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DISCUSSION

## Measuring rural traffic flows in the United Kingdom

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I wish to give my wholehearted support to the comments and conclusions of the Authors. The present methods are excessively simple, and local authorities are discouraged from making more elaborate estimates by the reluctance of Department of the Environment engineers to accept any departure from officially published methods, particularly in respect of economic assessments. The proposals for measuring traffic flows need not necessarily entail more extensive data collection than the present methods—so long as more elaborate tables and formulae are made available and given official approval. It would be counter-productive to produce these locally because they must achieve official acceptance.

56. Seasonal variations are bound to change with time. Before there were motorways, additional summer traffic was in many cases forced to divert on to less important roads. The increase in the number of two-car families must similarly be having a significant effect.

57. The formula quoted in § 37 for estimating the annual traffic flow on the basis of the proportion of heavy and medium goods vehicles appeared in reference 29 and was based on the results of the National Trunk Road Traffic Census. It is perhaps reasonable to apply it to extremely heavily trafficked roads, and indeed there is some apparent logic in the method, but I do not accept that it is applicable to roads carrying fewer than 1500 heavy and medium goods vehicles per day. I have been concerned with rural roads carrying heavy commuter flows from outlying villages, on which the peak flows have been in November or December, with some of the lightest flows occurring in August, and with a low proportion of heavy vehicles. The application of this formula, or even the later variations, to such roads has given ludicrous results.

58. I would therefore suggest the following variables for consideration as possible indicators of seasonal variation on rural roads

- (a) width of road (two lane, three lane, four or more lanes)
- (b) traffic volume (light, medium, heavy, extra heavy)
- (c) ratio of peak hour flow/daily flow
- (d) volume of motor cars and so on (as an indicator of commuter flows)
- (e) ratio of Monday flow/Sunday flow (as an indicator of winter flows)
- (f) volume of caravans, boat trailers and so on (as an indicator of holiday traffic).

In the case of (d) and (f) it may well be that the percentage of vehicles, rather than the volume of such vehicles, would provide a more accurate estimate. The problem of holiday traffic is difficult, particularly within holiday areas.

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59. It would seem desirable to estimate the AADT of each vehicle type separately, for economic assessment purposes, because the economic benefits are not proportional to the p.c.u. factors. For example, public transport vehicles carry more passengers than their p.c.u. factor would suggest, heavy goods vehicles more goods, and so on.

### **Dr Howe and Mr Samarasinghe**

We should like to endorse Mr Bacon's plea for official approval of local initiatives in relation to estimates of traffic flows. It may be that motorways do in fact syphon off summer traffic that previously inflated flows on other roads and that this is a further factor explaining the change in seasonal variation with time which we drew attention to. The suggestion about the need for separate estimates of AADT for each vehicle class is sensible, particularly as so many design and planning specifications are now in terms either of the number of heavy commercial vehicles or the number of standard axles. To realize this aim in practice will necessitate the development of reliable equipment for classifying and recording traffic flows. Although as yet there is no such equipment the indications are that there soon will be—certainly by the time a better traffic monitoring system than the present one has been formulated.

### **Reference**

29. MINISTRY OF TRANSPORT. *The economic appraisal of inter-urban road improvement schemes*. Unpublished Memorandum T. 5/67, 1967.