How can the Finnish mobility system be developed to support the climate goals of the society?

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Outline

- **The underlying trade-offs in the transition towards sustainable mobility systems**
- **The challenge of wicked problems in this transition**
- **Two critical misconceptions of 20th century approach to mobility systems**
- **A way forward**

The underlying trade-offs in the transition towards sustainable mobility systems

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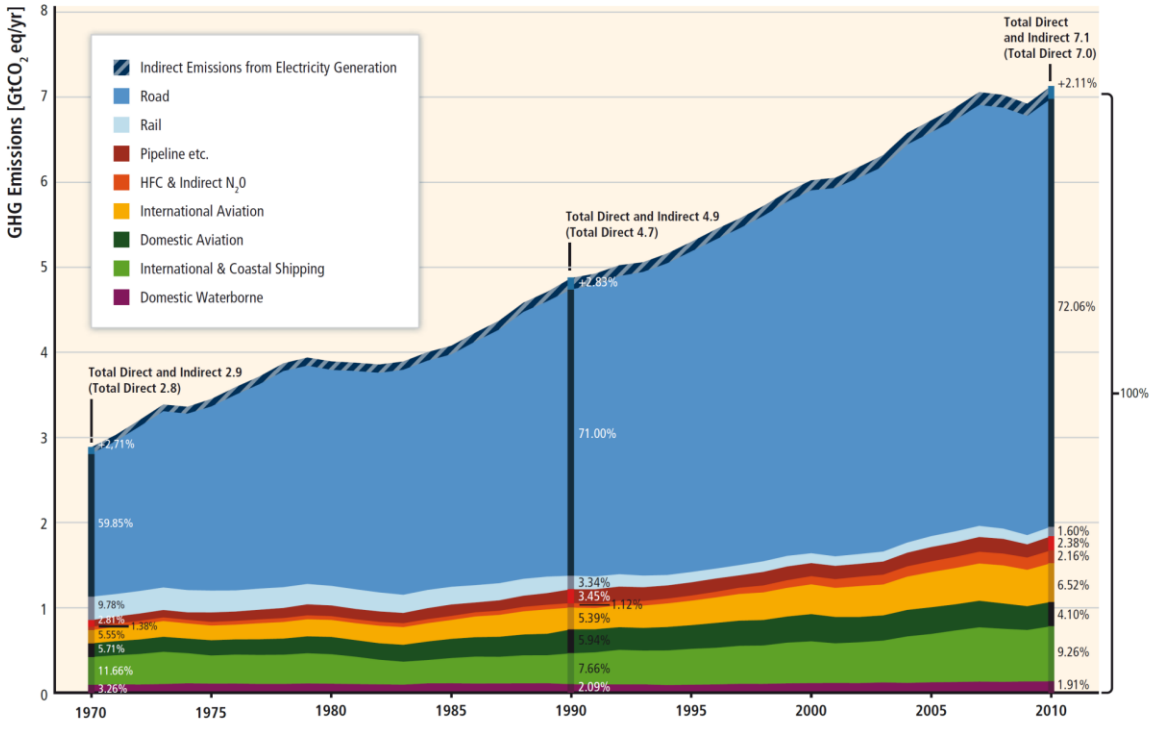
Climate Crisis (Mitigation and Adaptation)



