

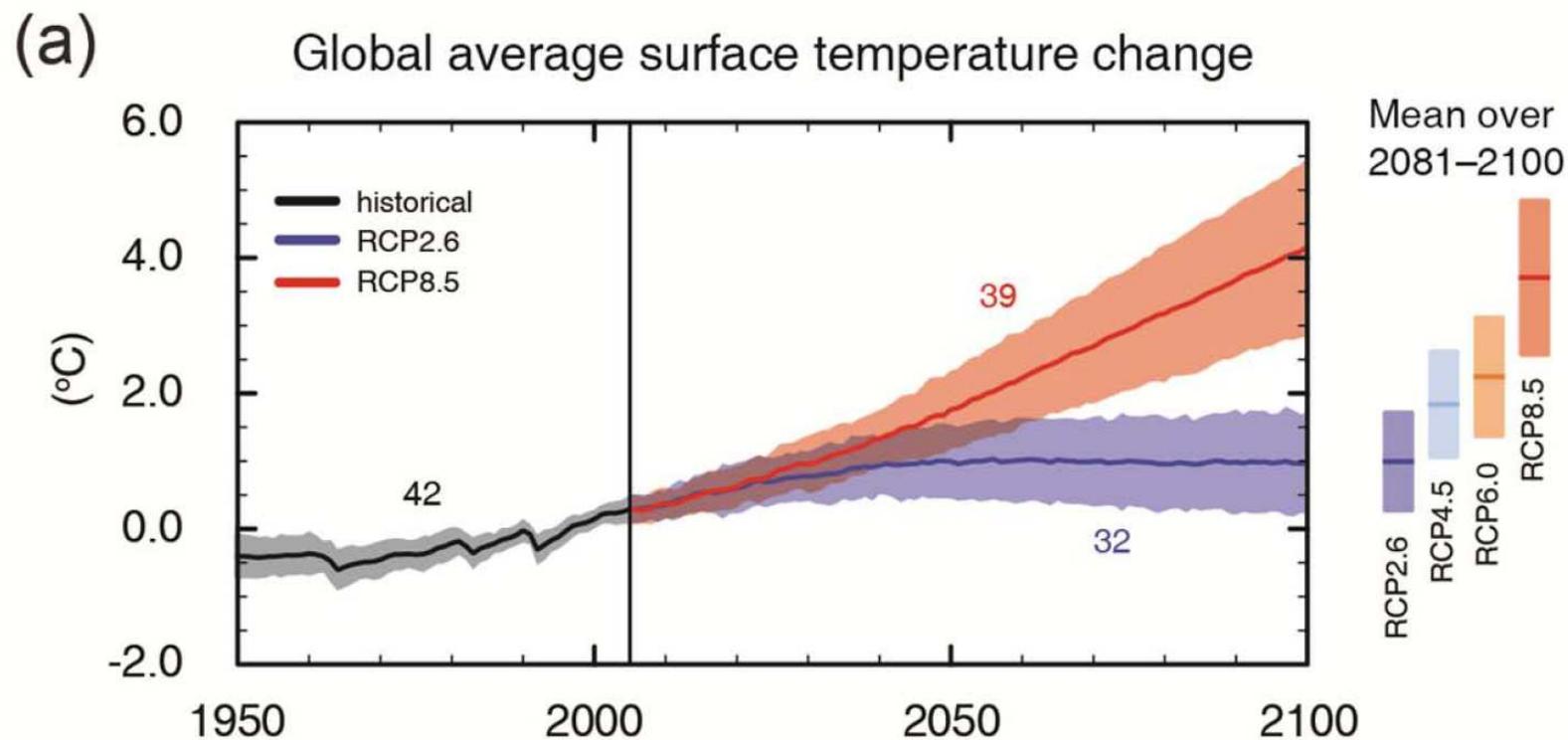
Understanding low energy innovation in passenger transport: rethinking activity analysis

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The need to curb transport's GHG emissions



Source: IPCC (2013: SPM-33)

Reduce fossil fuel consumption (i)

