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NECTAR Series on Transportation and Communications Networks Research



Transport, Space and Equity – transport in support of inclusive cities

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A blurred photograph of a busy city street, likely in London, showing pedestrians and a red double-decker bus in motion.

The Elgar Companion to
Transport, Space and Equity



Questions:

Does transport (investment) have social impacts?

Should transport investment be used to improve social equity?

How might we measure transport-related social equity – is there a link to subjective well-being?



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“Wealth is evidently not the good we are seeking; because it serves only as a means, i.e. for getting something else.”

(Aristotle, Nichomachean Ethics, Book I, v, p.9, 350 BC)

Aristotle puts forward the concept of virtue as central to *eudaimonic* well-being – a Greek word representing "human flourishing".

This moves us beyond hedonistic well-being – which focuses on pleasure and happiness (i.e. through the journey experience).

And certainly beyond a focus on improving traffic capacity and increased VKT as success factors for transport investment – there are many distributional issues that need to be considered.

Transport and equity

Who uses the transport investment – is transport planning mainly developing schemes for high income groups?

Has the massive investment in public transportation infrastructure eliminated, or significantly reduced transport inequity – this doesn't seem to be the case?

Transport: 'to transfer or convey from one place to another' (transitive verb); or 'an act or process of transporting' (noun).

Space: 'a continuous area or expanse which is free, available, or unoccupied' or 'an area of land' (noun), including fair distribution of impacts across space.

Social equity: the quality of 'being fair and impartial' (noun), including fair access to activities, opportunities, livelihood, education, income and resources, as facilitated, in this case, through transport.



CANARY WHARF AND JUBILEE LINE EXTENSION

Who benefits from the new transport investment and surrounding development – the incumbent population? Or the incomers who gain access to the new jobs and activities and the developers and landowners whose property value rises?



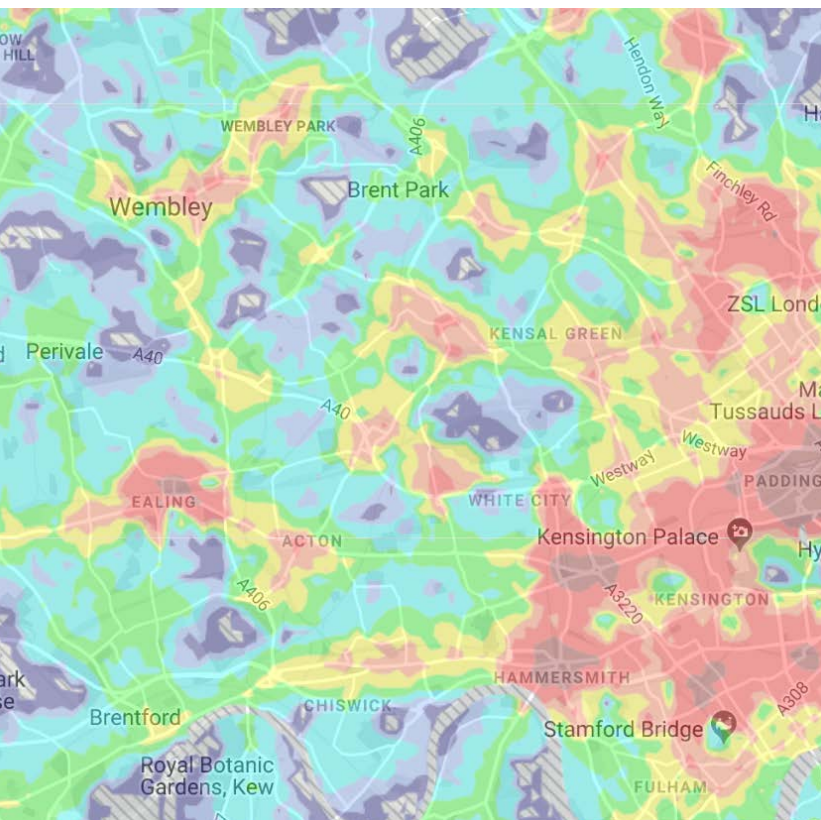
KING'S CROSS ST PANCRAS, INTERCHANGE UPGRADE

What type of development surrounds the new interchange?
Why is this 'corporate' development form and gentrification so ubiquitous?
Transport analysis is 'blind' to this – is all development really 'positive'?



