

Road networks and local employment

Improvement in transport infrastructure are frequently proposed as a strategy for economic growth, integration and local economic development. Transport networks have a direct effect on firms' costs for logistics and business travel, as well as indirect effects through improved access to markets and labour, closer economic integration, more competition and increased clustering around business hubs (agglomeration).

The ESRC-funded research project *Transport investments and spatial economic performance* has analysed the impact of transport infrastructure improvement on the economic performance of firms, workers, local areas and regions.

The British strand of the work is the first to provide evidence on the overall impact of the recent road transport programme on economic performance. It has linked data on all new major roads constructed in Britain between 1998 and 2008 to firm and worker data, examining how roads affected employment, productivity work hours and wages.

The 'employment accessibility' indicator - which captures the amount of employment that can be reached from a given location, per unit of travel time along the road network - was developed as a standard method of measuring transport connections to areas of economic activity. The study also looked at the relationship between road investments, traffic volume, congestion and economic output.

The findings show that improved infrastructure has a

positive impact on local areas in terms of business and employment - but not at the level of individual firms. New roads tend to increase traffic volume and congestion, but are also associated with higher productivity, likely through closer connection with other firms and workers as well as reduced commuting times.

Key findings

- The findings show a clear impact from transport improvements on area employment and number of firms: a ten per cent increase in accessibility leads to a three per cent increase in the number of businesses and employment.
- Transport improvement did not show any employment effect at individual firm level. This suggests that road improvement encourage new firms to the area, but does not increase employment for existing firms.
- The findings indicate positive impacts on labour productivity, value-added and on wages within individual firms, but not at area level.
- Supporting sustained growth is likely to require a holistic rather than thematic support model - focusing both on the development of the business and the leadership team.
- Although increased road capacity increase traffic volume and congestion, the higher traffic volumes also enable higher economic output.
- Accessibility by road in urban areas is associated with greater productivity - potentially due to the agglomeration benefits of proximity between firms, and between firms and workers.

Policy relevance and implications

The findings add substantially to existing research evidence on how transport policy affects economic outcomes on levels of area and individual firms.

- Providing investments in road infrastructure can stimulate business and employment in local areas, although the economic impacts are relatively small.
- There is a need to do much more 'ex-post' evaluation of transport policies (ie evaluation carried out some time after policy introduction) to properly assess policy impact. Much of the existing evaluation is weak and not very informative.
- Evaluation findings need to be fed back into scheme appraisal (including the way this is currently done in the UK via Wider Economic Benefits).



BRIEF DESCRIPTION OF THE PROJECT

The project *Transport Investments and Spatial Economic Performance* provided empirical analyses of the effects of transport infrastructure improvement on economic performance, in the UK and abroad. It shows that new road infrastructure has a positive but limited economic impact in terms of local employment. Web: www.esrc.ac.uk/my-esrc/grants/ES.J007382.1/ read

Gibbons, Lyytikäinen, Overman, Sanchis-Guarner: *New Road Infrastructure: the Effects on Firms* Web: rlab.lse.ac.uk/_new/publications/abstract.asp?index=4102

FOR MORE INFORMATION

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The Spatial Economics Research Centre aims to provide a rigorous understanding of the nature, extent, causes and consequences of economic disparities between UK regions, and to identify appropriate policy responses. Web: www.spatial-economics.ac.uk

The Economic and Social Research Council is the UK's leading agency for research funding and training in economic and social sciences. Web: www.esrc.ac.uk
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