

## Session 2: Assessing and valuing accessibility impacts

# Dimensions of Accessibility Benefits

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POLITÉCNICA

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- Initial Questions and Thoughts**
- Revisiting Accessibility**
- Accessibility and Well Being**
- Capturing Accessibility Benefits**
- Conclusions**

- ✓ What do “**user benefit**” measures include, and how do they relate to the mobility, connectivity and accessibility concepts?
- ✓ What **factors** are **unaccounted** for in our current definition of accessibility? How significant are these for **well-being**?
- ✓ What **means** might be used **for account** for these other factors in assessments?
- ✓ Should the value of **accessibility benefits** be quantified as part of transport **project appraisal**? If so, how?



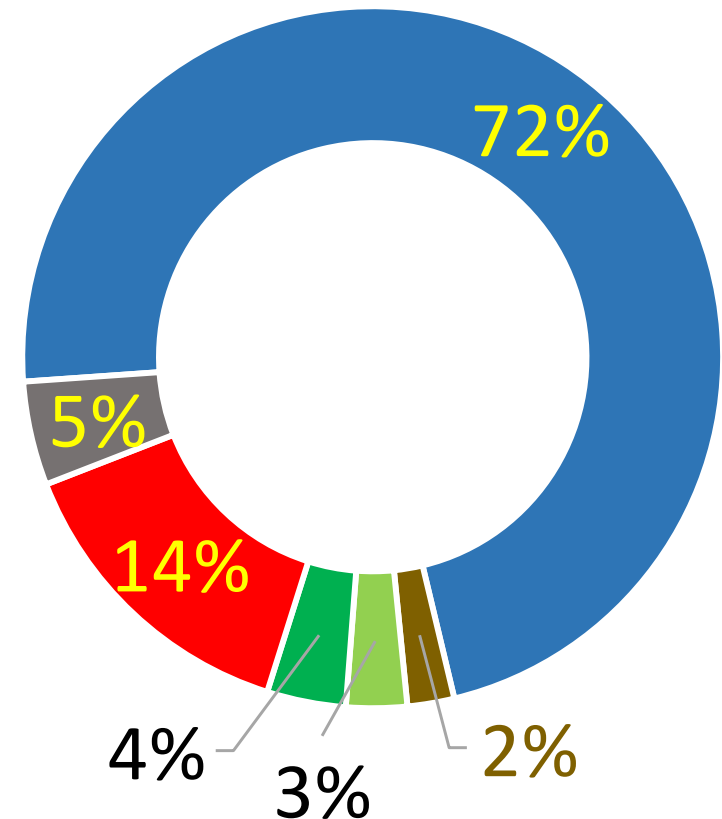
Following presentations

- 1<sup>st</sup> - Saving travel time & costs DO NOT consider:**
- interrelated effects associated to well-being:
- energy
  - health vs. pollution
  - social exclusion....



## 2007: CBA - M30 Madrid Ring Road

- Travel Time Savings
- Operation Costs
- Emissions Reduction
- Noise reduction
- Accidents reduction
- Severance



**1<sup>st</sup> - Saving travel time & costs** DO NOT consider:

→ interrelated effects associated to well-being:

- energy
- health vs. pollution
- social exclusion....

**2<sup>nd</sup> - Accessibility for All**

→ access to basic services vs. equity

**3<sup>rd</sup> – Accessibility and well-being**

→ looking at individuals' well being  
*social networks, active modes, ...*



Accessibility analysis to be integrated in a more holistic, cross-sectoral approach

## 4 dimensions of access:

### 1. Economic/Financial

- i. cost-related barriers
- ii. low income, teenagers, unemployed, developing countries...
- iii. Trade-off between travel time and fares
  - *possibly higher impact than other policies*
  - *NO accessibility indicators to include fares,...*



October 2019, 15-20

DIARIO DE CHILE, DOMINGO 20 DE OCTUBRE DE 2019

FUNDADO EN SANTIAGO EL 10 DE JUNIO DE 1880 / ANO CCXXXIX

Protestas, saqueos y estados de excepción se extienden a regiones:

## Ola de violencia no cede ante el toque queda ni la suspensión de alza de tarifas

La salida de militares a las calles no impidió que Santiago viviera las 36 horas más violentas desde el retorno a la democracia, con múltiples daños a la propiedad pública y privada.