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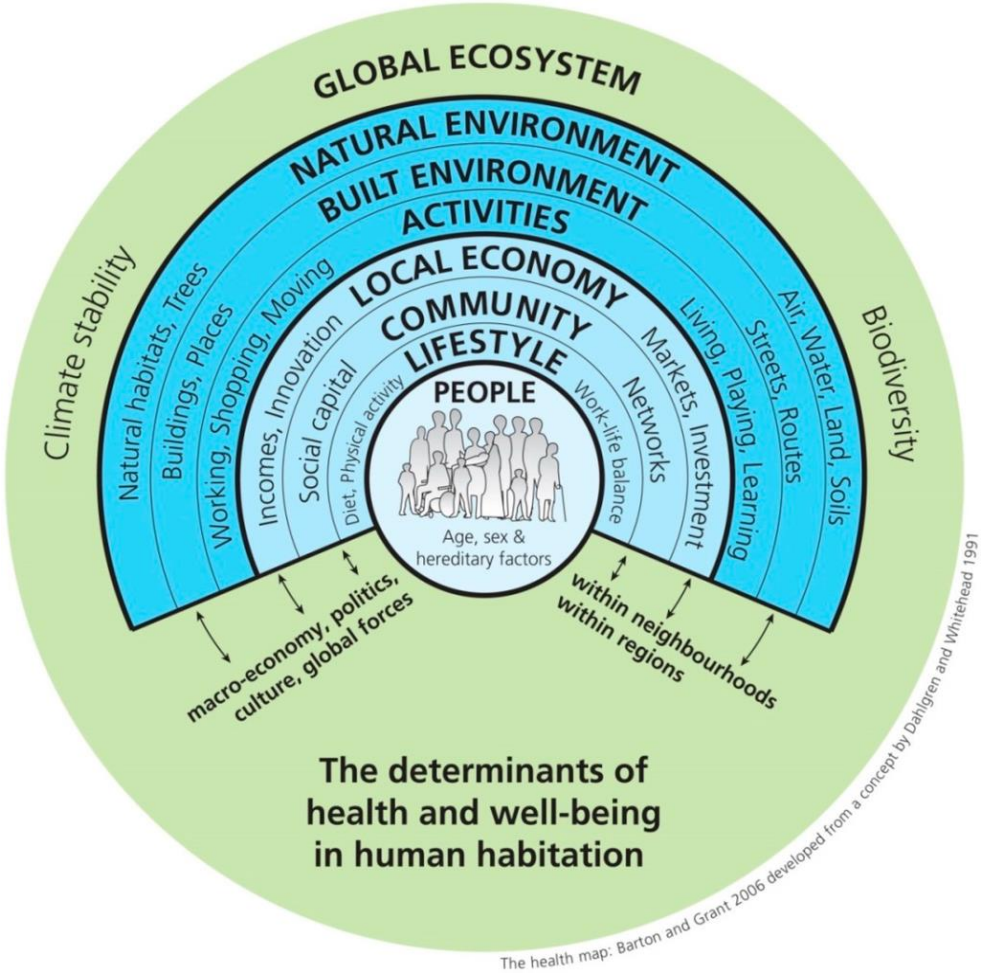
(IPCC, 2014)

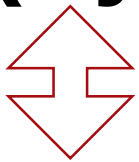
Well-being

Distribution of Benefits and Burdens



(Barton & Grant, 2006)

Integration (System-Level)



Customization (User-Level)

- Reducing the need to travel, i.e., substitution
- Shift to collective and active travel modes
- Travel distance reduction
- Efficiency increase of prioritized technologies

(Banister, 2008; Pangbourne et al., 2020)

Why is the transition towards sustainable mobility systems challenging?

Sustainable Mobility is a Systemic Challenge

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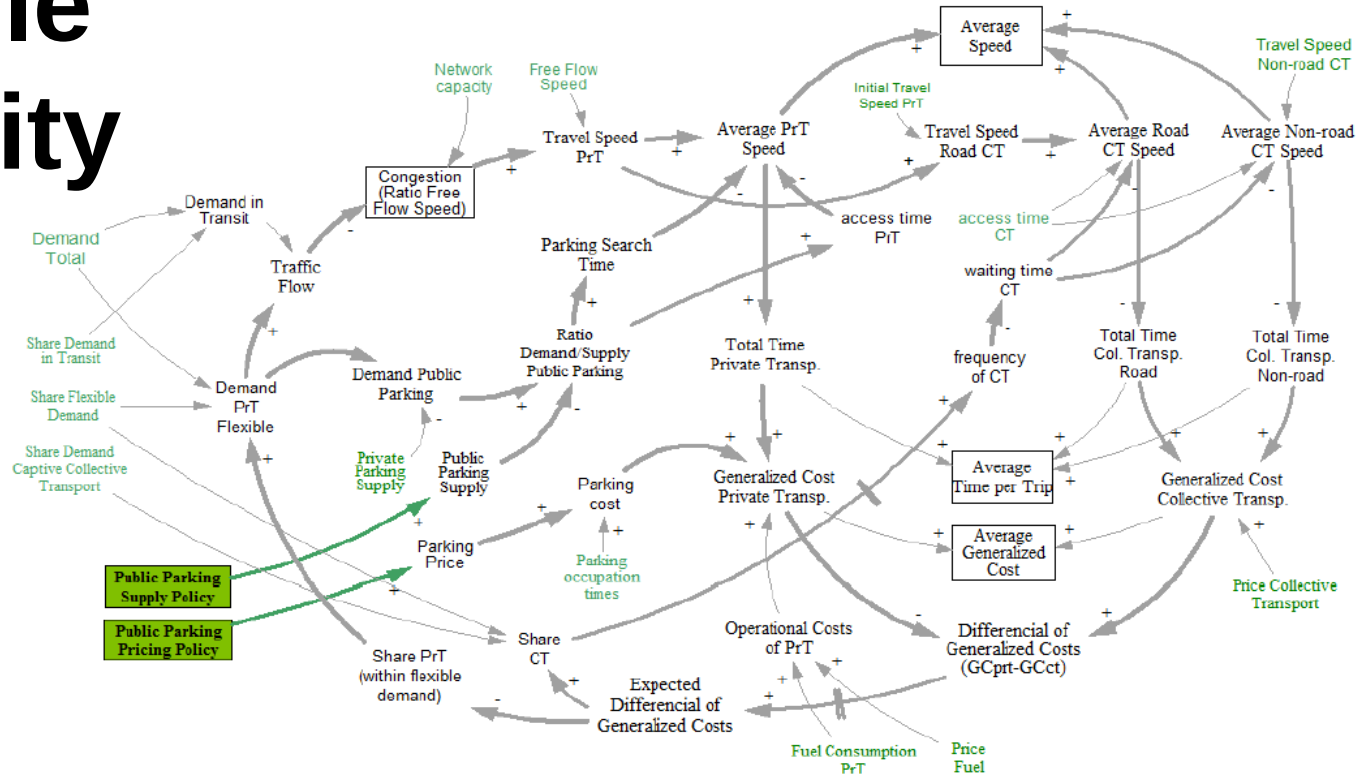
Irreducible Complexity



