

## CAN SPACE SYNTAX PREDICT TRAFFIC FLOWS, SPEEDS AND MIX?

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## 0 Abstract

This paper presents results from a comparison of two transport models for London. The space syntax model of London covers an area of over 300km<sup>2</sup> with more than 16,000 axial lines, the London Transport origin-destination matrix model (the LTS model) covers a larger area, 3000km<sup>2</sup>, but in less detail, with 27,000 links covering all of the major roads in the area. The axial lines in the space syntax model are lines of sight and the links in the LTS model are between junctions. New techniques for integrating space syntax within a geographical information system (GIS) allow detailed comparisons to be made between integration values and traffic flows from the LTS model.

In this paper the original manual counts used to validate the space syntax vehicle model are compared with the LTS modelled traffic flows.

The space syntax model has been validated using manual counts on over 400 links and gives a correlation with an r<sup>2</sup> of greater than 0.8. The model uses two main variables, the usable road width and the integration value. The integration value of a line quantifies how well that line is integrated into the system.

The LTS model includes information on traffic flows for each of several different types of vehicle, and average traffic speeds for each link in the network. These data are compared with, usable road width, and with space syntax measures of how “well” a particular line is integrated into the system (its integration value).

The results presented in this paper suggest how space syntax modelling could be used as a transport-planning tool. This work is an important step forward in producing a simple model for local authorities to be able to ask “what-if” questions about their transport network.

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