

Making the case for freight transport

Value of road space to freight transport is being systematically undervalued in current transport appraisal methods, with cost to the economy, writes Ivan Viehoff.

Introduction

It seems an obvious and simple enough hypothesis that heavy goods vehicles, alongside buses, are among the most efficient and valuable users of road space.

They carry a large amount of material, sometimes of considerable value, and occupy the same space as, at most, a handful of private cars. Moving this material around in a timely fashion is essential to our economy.

But this story does not seem very well borne out by attempts to quantify the value of road freight transport using the Department of Transport's official transport appraisal techniques and parameters, set out in the manual known as WebTAG.

There are alternative conclusions one might draw from this. One possibility is that, in economic reality, road freight transport is a bit like water – very valuable in the sense that we all need it, but in practice sufficiently common and easily obtained that it can not really be described as high value.

The other alternative is that the official methods tend to systematically underestimate the true value of it. I suggest that the latter is the case – WebTAG systematically underestimates the value to the economy of allowing freight to move in a timely fashion on the roads because of missing values, and these missing values are large.

The consequence of this shortcoming is that the importance of providing good road service to freight transport is insufficiently taken into account in current road transport appraisals, both in terms of investment and policy.

For example, there might be a case for suggesting that traffic restraint policies in congested cities



↑ Moving materials in a timely fashion is essential for the economy

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should more selectively attempt to conserve road space for freight usage, if necessary by more strongly discouraging other categories of traffic.

The value of freight time

For both passenger and freight transport, WebTAG includes data on the value of time for vehicle occupants and the cost of operating the vehicle.

This is the basis for quantifying user benefits that might accrue from road policies or improvements that affect journey time and reliability.

For example, a scheme that reduces congestion, or a policy such as the London congestion charge, would be appraised using these values.

The essential difference is that, for passenger transport, vehicle occupants include those wishing to travel in addition to any staff whose presence is purely to operate the vehicle.

The passengers are in effect the 'pay load' for passenger transport. Often it is the value of time to passengers which is the largest change resulting from schemes,

and which therefore drives policy decisions.

In contrast, there is no representation of the value of time for the pay load of freight transport. A high proportion of freight appears at first glance not to be particularly time sensitive. It therefore might be true that the costs of delay for freight are simply the vehicle and operator costs. But things are more complicated than that.

That crucial spare part to enable a critical repair to be carried out becomes time sensitive when you do not have one in stock. You can keep inventory, but the costs of storage space can be large. Therefore it is valuable for many businesses to depend on 'just in time' deliveries.

Likewise even bulk building materials become time sensitive when they cannot easily be stored on a construction site, and project scheduling requires them to be delivered in a narrow time window.

We cannot say simply by examining the nature of a freight consignment whether it is time sensitive or not. It depends upon the situation of consignor and consignee.

Sources of freight time value

A survey can be carried out to measure the value of journey times for freight, but such studies are rare. There is really only one significant study in Britain, and it is now approaching 15 years old.

The survey by Fowkes gives a total value by aggregating the cost of vehicle, operatives and the freight itself. It is possible to calculate the contribution of the freight to this value by subtracting the vehicle and operator costs known from other sources.

But the survey is not mentioned in WebTAG, which typically only quotes parameters when there is a sufficient corpus of work to generate confidence in them. The study is also limited in scope in that it only addresses common bulk and mixed loads in heavy goods vehicles.

This leaves us with little knowledge of smaller vehicles, where perhaps the most valuable and time sensitive freight tends to be carried.

Nevertheless, if we take the survey at face value, it indicates that the time costs to freight itself are material, and notably highest for overnight freight.

Measuring difficulties

The main difficulty in calculating freight delay costs comes from the fact that many freight customers take account of the risk of late deliveries in their business design.

For example a fresh food outlet might make arrangements for its daily deliveries to be a couple of hours earlier than is strictly necessary, to make it unlikely that delays would prevent it from opening as usual each day. When recipients cannot make such arrangements, delivery services with a narrow delivery window can be bought.

So when freight carriers and customers are asked about the costs of delay, they tend to say they experience few costs (beyond vehicle and operator costs) within a broad tolerance band, because they have designed out the risk.

On the relatively rare occasion when delay goes beyond that tolerance band, costs may rapidly become large as production is delayed or sales lost.

The methods of Fowkes are



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↑ Adequate road space for freight is an ask JOE DUNCKLEY – SHUTTERSTOCK

designed to give an average cost per minute. But what that actually means when the costs are low most of the time and only occasionally high is unclear.

Another difficulty is that costs of delay to the vehicle itself and its operators lie with the freight carrier, but the impact of the delay to the freight itself lies with consignor or consignee. In addition, freight consignments are so diverse it is difficult to get meaningful averages.

These issues collectively make freight delay studies both hard to carry out and hard to interpret when you do. This is likely why Fowkes concentrated on a limited range of standard freight types, carried in larger heavy goods vehicles.

Long term value

I mentioned the arrangements that businesses make to cope with unreliability of freight services. This does not come for free. We can call these the longer term value of freight time.

It is hard to find out what the value of these costs are, as they are embedded in businesses and it may

be several years before companies respond to gradual changes in transport conditions.

Literature attempting to estimate these values finds a wide range of possible cost, up to 1.2 times the direct costs (operator and vehicle) of freight time. This is a very substantial omission. It probably varies by location – depending upon the speed and reliability of local roads – and larger figures are more plausible in congested cities.

Conclusion

Government guidance on appraisal does not provide for any value of time for freight itself, only the vehicle and its operatives. There is good reason to believe that both short and long term values of time to freight are large, so this omission is a major issue.

This may result in the value of road space to freight transport being systematically undervalued, with cost to the economy.

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