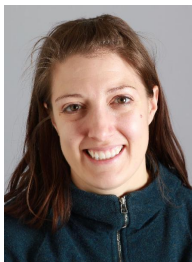


Useful Digital Twins

Bærekraftig mobilitet som et integrert system (modellering og planlegging)
Sustainable mobility as an integrated system (modeling and planning)

Kelly Pitera, Trude Tørset and Yngve Frøyen

MoST seminar 13. des. 2022



What are transport models?

- Planning tools
- Calculate transport demand (trips) based on land use characteristics and transport service
- Current models are used for scenarios:
 - New solutions
 - Future years
 - Input to CBA
- Some (might) say Transport models are useless bc
 - Black box
 - Conserve current situations and solutions
 - Beats common sense
 - Cannot model x, y and z (autonomous vehicles, Maas, Micromobility etc)

Mobility DT should build on Transport models

- We don't need to start from scratch
- Digital Twins
 - Communicate well
 - Visualization, capture many elements simultaneously
 - Use all kinds of data input (ICT research)?
 - Is linked to other infrastructure (buildings, pipelines etc.)
- Usefulness for Mobility planning?
 - When it can be used to test scenarios
 - When it is responsive
 - When it gives reliable reactions
 - When it covers the needs of planners and politicians

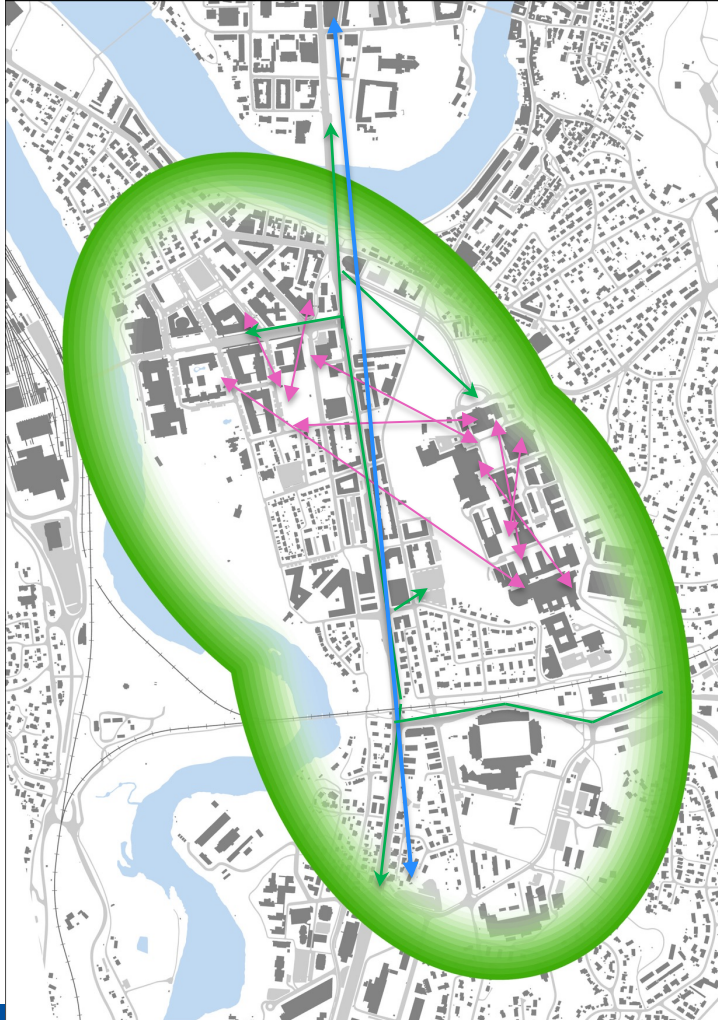
Hovedprosjekt



Motorized
Passenger
Transport

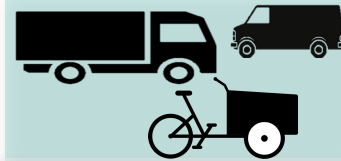
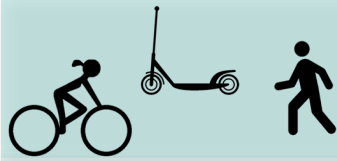
Non-motorized
Passenger
Transport

Freight
Transport



Elgeseter området is a case study for transport system digital twin development

Transport : within
to/from
through Elgeseter



Transport : within
to/from
through Elgeseter

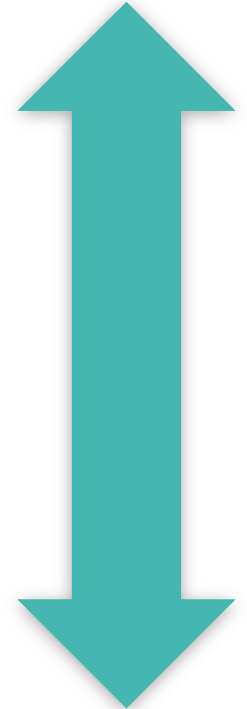
Evaluation of digital twins for mobility decision making

Scenario assessment for Elgeseter

Digital Twin Development

Transport model reflecting current/future problems and solutions

What is the current mobility “problem”?



Where we are now?

Systematic Literature review:

Digital Twins for Sustainable Transport



Freyja Brandel-Tanis



Dipanjan Nag

- How can we define the concept of digital twins (DT) for transport systems?
- What is the difference between a well-developed transport model and a DT?
- **How can DTs better inform stakeholders with regard to current and future sustainable mobility challenges?**

Where we are now?

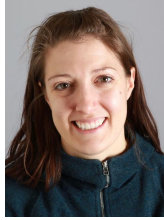


The Department of Civil and Environmental Engineering has vacancies for

PERSEUS PhD Candidates in Future-oriented urban transport modeling

Comments or questions?

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