**Santiago de Chile**  
protests for rising metro price  
\$ 1.12 to 1,18 (peak)  
no social fees  
army take control of the city  
President withdraws measure

mainly  
students

Los protagonistas de las protestas son principalmente estudiantes de secundaria y universitarios, aunque otras personas se han sumado al llamado a evadir el pago del pasaje, que vale 830 pesos (unos 1,2 dólares) en hora punta.



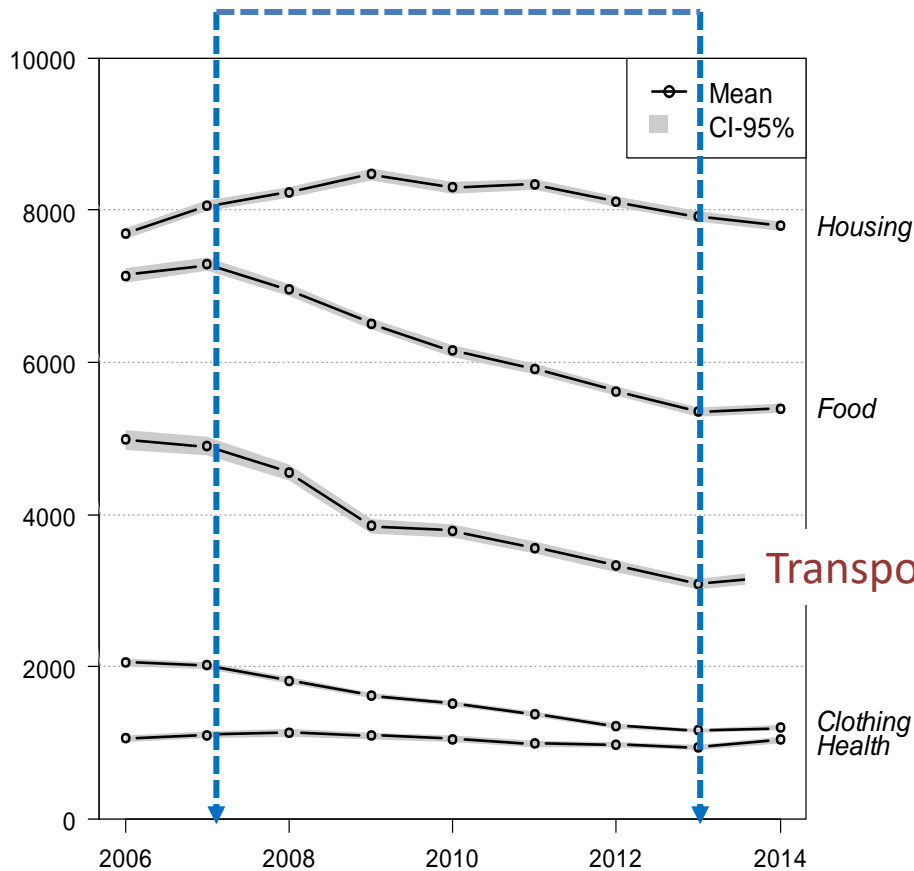


