Macroscopic modelling of active modes

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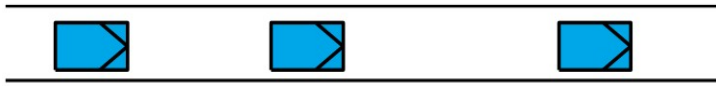
Scales of traffic description

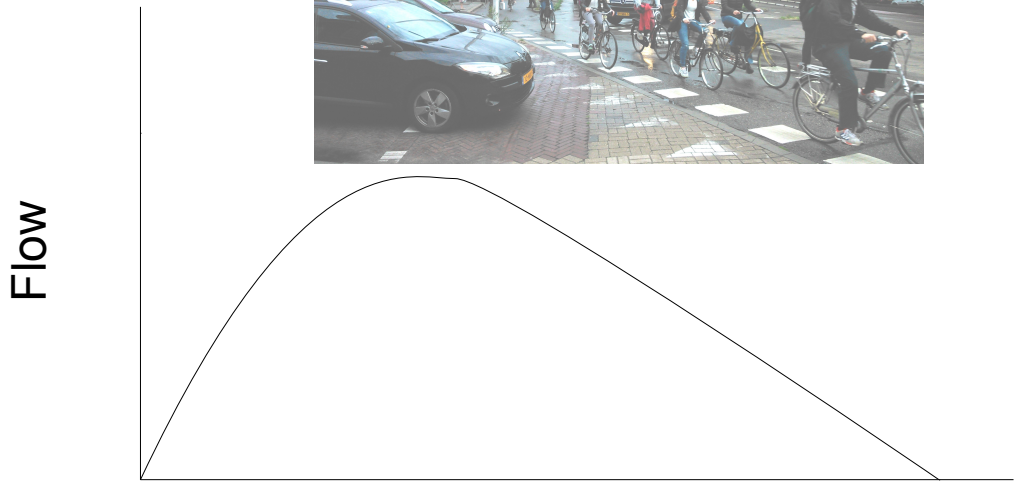
Microscopic: individual leve



Macroscopic: road level

Higher level: network leve