Chapter 6. Automobile peripheries: travel to school in suburban London through the lens of social practice

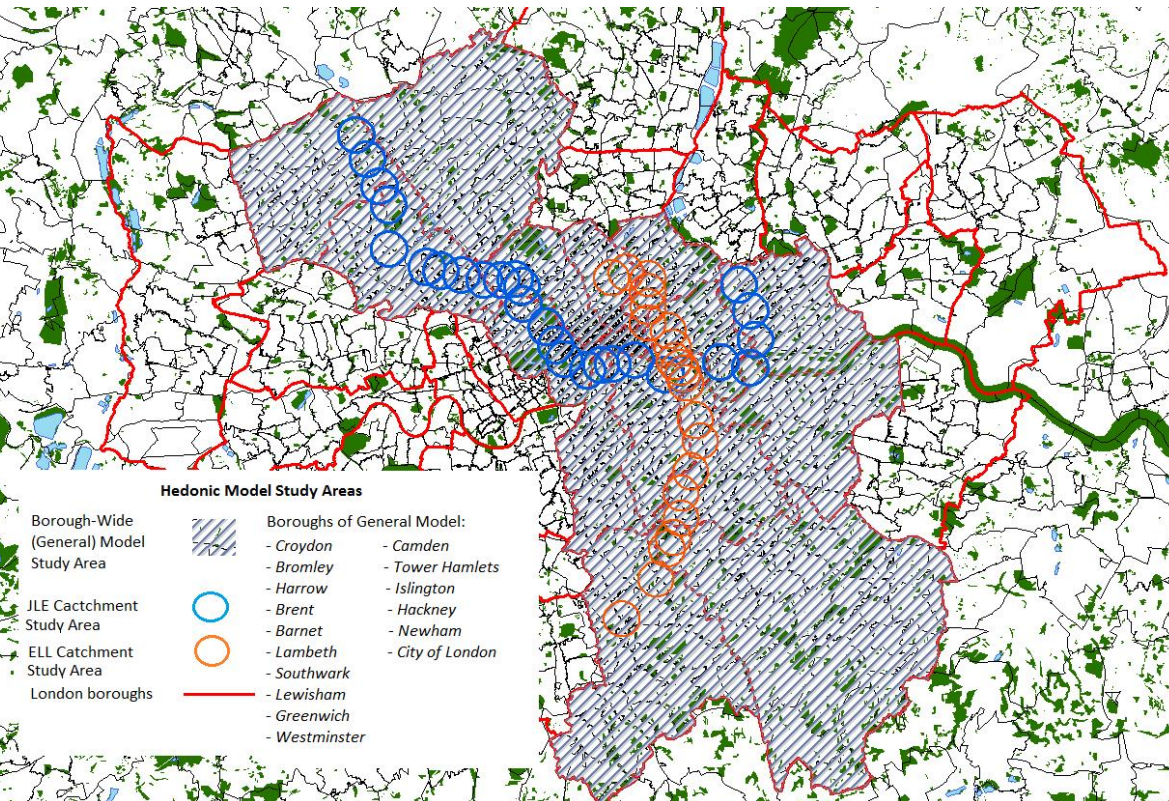
Emilia Smeds



- There has been a continuous decline in the proportion of children walking to school, from 73.5 per cent of children walking to school in 1975-76 to 47 per cent in 2012.
- Often this is assumed to be an infrastructure and attitudinal issue – if attitudes can be changed, then more parents and children will again walk or cycle to school instead of travelling by private car (Attitude/Behaviour/Choice (ABC)).
- But perhaps ‘the ABC [framework] is a political and not just a theoretical position in that it locates both the problem and the response as a matter of individual behaviour’ and downplays ‘the extent to which the state sustains unsustainable... conventions and ways of life’ (Shove, 2012).
- Through transport investment and spatial planning, the UK state plays a role in structuring the circulation of elements and prevalence of travel to school practices – changing behaviours involves complex issues beyond infrastructure, attitudes – but also including culture and societal norms.

Chapter 7. The impact of transport connectivity on housing prices in London

Imogen Thompson



- London housing prices increase when transport connectivity and interconnectivity increases (Underground, Overground and bus).
- Housing prices experience significant increases in areas with previously-low value and under-development when transport links are introduced (able to help regenerate undeveloped land).
- Housing proximity to metro rail transport stations plays a significant role in housing prices within London (within 960m, but particularly 320-640m).