## 1. Economic/Financial

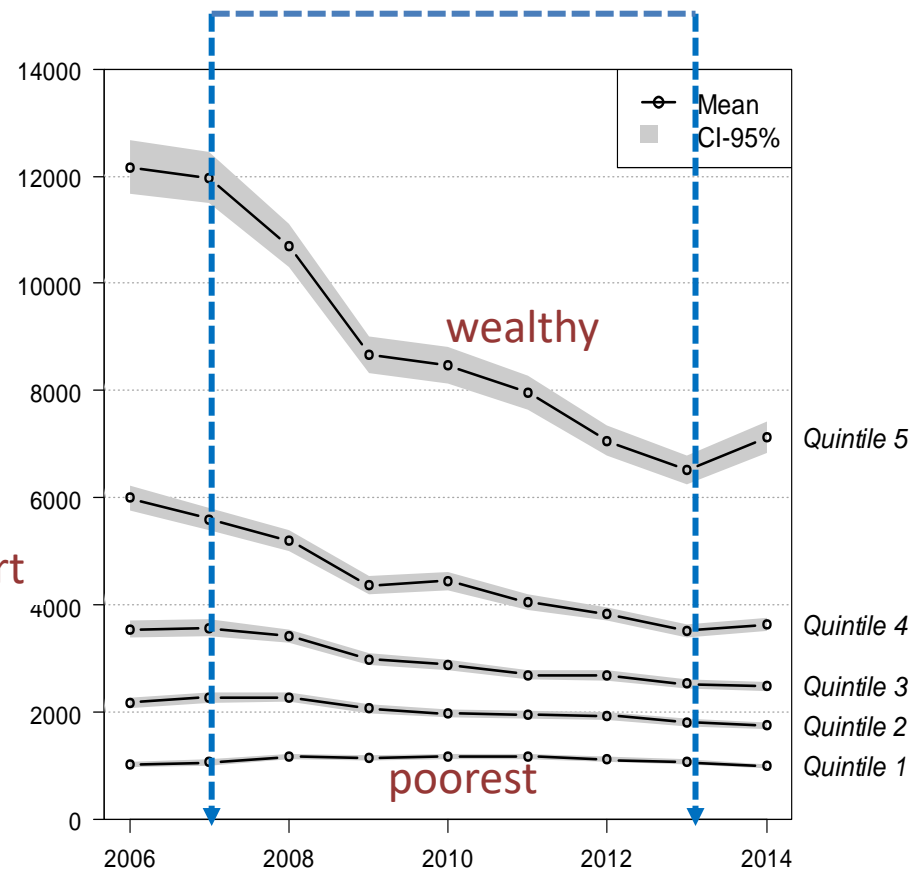
**Impacts of Spanish Economic Crisis 2007-2013**

Transport sector affected  
richer adapted  
poorer cannot

Cascajo et al.(2018)



HH budget distribution in Spain



transport expenditure by HH income level

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### 2. Physical

- i. Physical barriers: disable, elderly
- ii. Hedonic transfer and waiting (vehicles and interchanges)
- iii. Also impacts on total travel time

