

### IPLE President: give us more light

Basil Austin, the City of London's Chief Electrical and Mechanical Engineer, in his Presidential Address given at the Institution of Public Lighting Engineers' Diamond Jubilee Conference at York last month, called on the lighting community to convince the public, politicians and decision-makers of the need for good lighting in offices, factories and streets.

Lighting, he argued, is in real terms cheaper today than ever before, due to new energy-effective lighting products and systems, and road lighting gives one of the highest economic returns of all forms of lighting due to the large savings made from reductions in after-dark road accidents and crime. With a road accident occurring about every two minutes on roads in the U.K. and with a fatal accident now costing over £160 000, it ought to be a moral as well as a financial duty to make sure that our roads are well-lit and properly maintained throughout the hours of darkness. Good lighting, he said, can reduce after-dark road accidents by up to 60 per cent.

Mr Austin urged councils to spend more on providing new installations and replacing its old in the fight to prevent accidents and crime. If the present investment of only £17m. a year continues on average, equipment will have to last 53 years, which will be inefficient, unreliable and costly. He also strongly criticised the Department of Transport for only lighting one-quarter of the new 122-mile long M25 motorway, the world's largest urban by-pass. The Government, he said, have bowed to the environmentalists at the expense of road safety on what is expected to be one of the most heavily-trafficked roads in Europe.

# Safety in the deregulated bus industry

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## INTRODUCTION

The spur for the first investigation of the public regulation of omnibuses in the 1920s was concern for safety. This concern was due to two problems which had emerged in the competitive industry. First, road races had developed, in order to exploit lucrative queues of passengers, which had led to many accidents. Secondly, bad maintenance standards resulted as excess capacity in the industry reduced financial returns. The 1930 Traffic Act extended previous powers to deal with the latter problem, whilst the issue of monopoly route licences obviously removed the former problem. Both the 1980 Transport Act and the 1984 White Paper<sup>1</sup> actually

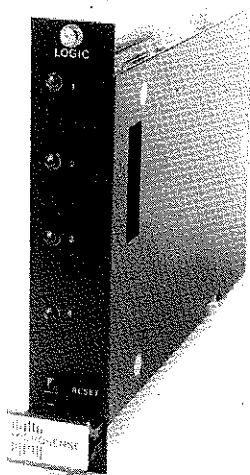
(or will) strengthen the regulation of the quality of operators, drivers and vehicles. Nevertheless, it is feared that the reintroduction of legalised competition 'on the road' between bus operators will result in increased danger both to bus passengers and other road-users. This paper considers firstly, the question of road safety; and secondly, how competition might affect the quality of operators.

## ROAD SAFETY

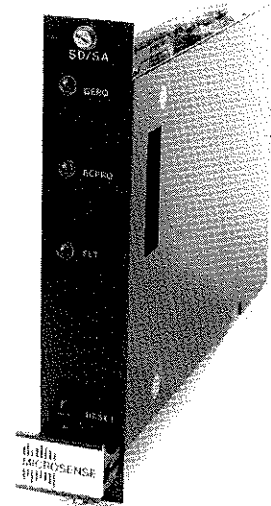
Observation of competitive practices in this industry indicates that in a deregulated market there is a strong tendency for polarisation of timings. In these circumstances firms will attempt to operate their buses just ahead of their rival's in order to obtain a higher share of the available traffic. As both operators will have the same objectives, a process of 'leapfrogging' or road races will result. Tactics which a firm could use to advantage include using buses to block a rival's bus-stop and driving in such a way as to prevent

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Table I. Results of maintenance study, Yorkshire Traffic Area, 1983

Fleet size	No. of operators	Total vehicles	Km per vehicle*	Prohibitions		Defect notices	Faults per 100 vehicles**	Faults per million vehicle-km**	
				Immediate	Delayed			Mean	Std Dev.
1	131	131	28 356	7	7	10	18.3	6.5	15.59
2	63	126	28 356	12	4	4	15.9	5.6	10.80
3	61	183	28 356	9	7	17	18.0	6.4	13.88
4	54	216	28 356	4	5	12	9.7	3.4	6.66
5	29	145	38 192	1	3	4	5.5	1.4	4.32
6-9	71	498	38 192	11	9	19	7.8	2.1	4.68
10-14	35	392	38 192	5	7	26	9.7	2.5	4.60
15-19	16	260	41 203	1	2	15	6.9	1.7	2.17
20-49	7	165	(†)	6	2	14	13.3	3.1	2.99
50+	11	4 114	(‡)	59	17	66	3.5	0.7	0.78

\* From *Transport Statistics 1968-78*, Department of Transport, London, 1979

\*\* Faults = prohibitions + defects

† 41 203 km for fleet size 20 to 24, 45 706 km for fleet size 25 to 49

‡ 46 946 km for independent operators, 47 215 km for Passenger Transport Executives, 41 660 km for municipal operators and 59 190 km for National Bus Company Subsidiaries

the opposition from overtaking. These problems have been observed in the limited amount of competition allowed under the 1980 Transport Act both in Cardiff, where there was a collision between rival buses (*Motor Transport*, 17 June 1981), and in Rugeley (*Motor Transport*, 1 June 1983). This will not only be a danger to the users of the competing bus services, but there may be increased danger to other road-users, e.g. as a result of 'double-banking' of buses at stops whilst passengers board and alight.

