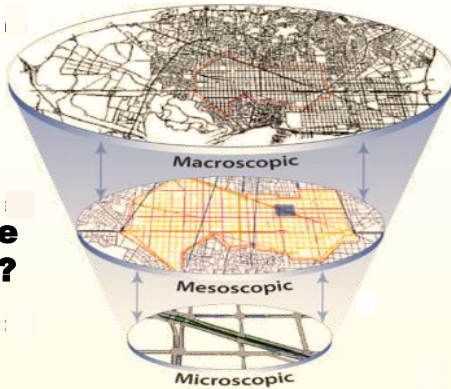




Multi-scale Traffic Flow Theory and Modelling

What is multi-scale modelling?

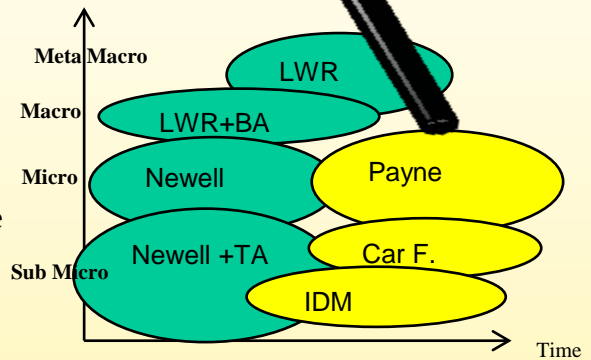


Multi-scale models are models that combine different levels of description (micro, macro), in order to reproduce traffic phenomena that occur at different scales by **switching** from one modelling paradigm to another.



How to couple models?

In order to build a multi-scale model, we need to **integrate** models at different scales into one multi-scale model.



What are problems in integrating models?



Two kind of problems are expected when integrating models of different behavioral rules:

- Loss of information in the process of switching models
- Non-coherence of information at the **boundary** of models.



How to solve the problem?

To ensure the coherence of information passing through the boundary, we dynamically change the spatial position of the boundary between micro and macroscopic simulation models according to traffic condition.