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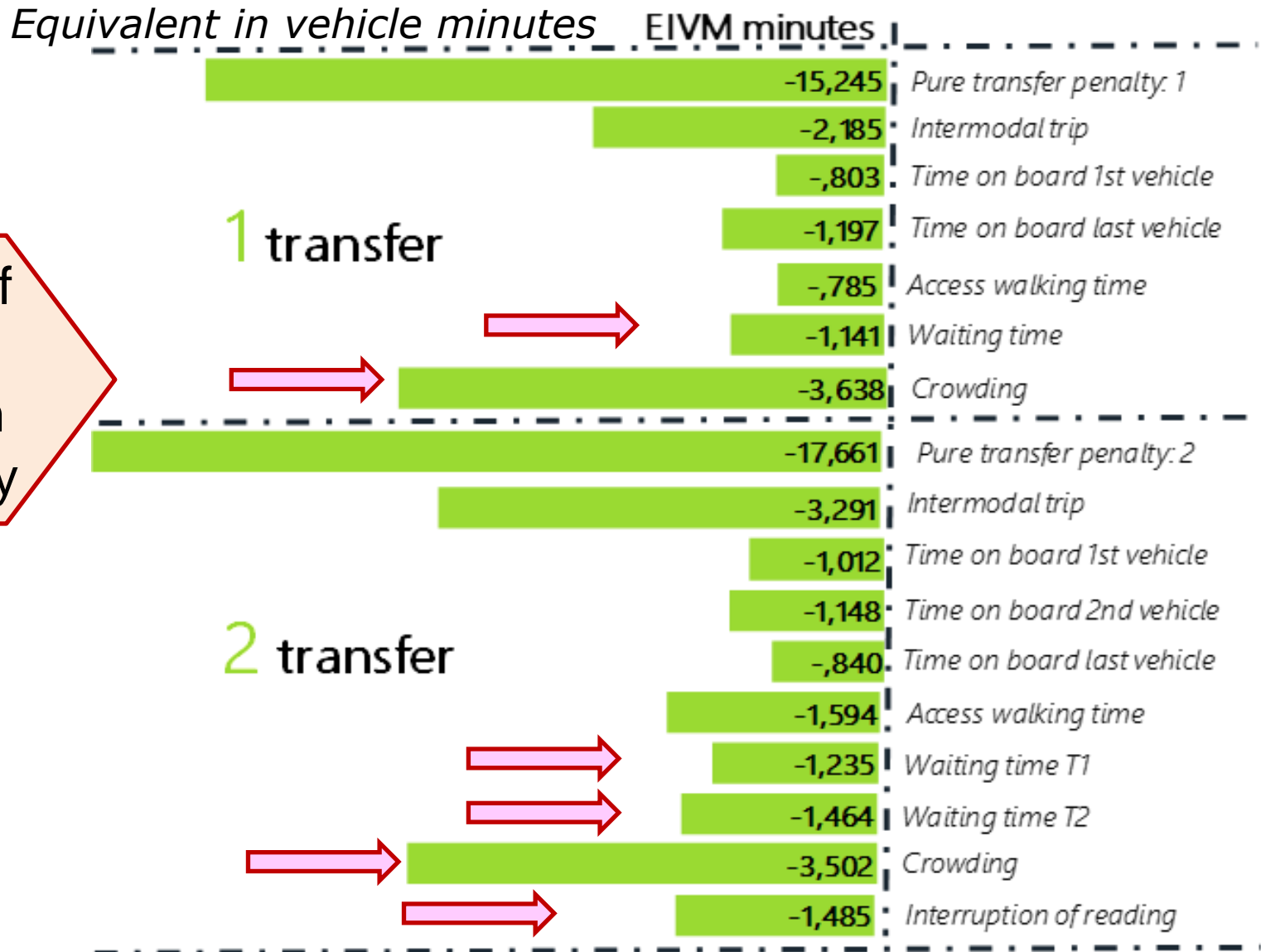
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### 3. Organisational

- i. Frequency, reliability, punctuality
- ii. Waiting and interchange locations
- iii. Other activities while seated (reading, music, smartphone)