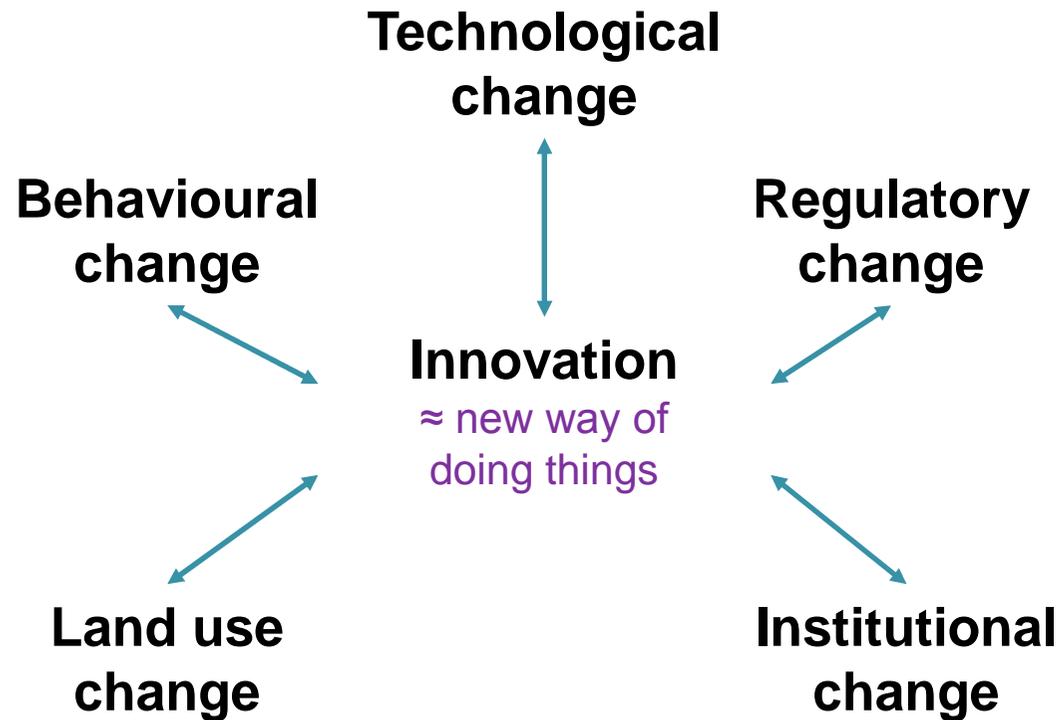
Reduce the amount of travel

- a) Reduce number of trips
- b) Reduce distance per trip

Reduce fuel used per mile travelled

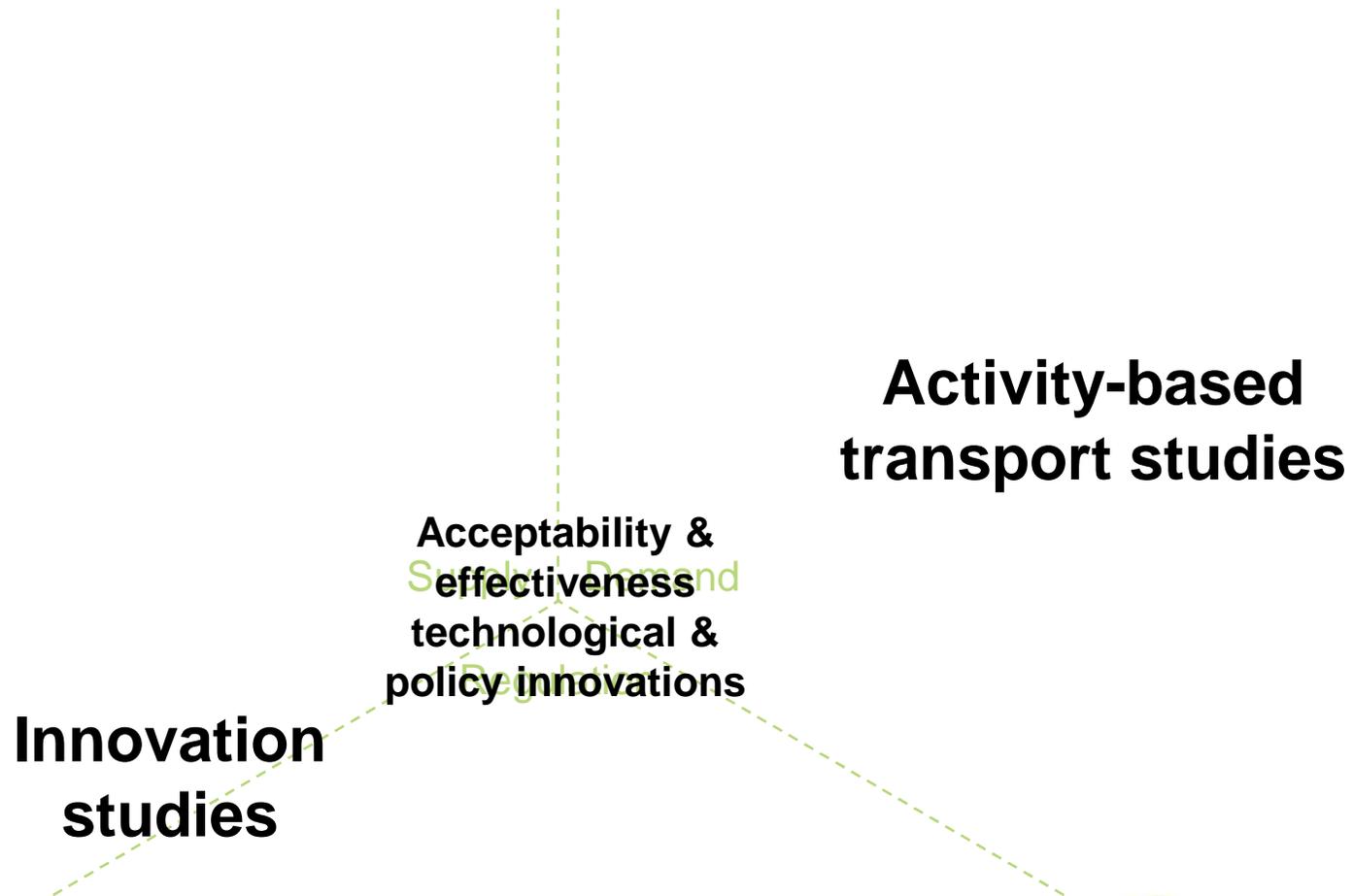
- c) Increase fuel economy
- d) Shift towards alternative fuels
- e) Shift towards modes other private vehicle

Reduce fossil fuel consumption (ii)



How do innovations become embedded in everyday life and travel?