Chapter 8. Equity aspects of transportation in a multi-network world: a societal perspective

Eran Feitelson

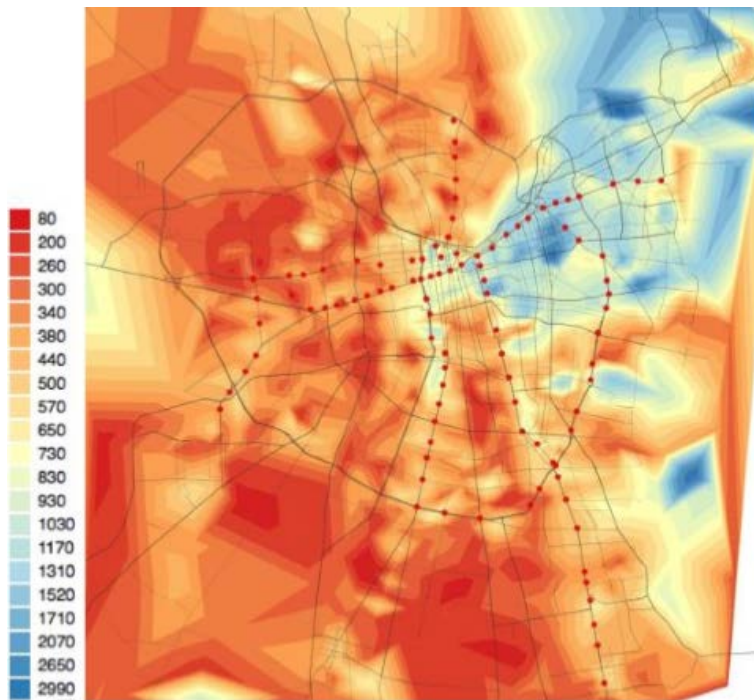
Mode	Who and How Benefits?	Who Pays the External Costs?
Air, full service network carriers, FSNC (operating hubs)	Business travellers and the hyper-mobile (aeromobile); creating network capital for these groups; employees in hubs	Residents near hub airports (assuming self-financing)
Air, low cost carriers, LCC (operating from regional airports)	Middle class; residents and businesses in secondary markets, widening activity spaces	Residents near airports; taxpayers if capital cost is subsidized.
HSR	Business travellers and the hyper-mobile; enhances network capital of users	Residents near rail lines Tax payers; by-passed towns
Regional and suburban rail	Commuters (middle class); improves accessibility to opportunities	Residents near rail lines; Tax payers (if subsidized)
Buses/transit/BRT	Car less; weaker strata of society; improves accessibility to opportunities	Tax payers
Cars (private + servicing)	Wide strata; improves accessibility to opportunities; widens activity spaces	Tax payers (for roads)

- Clear uneven distribution of benefits and costs of different transport investments across modes.
- International air and high speed rail are the most regressive – catering for highly mobile cohorts?
- Subway, LRT, BRT, bus and cycle and walking are the most progressive – serving wider populations?

Harvey (2005) suggests that the neo-liberal enterprise is the calculated shift of resources to the upper classes – elements of transport investment can be seen as part of this?

Chapter 16. Why the Capability Approach (CA) can offer an alternative to transport project assessment

Beatriz Mella Lira



Average income per person, USD 2012
(Source: Niehaus, Galilea & Hurtubia (2016), based on O-D Survey (2012))

CA is focused on two dimensions of substantive equity:

- **Capabilities:** representing the “alternative combinations of doings and beings that are feasible to achieve”, i.e. what real opportunities are available for people to do and to be (Sen, 1999, p. 75);
- **Functionings:** the “various things a person may value doing and being” (Sen, 1999, p. 75), with the realised functionings representing what a person actually achieves and how.

Hence there is value in considering what people actually do (the focus of most transport analysis) – but also the real opportunities that people have.

Perhaps we can target disadvantaged groups more effectively – offering projects to improve their functionings?