Legend: Abbreviations: PrT – Private transport; CT – Collective (Public) transport; GC – Generalized cost
System dynamics symbols notation: → : causal effect; + : positive effect between variables; - : negative effect between variables; | | : causal effect with delay
Types of variables: green box – policy inputs; green – inputs; black - system variables; black with box - indicators

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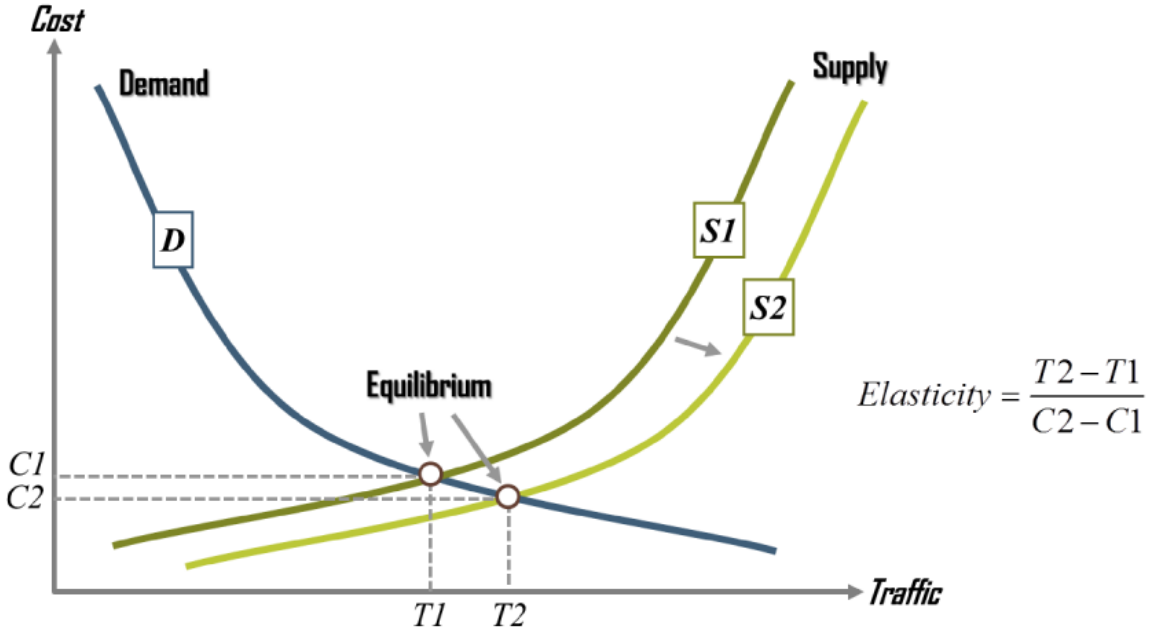
(Bernardino and van der Hoofd, 2013)

The first critical misconception in the 20th century approach to mobility transitions?