#### QUALITY OF OPERATORS

The issue is whether, if a competitive *régime* shifts stage operations from large to small- or medium-sized operators (an analysis of entrants to the industry since 1980 indicates that over 60 per cent of entrants have fleets of 6 to 19 vehicles), the safety records would be inherently inferior. This section attempts to analyse this by looking at two areas. The first is the number of accidents (taken as a measure of driver skill) and the second the quality of maintenance. A further area where competition could affect maintenance standards is if competition reduced financial returns to operators who would then be forced to make economies on maintenance. As fierce competition has not been witnessed since the 1920s, this point could not be investigated.

#### Accidents

Hunt<sup>2</sup> conducted a study of all Public Service Vehicle (PSV) accidents in the second half of 1977. Whilst primarily looking for differences in the accident rate between full- and part-time drivers, he concluded that on stage services, when differences in operating conditions were taken into account, there was no suggestion of any difference in accident rates between large publicly-owned bus companies and small independent ones.

#### Maintenance

The Traffic Commissioners monitor operators' maintenance by means of annual testing of vehicles and also spot checks made at operators' premises and at the roadside. If as a result of these checks any faults are found, the vehicle examiners can take the following actions:

(a) For a serious fault they issue a 'prohibition' which bars the vehicle from service until the fault is rectified to the satisfaction of the examiner. The prohibitions can either take effect immediately or, if the fault is found at the roadside, be delayed until the vehicle reaches its operating base.

(b) For minor faults a 'defect notice' is issued, which informs an operator of a fault but does not prohibit the vehicle from service.

Providing that vehicle inspections are undertaken at random, then an investigation of prohibitions and defect notices issued would be a good indication of the quality of maintenance of vehicles. Whilst it is likely that the vehicle examiners will tend to give more attention to firms with known maintenance problems, there is still a significant random element in the testing and thus the analysis will have some meaning.

The survey of the issue of prohibitions and defect notices was undertaken for all operators in the (former) Yorkshire Traffic Area for the calendar year 1983. The information collected was the number of prohibition and defect notices, tabulated according to operator fleet size, and also the distribution of all operators in the Traffic Area by vehicle fleet size. During the survey three points became apparent:

(1) The distribution of operators by fleet size in the (former) Yorkshire Traffic Area was similar to the national distribution, except that there were more larger operators (on account of the two Passenger Transport Executives operating in the area) and less medium-sized municipal operators than in other Traffic Areas.

(2) On some vehicle examinations both prohibitions and defect notices were issued. In these cases, only the prohibition has been recorded.

(3) The very large urban stage operators received some prohibitions as a result of road traffic accidents which do not reflect on the maintenance standards of the operator. However, due to the necessity of confidentiality (which meant that individual prohibitions could not be investigated) it was impossible to exclude these from the study.

The results of the analysis are shown in Table I. The number of faults (defined as prohibitions plus defects) per hundred vehicles is shown for each category of operator size. This has been further refined by calculating the number of faults per million vehicle-kilometres, by using national figures on average mileage per vehicle, listed by fleet size.

The figures indicate that a typical one-vehicle firm has over nine times as many faults per vehicle-kilometre as compared with a large operator, whilst a comparable figure for a 10 to 14-vehicle fleet operator is about 3.5 times as many as the large operator. What becomes clear is that there is a continual decline in the number of faults as fleet size increases. In general this decline is found to be statistically significant at the 95 per cent level, using difference-of-means techniques. Apart from the 20 to 49 fleet size group, where the small number of observations makes any deductions dubious, there was no statistically significant divergence from this downward trend.

Therefore, it would appear that in the event of a more competitive market structure, which would see small and medium-sized operators playing a greater role in the provision of stage services, there would be a need for greater vigilance on the part of regulators with regard to the 'quality' of vehicles and operators; in addition to taking strong action to stop unacceptable driving practices.

#### ACKNOWLEDGMENT

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- <sup>1</sup>DEPARTMENT OF TRANSPORT. *Buses*. Cmnd 9300, HMSO, London, 1984.
- <sup>2</sup>DEPARTMENT OF TRANSPORT. *Full-time/part-time PSV driver accident study: complete report*. HMSO, London, 1984.

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