Analysis of Transfer Impacts in Madrid City

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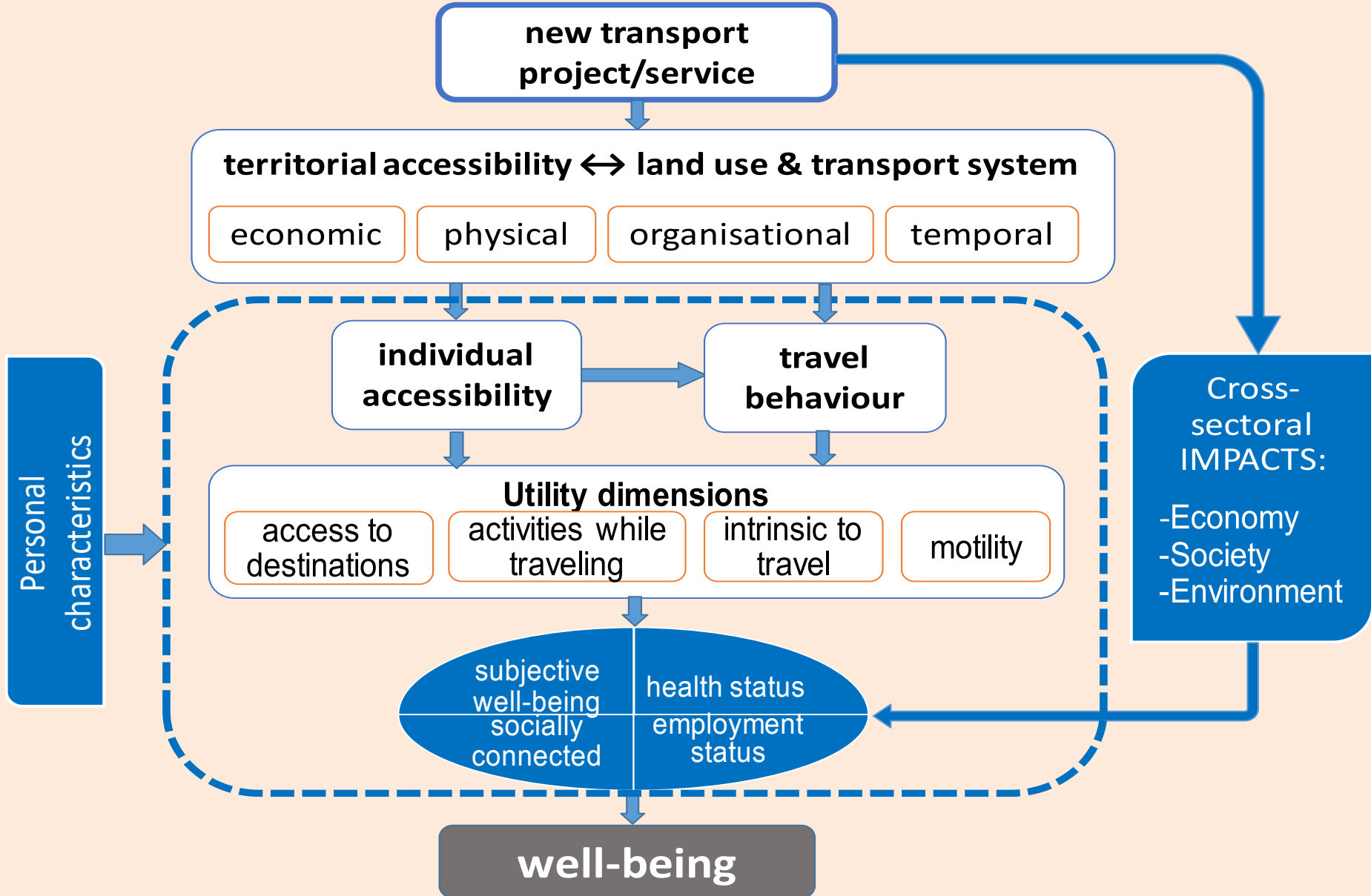
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### 4. Temporal

- i. Trip duration, frequency
- ii. Real-time information: other activities when access/wait
- iii. Integration with land-uses