Understanding human lifestyles

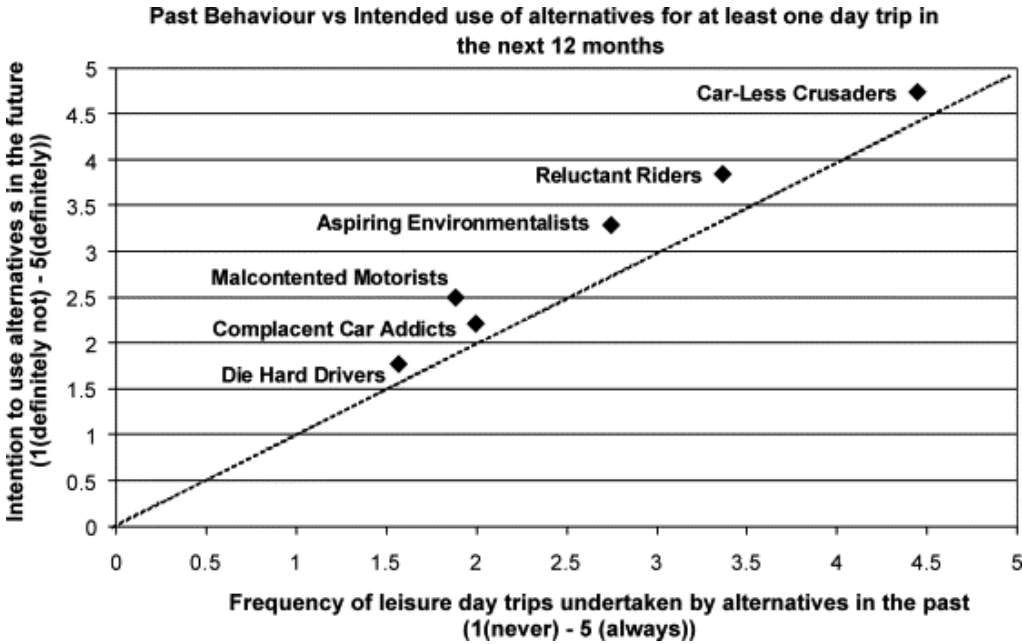
Human as utility maximizer with rationally-ordered preferences?



(Rodrigue, 2013)

