collection of mobility/activity behaviours**
  - smartphone-based sensing of mobility behaviour
  - traveler’s input on activities while travelling, travel time appreciation and underlying reasons
- **Smart mobility coach (“quantified traveller” approach)**
  - trends and statistics for self-learning and increased awareness



MoTiV Data Collection Campaign (DCC)

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- **Target:** Minimum 5.000 valid samples (active app use for minimum 2 weeks) from as many users from at least 10 EU countries

- **Obtain a balanced sample** in terms of:
  - **Age:** young adults (16-24 y), adults group 1 (25-49 y), adults group 2 (50-64 y), older population (65+).
  - **Sex (M/F) and Gender Identity**
  - **Transport modes:** walking, cycling, public transport, car use, shared mobility, long-distance train, plane.
  - **Residence:** urban/sub-urban, rural.
  - **Socio-economic and other demographic indicators**

Release of Open Dataset at the end of the project

MoTiV Conceptual Framework:
Value Proposition of Mobility (VPM)

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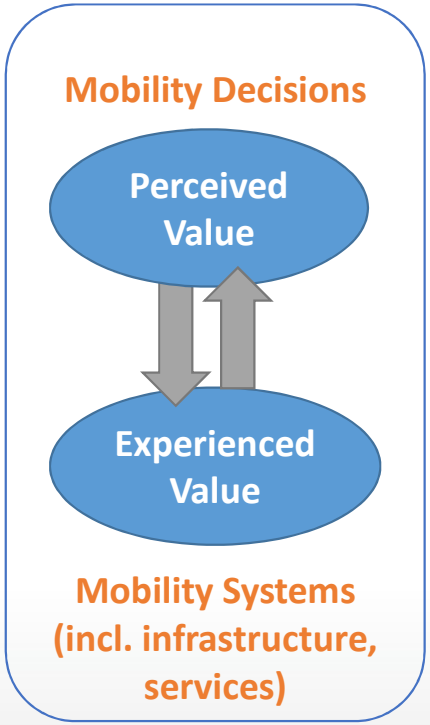
- VPM refers to the "***subjective value embedded in individual mobility choices***"
  - Contextual and continuously re-assessed
  - Co-created: no single actor in charge of VPM
  - It implies a range of expectations associated to the transport mode(s), services and planned activities / behaviors

- VPM as a perspective looking at **travel time from the viewpoint of decision factors influencing mobility choices** and related travel time value
  - Includes utilitarian dimension (e.g. time & cost savings)
  - However, MoTiV focus is on hedonic and eudaimonic dimensions



MoTiV Conceptual Framework: Value Proposition of Mobility (VPM)