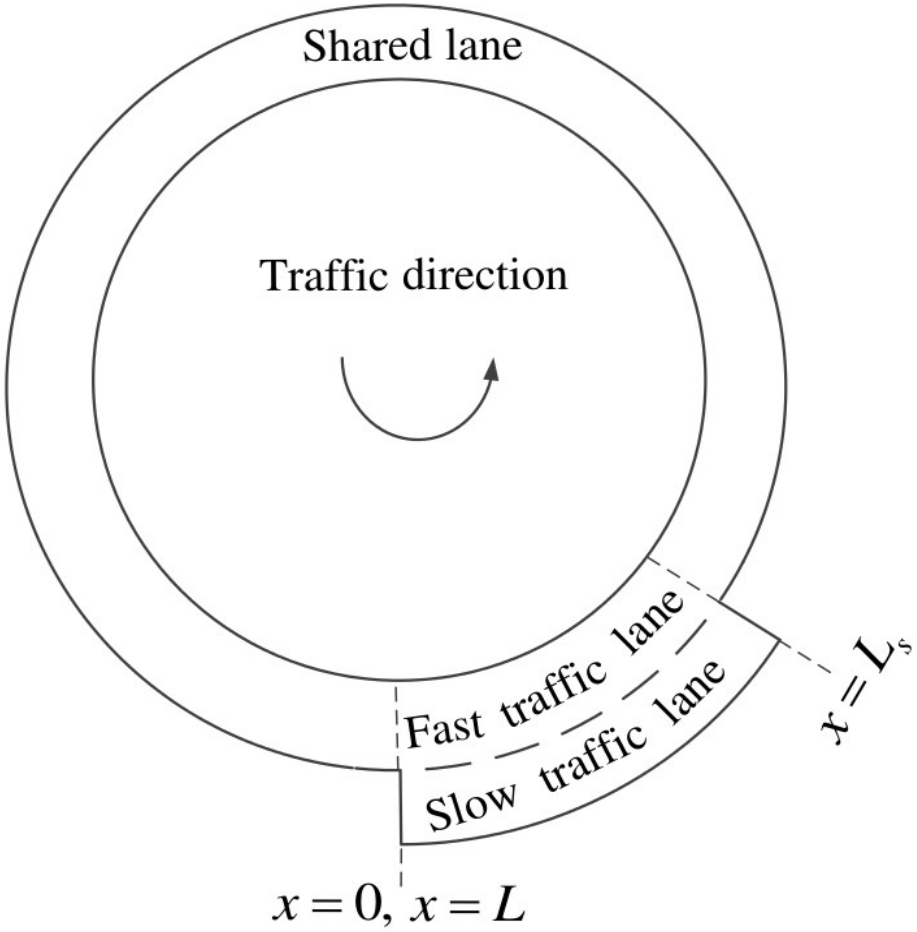
Relationship between variables



Density

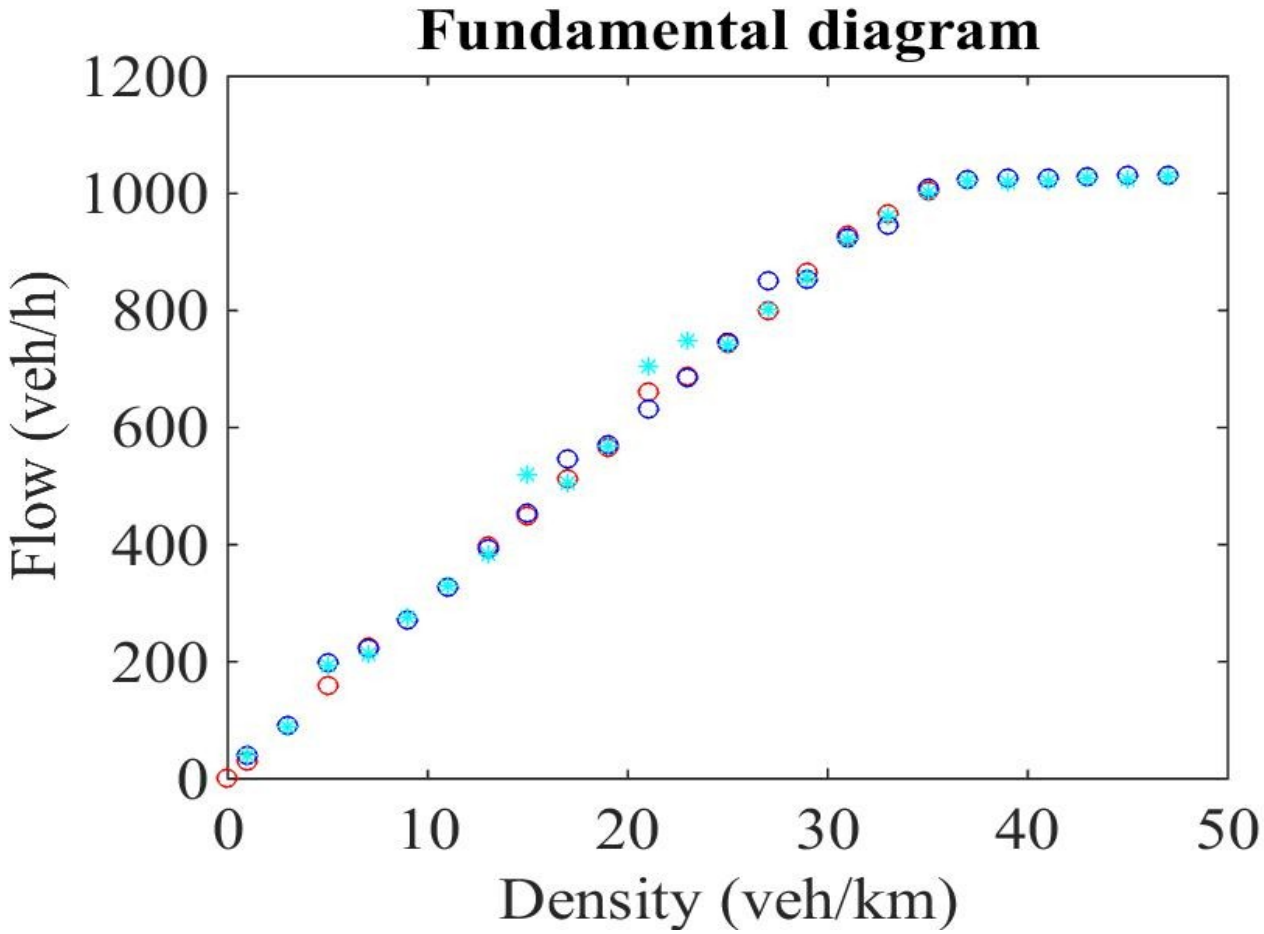
Impact of cyclists and bike lanes

- Bikes are only partially in the way of cyclists
  - First step: simplify
  - One road, partially bike lane
- Simulations and analytics

