Message-Passing Thought Exercise

Traffic Modelling

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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
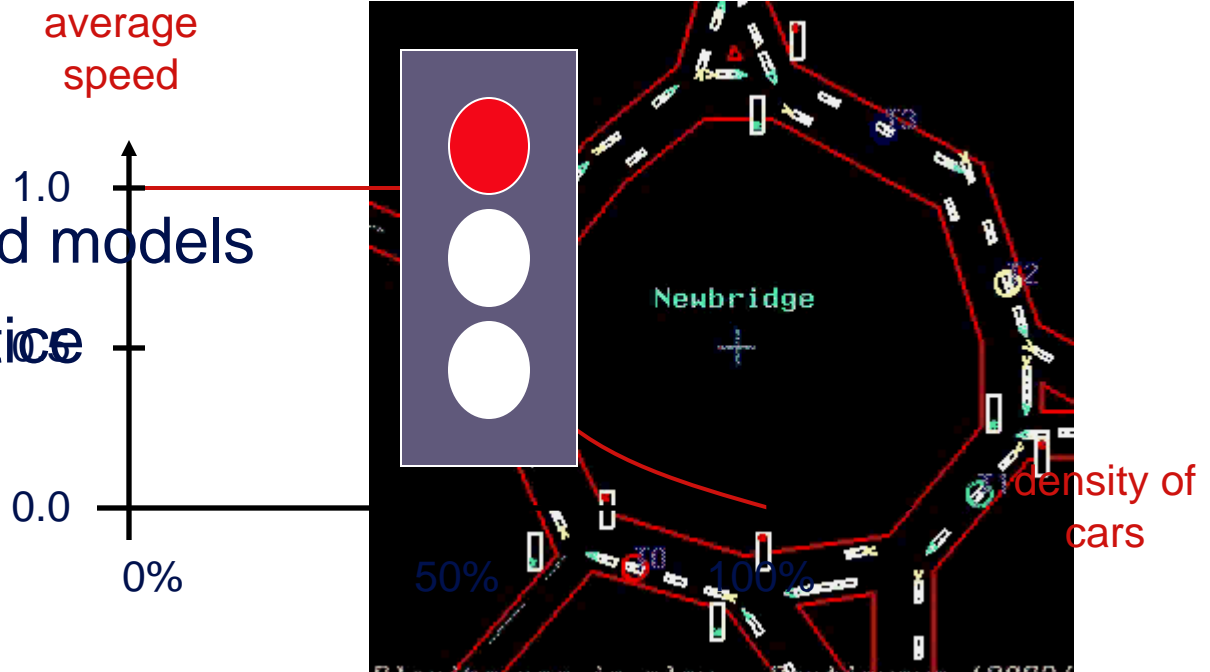 - each step, cars move forward if space ahead is empty

could do this by moving pawns on a chess board

- model predicts a number of interesting features
- traffic lights

- congestion

- more complicated models
  are used in practice

average speed

1.0

0.5

0.0

0%

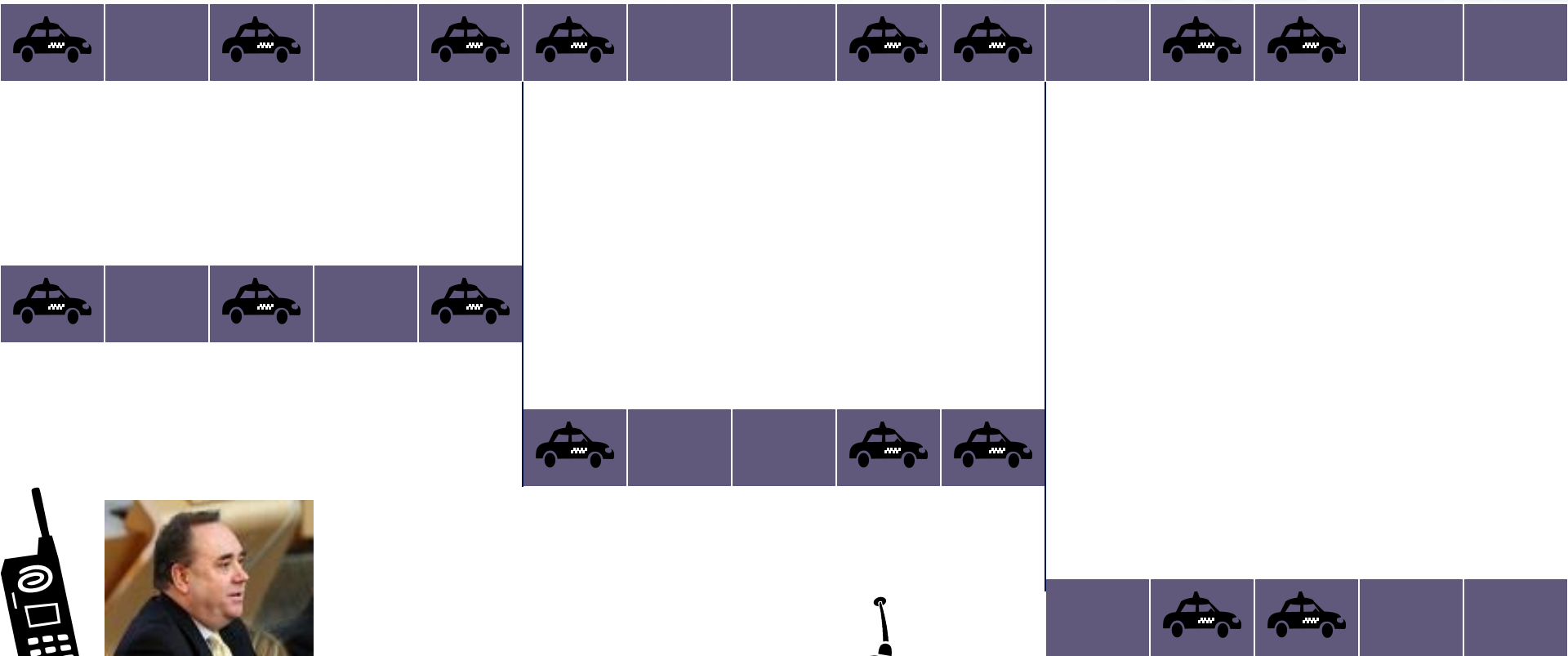50%   100%

density of cars

Newbridge

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?

Traffic Modelling

A

B

C