On the contrary… Humans are…

- Diverse
- Habitual
- Relational
- Experiential
- Meaning-seeking

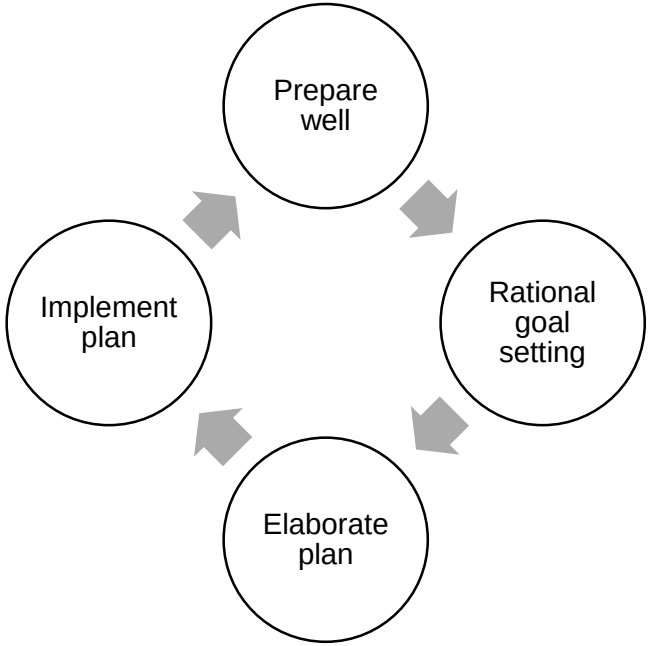


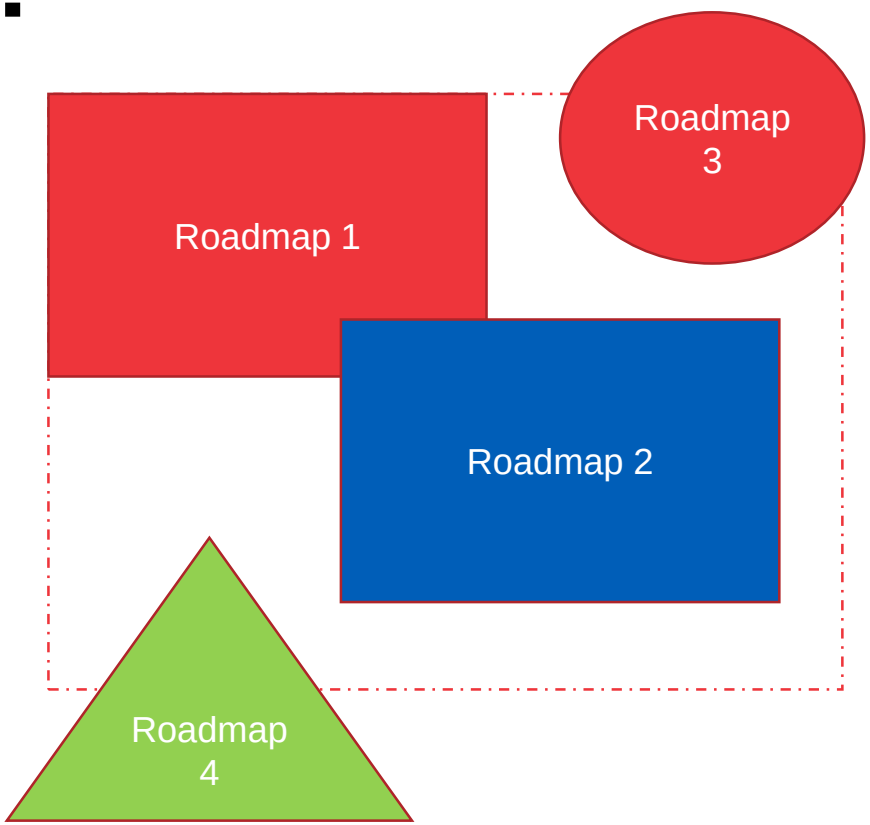
(Anable, 2005; Shove, 2010)

The second critical misconception in the 20th century approach to mobility transitions?

Understanding processes

Decision processes are linear and sectoral?





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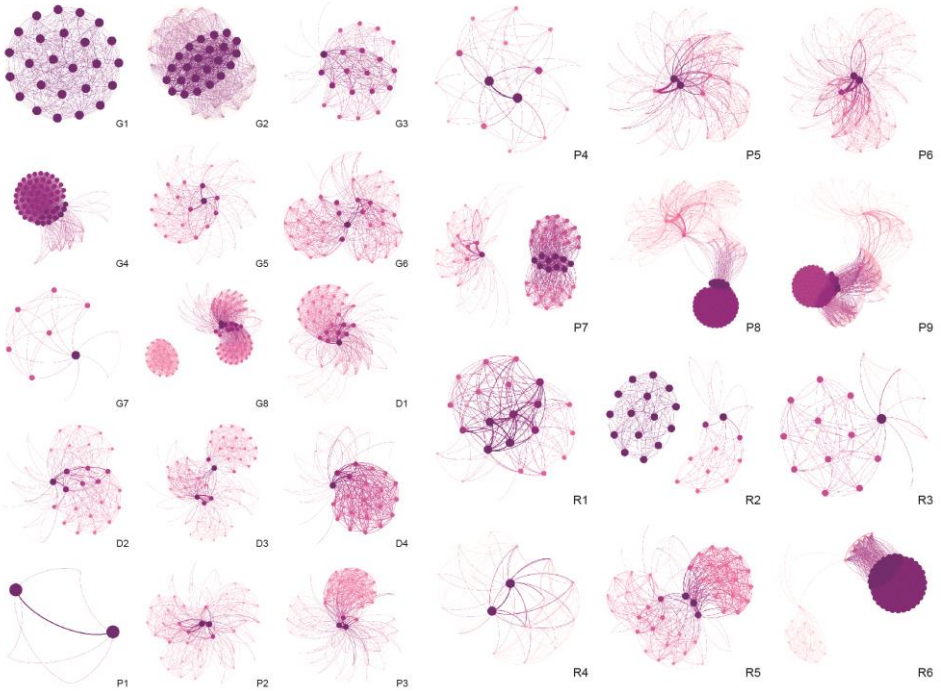
On the contrary… Processes are

- **Highly non-linearly dynamic**
- **Highly social**
- **Prone to memory loss**
- **Understanding-based**
- **Integration-focused**



(Eräranta & Mladenovic, 2019)

Is there a way forward?

“Embracing systems complexity”

How? → Knowledge Integration

1. **Transition of mobility system means transition in the complete everyday life → Mobility instead of traffic**
2. **Invest into inter-organizational learning networks beyond sectoral siloes → Build upon the existing seeds of organizational change**
3. **Systematically engage with wider public as partners in envisioning desirable and undesirable futures → Narrow down the decision domain, but in a wiser way**

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Thank you for learning!

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