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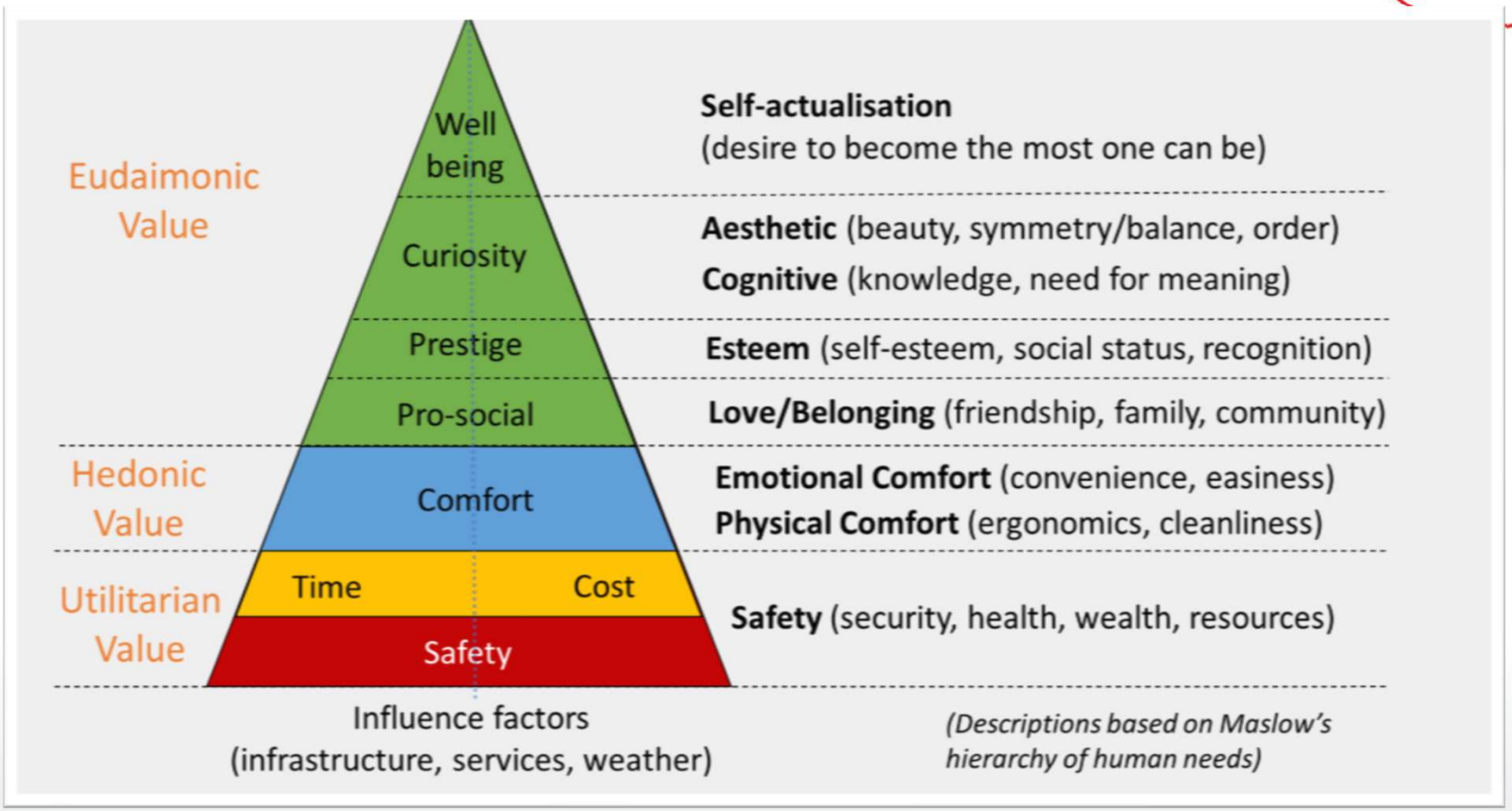

- 19 research hypotheses
- Identify associations between factors and VPM dimensions

Conclusions: implications for planners

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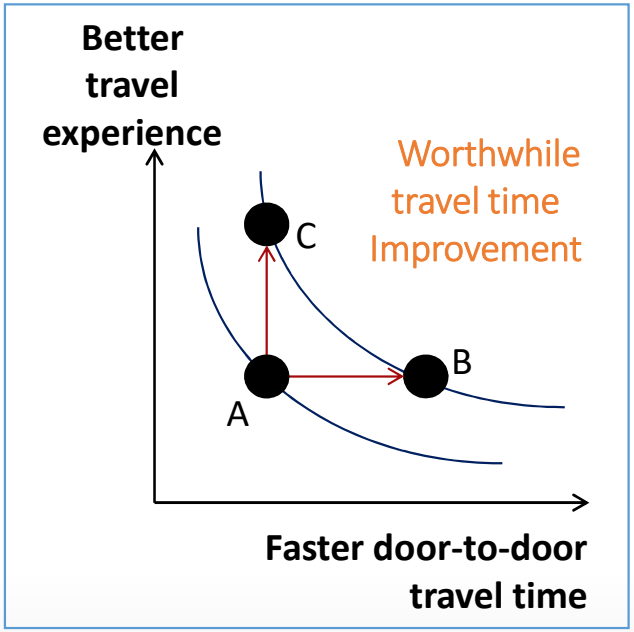
- **What:** Transport planning should **aim to improve Worthwhile Travel Time** when looking at investing in transport

- **How:** to adopt a **holistic approach to the study of VTT**
  - VTT models (such as VPM) covering the utilitarian, hedonic and eudaimonic dimensions of value
  - address challenge of establishing appropriate quantitative indicators of worthwhile travel time (operationalization)



Adapted from: Banister, D., Cornet, Y., Givoni, M., & Lyons, G. (2016, July). From minimum to reasonable Travel Time. *Proc. of the 14th World Conference on Transport Research, Shanghai, China,* 10-15.

Conclusions: exploring new approaches

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MoTiV expected contribution and limitations

- Holistic conceptual model of VTT
- EU-wide data collection -> open dataset
- Policy and business recommendations
- Exploratory research, without aim of statistical significance

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A way to **implement livable smart cities by engaging citizens** in participatory (open science) processes of digital governance

Any Questions?

Contact us:

Giuseppe Lugano

giuseppe.lugano@uniza.sk

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