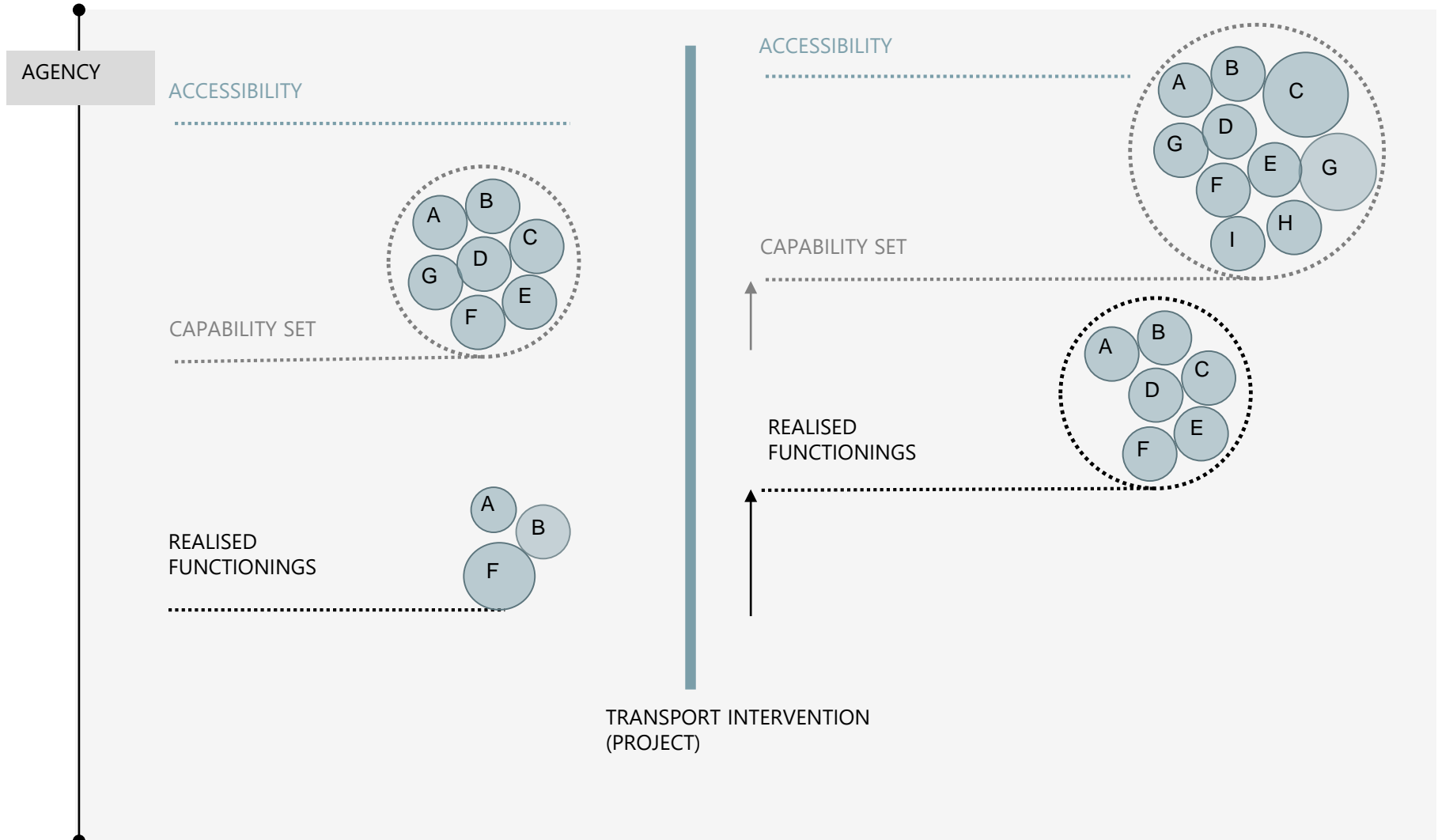
CA and transport

Individuals can differ greatly in their abilities to convert the same resources into valuable functionings,

i.e. is hunger the result of a lack of food or fast?

Is good accessibility used by all?