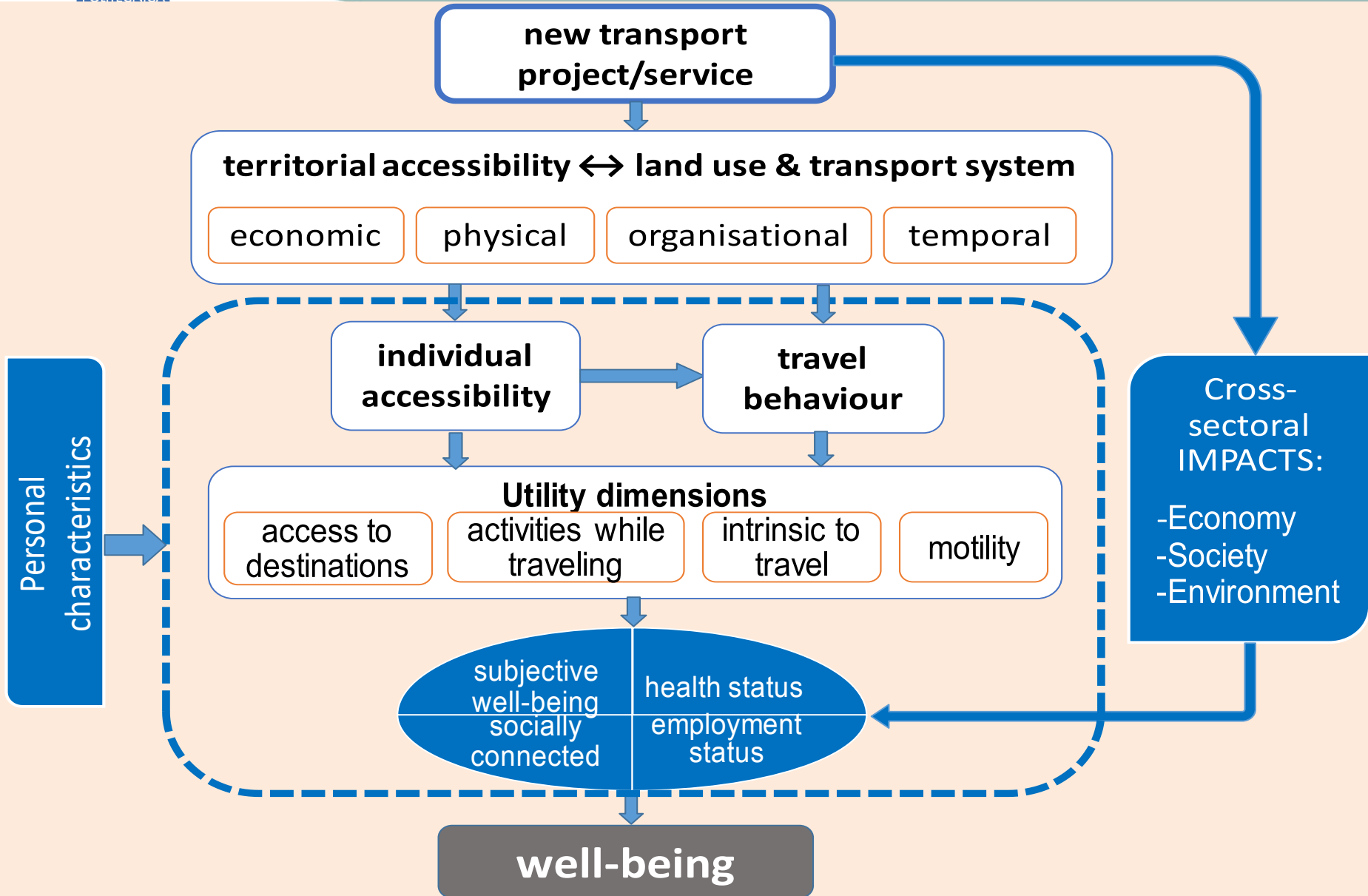
## Travel Utilities Categories

- Access to destinations
- Activities while travelling
- Intrinsic to travel
- Motility



## Well-being Dimensions

- Employment status
    - accessibility to job opportunities
  - Health status
    - Active travel, reduction of externalities
  - Socially connected: take part on socially relevant networks
  - Subjective WB of travelling
    - Travel as instrumental factor
- wider social, economic and environmental impacts



## 3 issues to enhance project appraisal methodologies

### 1. Subjective Accessibility

*Satisfactory life when transport system facilitate reaching activities of choice*

### 2. Active Accessibility

*Ability to reach key destinations by active trips  
→ car restrictions, pedestrian, bike paths, land-use mix*

### 3. Provider of connectedness

*Accessibility as a right (ALL) → nothing prevent to take part on economic, social (social exclusion, low-income)*

but there is a need to deploy empirical evidence and to develop *ad hoc* accessibility indicators

There is no comprehensive and consistent classification of accessibility benefits

No agreed procedure to integrate them in the appraisal methodologies

Challenge: empirical test of linking accessibility and well-being

A conceptual model to link the multidimensional SWB construct to transport projects

To develop indicators related to travel satisfaction, other SWB effects → appraisal methodologies

**Challenge that requires holistic and multidisciplinary research → to ultimate enhance people's well-being**