Fragmented literatures



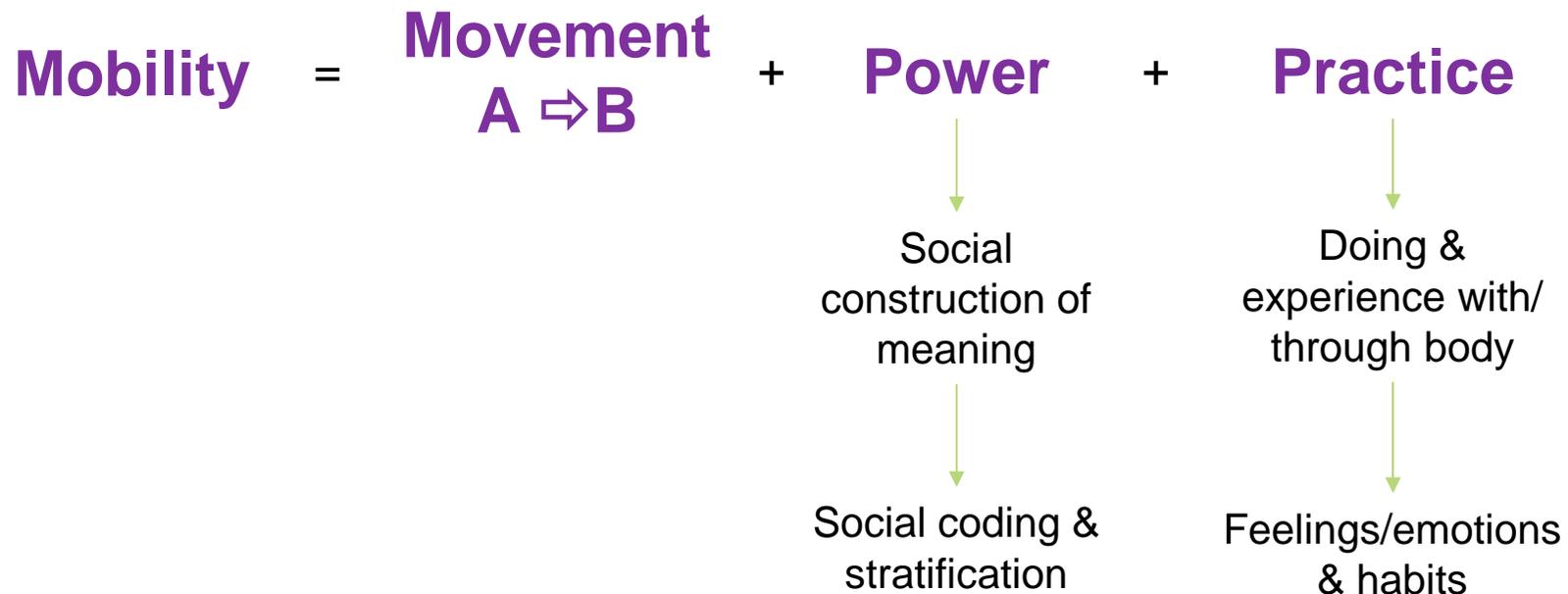
Rethinking activity analysis

Three lines of development:

- a) Re-imagine travel
- b) Re-imagine the individual
- c) Re-imagine activity

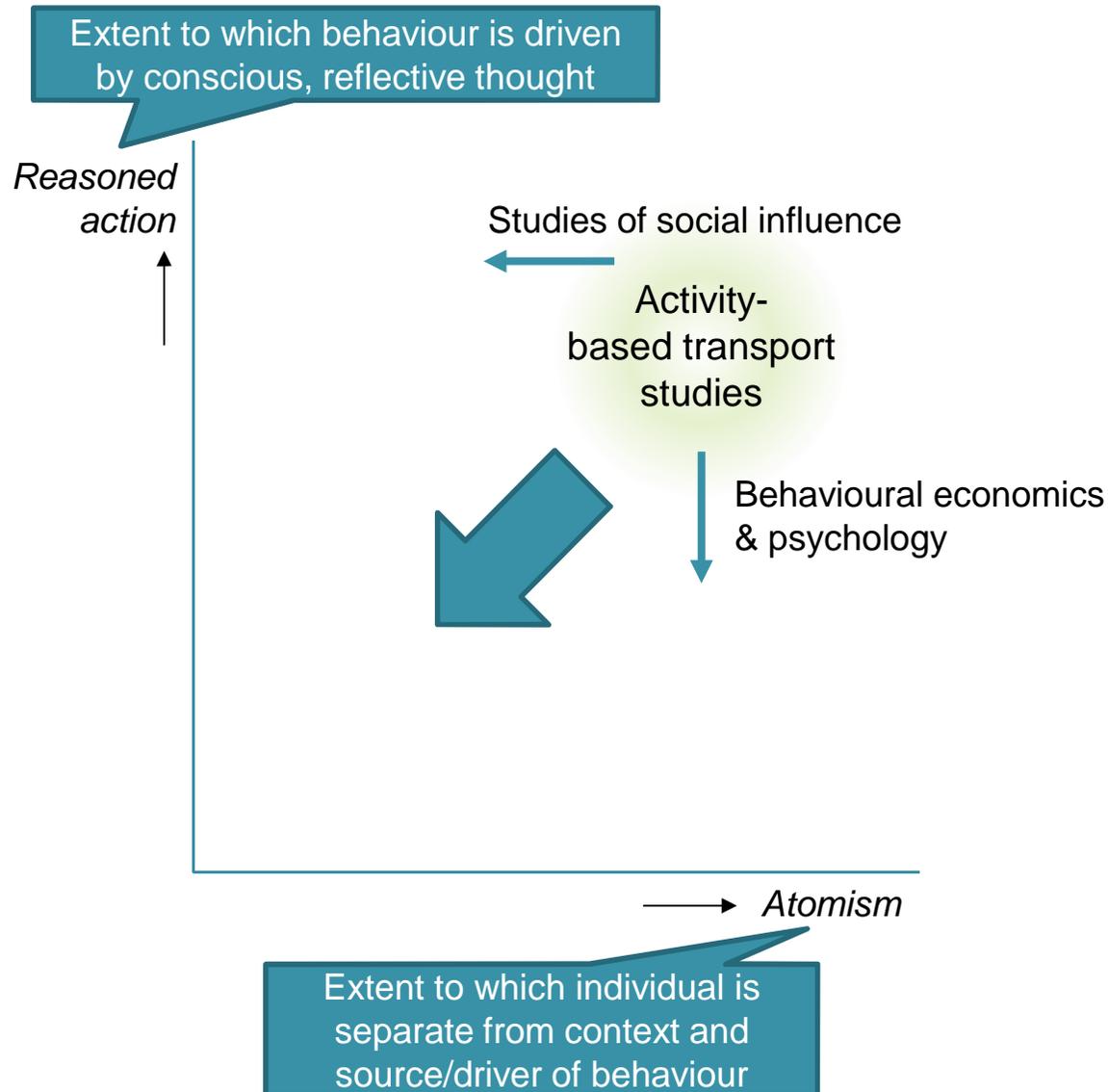
Imagining travel

Cresswell (2006, 2010):



Travel = activity