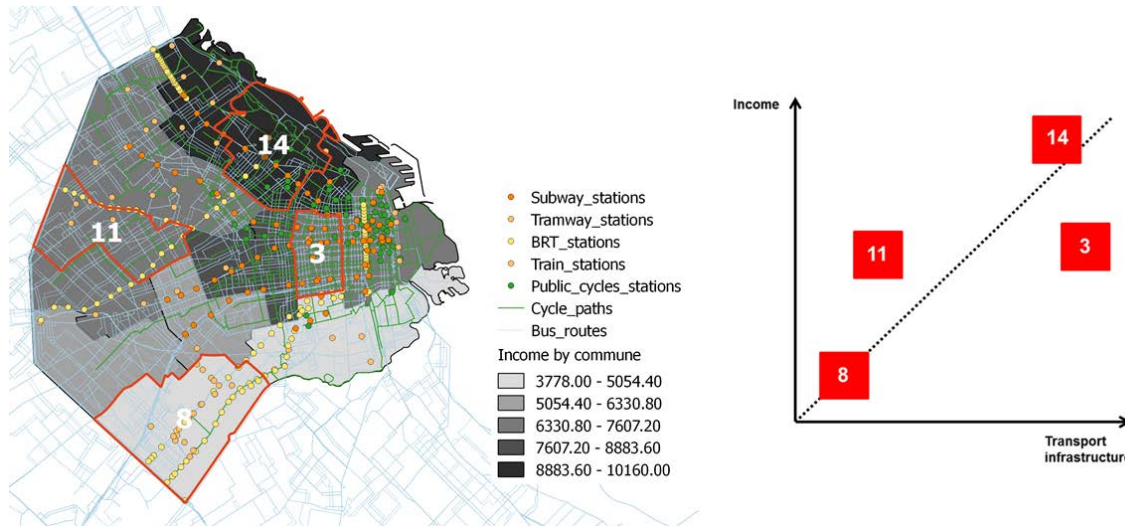
CA and transport



HICKMAN, R., CAO, M., MELLA LIRA, B., FILLONE, A., BIONA, J. & LOPEZ, N. 2017. Understanding capabilities, functionings and travel in high and low income neighbourhoods in Manila. *Social Inclusion*, 5, 161-174.

Chapter 20. Exploring the links between mobility capital (motility) and human flourishing in Buenos Aires

Florencia Rodriguez Touron



- **Access:** opportunities that can be reached given available transport and communication infrastructure, existing land use patterns, socio-economic position, and other constraints.
- **Competence:** the realm of skills and abilities, which can be physical, cognitive and organisational.
- **Appropriation:** how actors perceive, interpret and evaluate access and skills – based on motives, values and habits – and act in consequence.


Voice response survey:

- Travel capacity, time, access, reliability and cost
- Purpose in life
- Social relations
- Engagement
- Contribution to others
- Confidence
- Self respect
- Optimism

Measuring Subjective (Hedonic) Well-Being in Travel?

SATISFACTION WITH TRAVEL SCALE (STS)

Includes both affective and cognitive components related to daily travel.

Negative activation/deactivation										Positive activation/deactivation
	-4	-3	-2	-1	0	1	2	3	4	
I was time pressed										I was relaxed
I was worried I would not be on time										I was confident I would be on time
Stressed										Calm
Tired										Alert
Bored										Enthusiastic
Fed up										Engaged
Travel was the worst best I can think of
Travel was a low standard										Travel was a high standard
Travel worked well										Travel worked poorly

ETTEMA, D., GÄRLING, T., ERIKSSON, T., FRIMAN, M., OLSSON, E. & FUJII, S. 2010. Satisfaction with travel and subjective well-being: development and test of a measurement tool. *Transportation Research Part F*, 14, 167-175.

HICKMAN, R., CHEN, C.-L., CHOW, A. & SAXENA, S. 2015. Improving interchanges in China: the experiential phenomenon *Journal of Transport Geography*, 42, 175-186.

Measuring Eudaimonic Well-Being?

FLOURISHING SCALE (FS)

	1 Strongly agree	2 Agree	3 Slightly agree	4 Neither or mixed	5 Slightly disagree	6 Disagree	7 Strongly disagree
I lead a purposeful and meaningful life							
My social relationships are supportive and rewarding							
I am engaged and interested in my daily activities							
I actively contribute to the happiness and well-being of others							
I am competent and capable in the activities that are important to me							
I am a good person and live a good life							
I am optimistic about my future							
People respect me							

