



**Correlation between measures in the
transport field and accessibility,
productivity, growth and employment**

**Summary report
2017:10**

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Summary

This PM report summarises the knowledge regarding the correlation between measures in the transport field and accessibility, productivity, growth and employment. Measures can be large or small investments in infrastructure as well as other efforts made in the transport system. The reports main purpose is to inform about how such measures in the transport system can have effects on employment. The report also discusses how employment are handled in the cost-benefit analysis (CBA) aiming to include all effects for the society.

The PM report are based on the current state of knowledge and attempts to describe the connections between accessibility, growth and employment. The geographical dimensions of regional enlargement and regional concentration are also addressed. Agglomeration effects that arise when economic activities are concentrated in a geographical area play an important role.

The literature shows that accessibility can have a positive effect on productivity and employment. The explanations usually given are that proximity, whether geographical or in travel-time, makes it easier to share costs and risks, improves matching in the labour market and facilitates and increases exchanges of knowledge. The magnitudes of and connections between these effects are difficult to assess. However, they do appear to differ, depending on factors such as education level. It appears that the connection between accessibility and higher productivity pertains primarily to industries and cities with a high degree of specialisation and a large proportion of highly educated people. With respect to the correlation between higher accessibility and employment, employment increases primarily among less highly educated groups. Increased accessibility also appears, relatively speaking, to have greater significance for employment in more sparsely populated regions.

Cost-benefit analysis (CBA) should play a major role in determining which infrastructure measures are to be implemented. Socioeconomically profitable measures have the potential to have a cost-efficiency impact on employment in the long run. Measures that favour travel to and from work can be important for employment and growth. However, CBA do not capture all these effects, many of which are difficult to calculate. Recent research has indicated in particular that the positive effects of commuting to work are not being fully incorporated into the calculations. The magnitude of the additions that should be made depends on a number of factors, although some studies find that a value corresponding to an additional 40% of the calculated travel time benefit for work commuters should be added on the benefit side. It should, however, be noted that these effects have more to do with productivity than with employment.

Well-functioning and efficient freight transport can be important for the employment level. Transport costs play a decisive role in the ability of many companies to be competitive. Increased competition and the current trend towards smaller order sizes and more frequent deliveries are imposing requirements in terms of greater accessibility and a flexible transport system. Methods for calculating the effects to be included in the CBA of freight transport are not as highly developed as those for passenger transport. There are those who believe that the benefits associated with freight transport are being underestimated. Fields of study that could assess the robustness or the cost of large interruptions in the transport system appear to be in need of development. If robustness not is considered correctly there will be a risk of

uncertainty as to whether the measures being implemented are the ones yielding the maximum freight transport benefits.

Along with new investments in transport infrastructure, other, often minor, measures can impact accessibility and, in the long run, employment. Such measures include for example maintenance measures and how to schedule train on the tracks. With respect to minor measures that target the freight transport system, it is often important that they are undertaken quickly in order to minimise any interruptions. The Swedish Transport Administration have noted that there is a need to increase the number of minor investments in the existing infrastructure in order to, for instance, relieve a bottleneck. A greater proportion of minor measures, rather than major investments, can offer a cost-effective alternative for achieving better accessibility and a more efficient transport system. Unfortunately, developed methods for calculating the effects of minor investment and maintenance measures are currently lacking, which makes it difficult to prioritise among them.

Measures undertaken in the transport sector have importance in many areas. Improving accessibility for trips to and from work, business travel and freight transport creates conditions for growth and employment. There is reason to believe that measures that concentrate labour markets are more efficient from an employment perspective than measures to promote regional enlargement, due mainly to the benefits of agglomeration. The review conducted in this report has shown that cost-benefit analysis are important, but also that the methods used in certain areas need to be developed in order to take account of all employment effects. This particularly by taking better account of the positive effects of commuting. A more developed methodology for calculating the effects of minor measures such as maintenance and reinvestment would facilitate comparisons between different types of measures and, in turn, enable better prioritisations.



Trafikanalys är en kunskapsmyndighet för transportpolitiken. Vi analyserar och utvärderar föreslagna och genomförda åtgärder inom transportpolitiken. Vi ansvarar även för officiell statistik inom områdena transporter och kommunikationer. Trafikanalys bildades den 1 april 2010 och har huvudkontor i Stockholm samt kontor i Östersund.