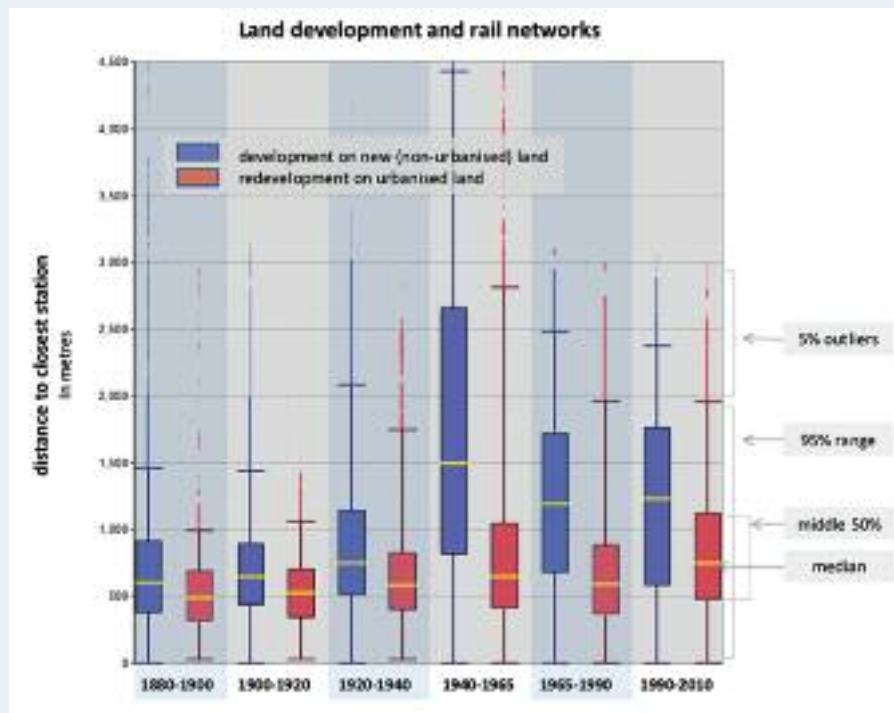


## City scale: the impact of infrastructure on urban development and redevelopment: evidence from London's history

We have developed new ways of examining historic data to uncover and quantify the evolution of urban land use, transport investment and regulatory measures.



Land areas developed in relation to rail and underground stations in West London 1880-2010

We have developed a detailed database of land use and transport changes in an area of 200 square km between Heathrow Airport and Holland Park in West London from the 1870s to 2011. This has enabled us to analyse the evolution of different types of land use, roads, intersections, rail lines and stations, tube lines and stations, and provide the evidence to calibrate robust forecasting models for new infrastructure and development plans.

The data series provides completely new evidence on how infrastructure and construction prompted every kind of development over time. A meta-analysis of the land use and transport models has resulted in an up-to-date and comprehensive assessment of the performance of the predictive models. Together they underpin the development of new models that are better able to quantify the economic and wider impacts of urban infrastructure interventions.

The evidence and the new models will enable major infrastructure scheme promoters to examine and prioritise investment options under the new Infrastructure Planning Framework.

### Findings:

- analysis shows how development spread from rail or tube stations in West London from 1880-2010
- the late 19th century development shows that the most effective service catchment of a rail/tube station is within an 800m radius; this has not changed for pedestrians today
- the most recent period from 1990 to 2010 shows a steady increase in the distances to stations, with the median distance from new development reaching 1200m and redevelopment 750m

This system-wide picture tells a different story from recent successes in central London rail hubs and indicates that there is a real challenge in redeveloping the surrounds of stations across the city. Without addressing this challenge, current and future rail investment will be unable to achieve the full economic and environmental benefits.