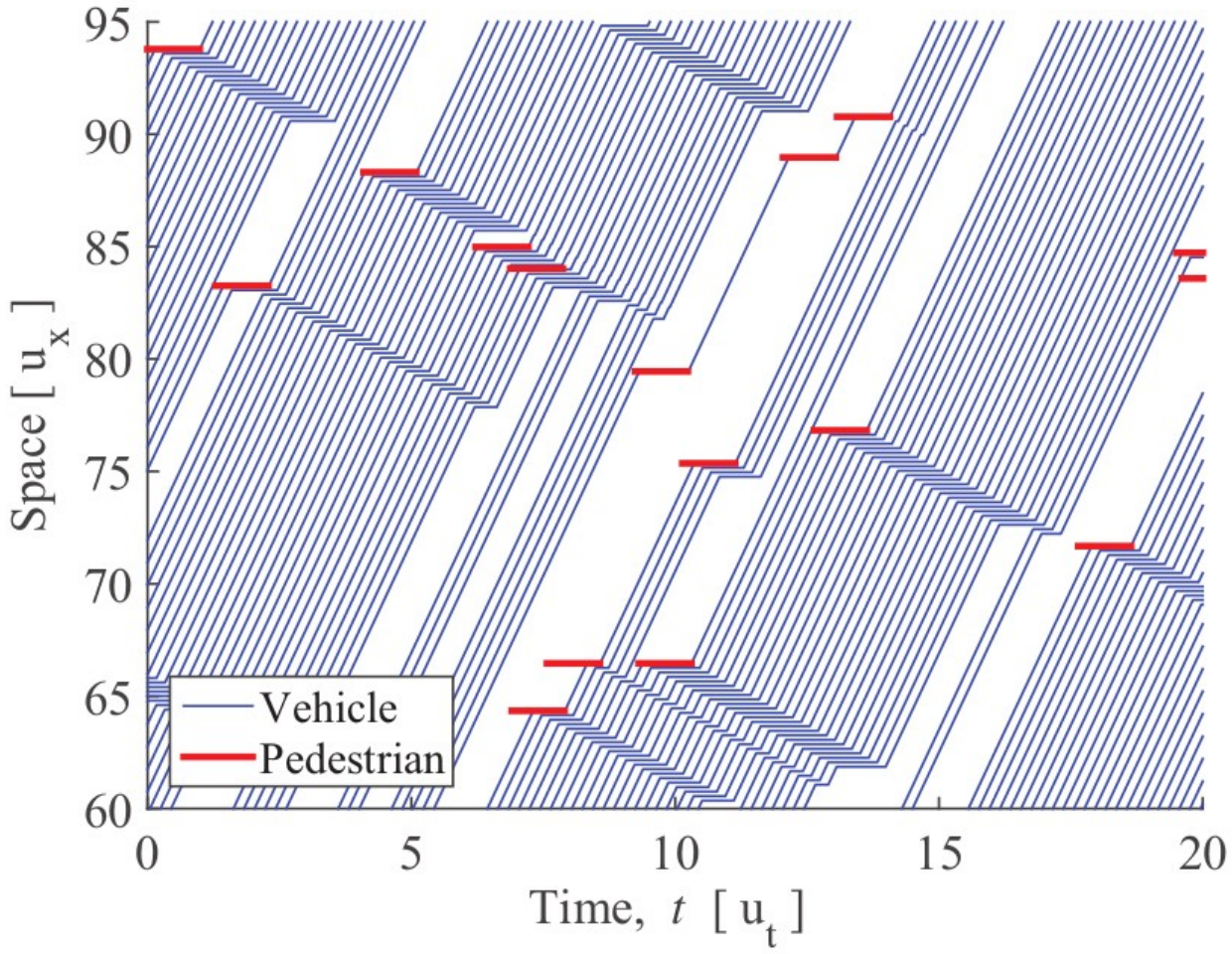


Simulation

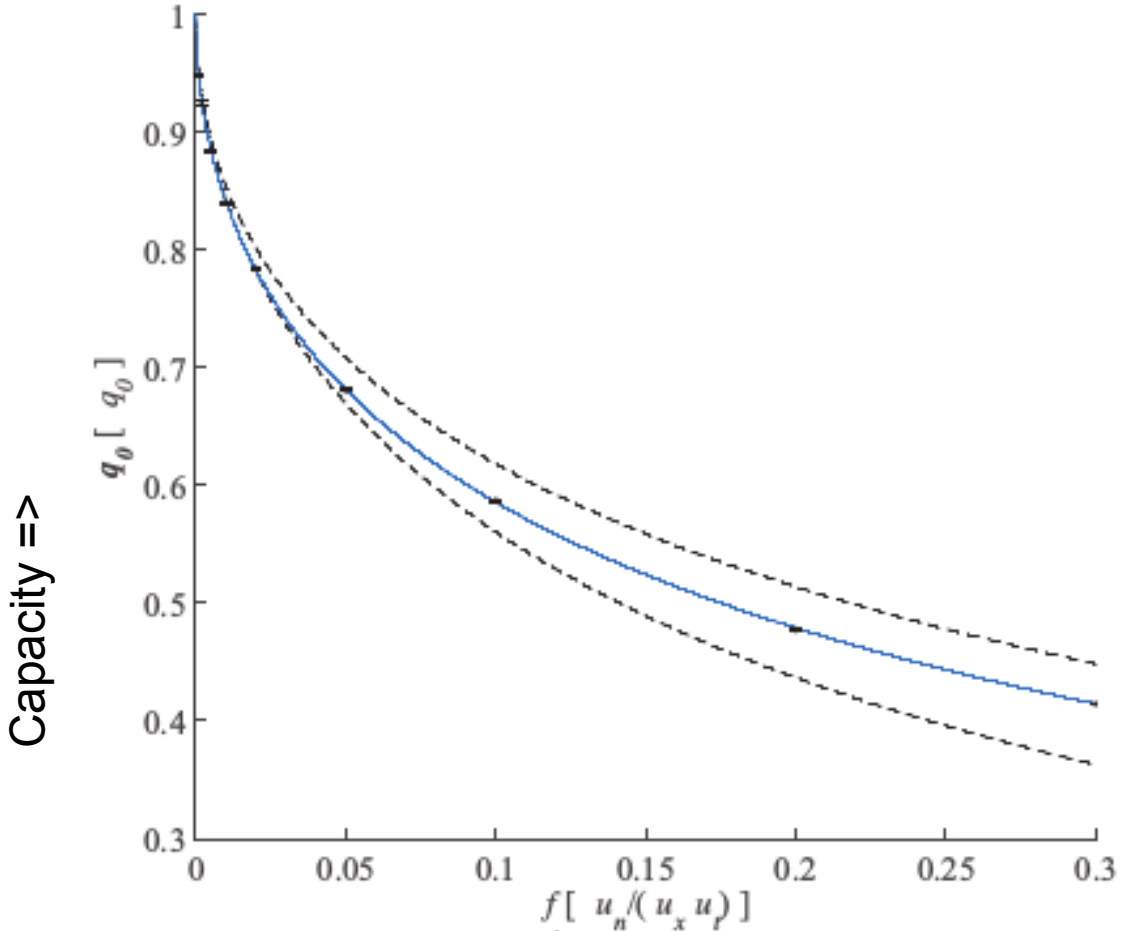
Fundamental diagram



How about pedestrians?



Capacity under pedestrian crossing



Next steps

Describe relevant phenomena:

- Road capacity (how many cyclists/pedestrians/cars can go over a road section per unit of time)

- How to model shared space?
  Two-dimensional, multi-class

- Which phenomena are essential to reproduce?

- Speed differences between the modes
  How does this differ for various speeds