Imagining the individual



Integration

Activity = ongoing process of integration of heterogeneous elements

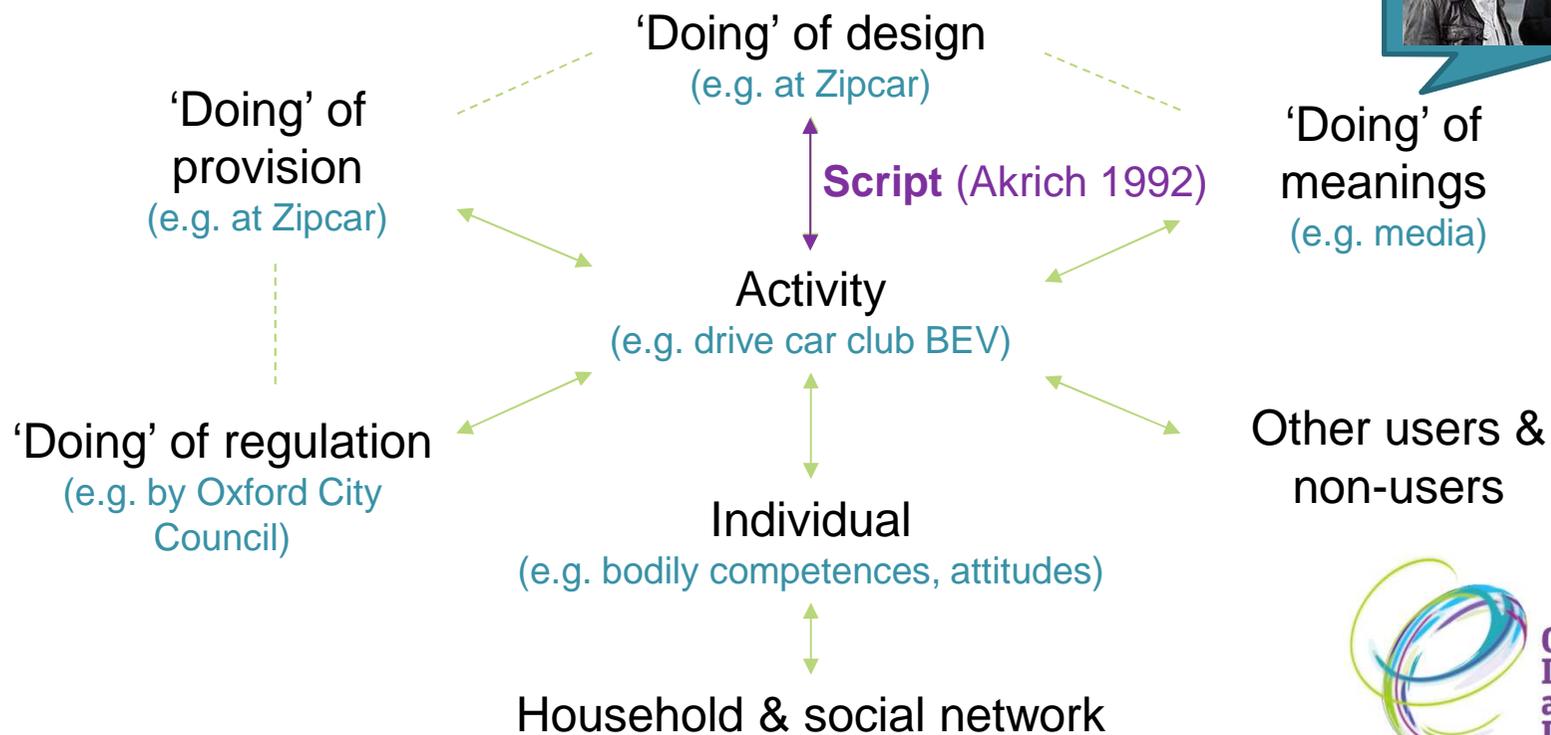
‘Practice theory’:

- a) Reckwitz (2002): a routinised type of behaviour in which forms of bodily activity, mental activities, material objects, understanding, know-how, emotions and motivational knowledge are tightly interwoven into a solid block
- b) Shove *et al.* (2012): Integration of the material, the symbolic, the procedural

Need to move beyond ‘practice theory’

Communication

Activity = platform where agents exchange information often in an a-synchronous manner

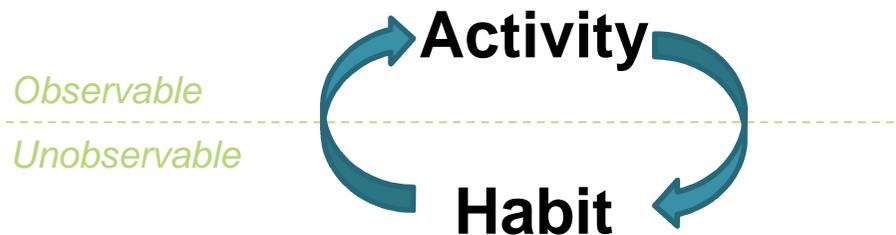


Two directions

		Doing of: Meaning $t_?$ Regulation $t_?$	Doing of: Meaning $t_?$ Regulation $t_?$	Doing of: Meaning $t_?$ Regulation $t_?$
Activity t_{-n}	Activity t_{-1}	Activity t_0	Activity t_1	Activity t_n
Activity sequence individual i		Provision $t_?$ Design $t_?$	Provision $t_?$ Design $t_?$	Provision $t_?$ Design $t_?$

Habit

Mainstream understanding	My understanding
Automatically cued behaviour	Tendency, generative force
Observable, actual	Non-observable, potential
Individualistic: contracted & held by individual	Non-individualistic: holds together a network of body, mind and world
Descartes, Kant	Aristotle, Dewey



Habit and innovation

Interrelations:

- a) Habit as **barrier** to innovation \Rightarrow insensitivity & lock-in
- b) Habit is **disrupted** or **transformed** by innovation \Rightarrow innovation becomes rooted in everyday life
- c) Habits help to **re-appropriate** innovation \Rightarrow unintended effects

Re-appropriating a Toyota Prius

*“It’s something about the car; it gives you so much information. Sometimes you just want to say, look, I’m still in charge . . . You can give me lots of good ways to drive economically, but you can’t make me drive economically. One thing about the Prius which I shouldn’t do, because it gives you the trip fuel consumption thing, whereas most sensible people would look at that and try and use as little fuel as possible, my kind of contrary nature is to see **how much fuel** I can use. Since it’s meant to be, to not use very much, I sometimes find myself thinking, I wonder if I can get it down below 40 to the gallon, which is very silly.”*

Source: Ozaki *et al.* (2013, page 535, emphasis in original)

Low energy innovations

Do not exist outside 'doing' across use, provision, regulation & signification of transport & other activity systems

Their study requires integration of activity-based transport & innovation studies ⇒ activity analysis should:

- a) Be broadened beyond demand side
- b) Focus on how transport system use is shaped by individual activity programmes and a-synchronous communication among use, provision, regulation, etc.
- c) Examine links among activities, and between activities & habits
- d) Study how low energy innovations come about, evolve and can be made more effective

Thank you

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