# Message-Passing Thought Exercise

Traffic Modelling

epcc

THE UNIVERSITY OF EDINBURGH

# Reusing this material

# Traffic flow

- we want to predict traffic flow
  - to look for effects such as congestion
  - build a computer model

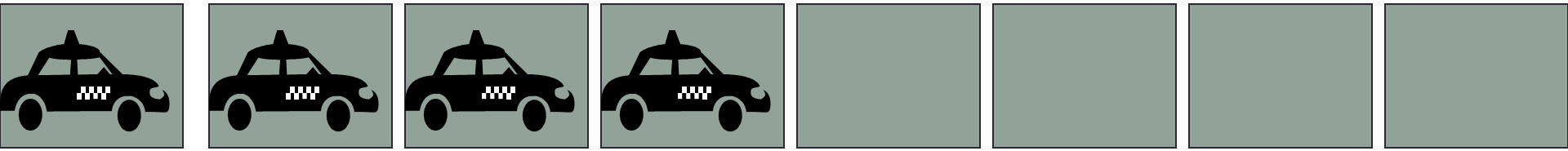
# Simple traffic model

- divide road into a series of cells
  - either occupied or unoccupied
- perform a number of steps
  - each step, cars move forward if space ahead is empty

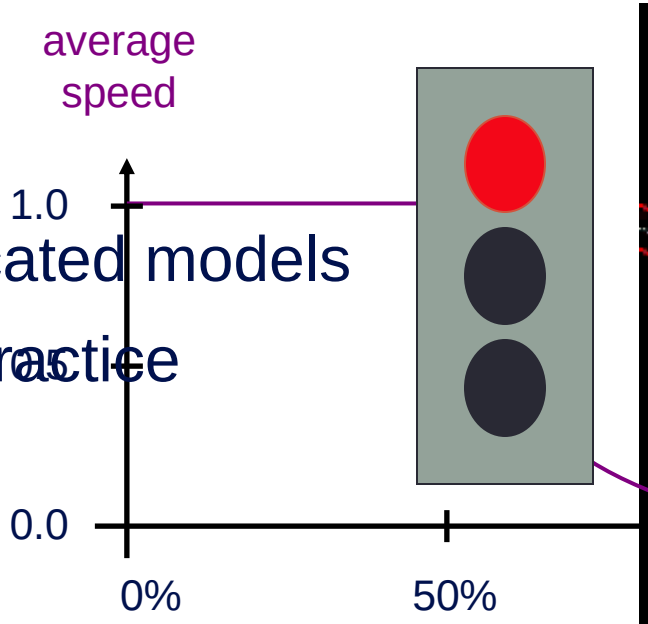
**could do this by moving pawns on a chess board**

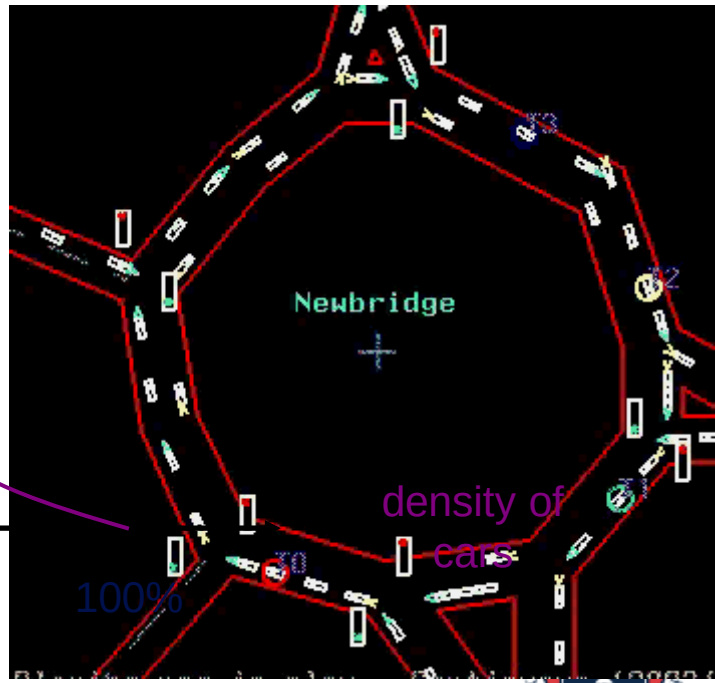
# Traffic behaviour

- model predicts a number of interesting features
- traffic lights



- congestion
- more complicated models are used in practice



# How fast can we run the model?

- measure speed in Car Operations Per second
  - how many COPs?
- around 2 COPs
- but what about three people?
  - can they do six COPs?


# Parallel Traffic Modelling