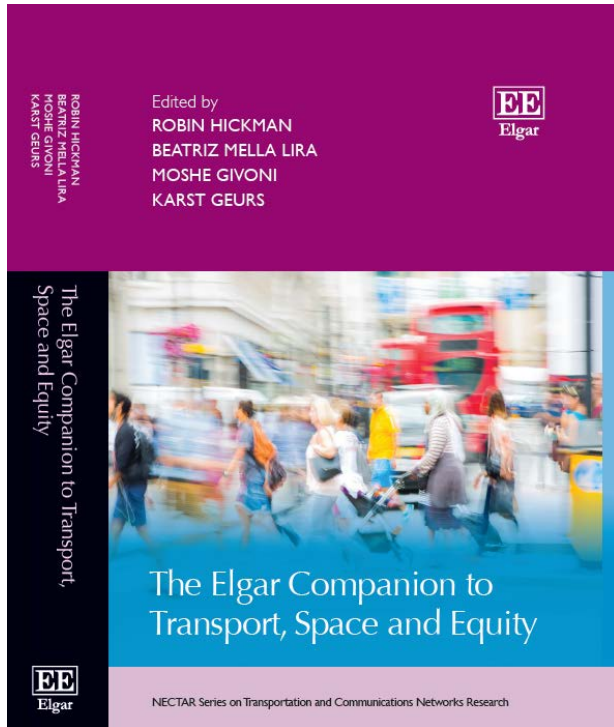
Scoring: add the responses, varying from 1 to 7, for all eight items. The possible range of scores is from 8 (lowest possible) to 56 (highest PWB possible). A high score represents a person with many psychological resources and strengths.

DIENER, E., WIRTZ, D., TOV, W., KIM-PRIETO, C., CHOI, D.-W., OISHI, S. & BISWAS-DIENER, R. 2010. New Well-being Measures: Short Scales to Assess Flourishing and Positive and Negative Feelings. Social Indicators Research, 97, 143-156.

Measuring Subjective Well-Being in Travel?

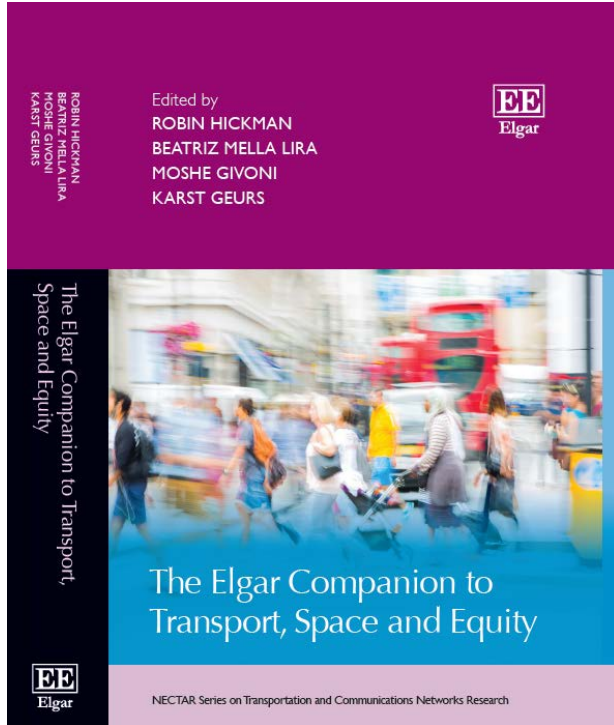
Go to: www.menti.com and use the code **614429**

Conclusions



- Prosperity or economic growth, measured in terms of GDP outcomes and other economic indices, have not been enough to capture wide-ranging social issues, despite being the most used metric of “progress” in industrialised and many emerging countries.
- Transport analysis typically focuses on the trip itself as the unit of interest in deciding on which policy or project initiatives to pursue – hence there is a focus on problems such as traffic congestion and solutions are defined in terms of trip level outcomes (travel time savings and lower fuel costs). These are usually viewed as the largest benefit from major new urban road projects.
- The vital questions of who is undertaking the travel (and with what distribution), the quality of the journey experience, and what activities can be accessed, are overlooked – and these are the important issues in building great cities.
- Transport has many spatial and equity impacts – and a wider consideration of substantive equity (the actual social outcomes) will help us progress in developing more socially equitable cities – perhaps best measured through measures of subjective well-being.

Conclusions



As Sen (1999, p.56) reminds us:

“Each evaluative approach can, to a great extent, be characterised by its informational basis: the information that is needed for making judgements using that approach and – no less important – the information that is ‘excluded’ from a direct evaluative role in that approach.”

Whatever we measure leads us to the transport projects that we select.

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