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MINIBUS POOLING: THE ILFORD EXPERIMENT

by

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CONTENTS

	Page
Abstract	1
1. Introduction	1
2. The background to the experiment	1
3. The potential benefits of minibus pooling	2
4. Details of organisation and operation	3
4.1 Vehicle supply and licensing arrangements	3
4.2 The Travel Club	4
4.3 Service economics	5
4.4 The start of operations	6
5. The service users	6
6. Discussion	7
7. Summary	7
8. Acknowledgements	8
9. References	9

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MINIBUS POOLING: THE ILFORD EXPERIMENT

ABSTRACT

The first known example of a minibus pool in Great Britain is reported. This form of travel involves a group of workers using a minibus to get to and from work, sharing its full running costs between them. The experimental service carried a group of employees of Plessey Avionics and Communications, living in the Chelmsford area, to a factory in Ilford. In-vehicle journey lengths lay between 21 and 37 miles. The report describes events leading up to the experiment, and the way in which the minibus pool was set up and run. It notes that the requirement for bus service licensing was a major hurdle to overcome.

1. INTRODUCTION

One of the aims of the Transport Act 1980¹ was to promote greater efficiency in public transport provision by encouraging innovation. In the wake of the Act the Department of Transport has sought to stimulate experimentation with various novel forms of collective travel in order to establish the scope for their use. As part of these efforts the Transport and Road Research Laboratory (TRRL) is currently investigating the possibilities for minibus pooling (van pooling in American terminology) in Great Britain (GB).

Minibus pooling is a form of travel which evolved in the United States following the oil crisis of 1973–4 (see for example References 2 and 3). It involves a group of workers getting together to use a minibus to get to and from a common place of work, sharing its running costs (including depreciation and insurance) between them. One of the group drives the vehicle, in return for which he travels free. Picking-up and setting-down points are tailored to users' requirements.

An earlier TRRL report⁴ discussed the possibilities for minibus pooling in GB in general terms. This report, the second concerning the topic, describes the setting-up and initial operation of the first known British service. This was designed to carry a group of workers between their homes in the Chelmsford area of Essex and a large electronics factory at Ilford, on the eastern edge of London. The report was prepared in February 1982, approximately three months after the service commenced operating.

2. THE BACKGROUND TO THE EXPERIMENT

The Plessey factory in Ilford, Essex, produces electronic systems for the Avionics and Communications Division of the company. It is a large establishment, set in the middle of a residential area, which employs about 3,500 people. Employees are drawn from a wide surrounding area, including Chelmsford which is about 25 miles away (see Figure 1). Chelmsford itself is also a major centre of electronic engineering that houses a number of Plessey's major competitors. Transfer of staff between these companies and Plessey is known to have occurred.

No stage carriage buses ran to Ilford from Chelmsford. While there was a train service from Chelmsford and Hatfield Peveler, the Ilford station was about two-thirds of a mile from the Plessey establishment. In this absence of convenient public transport a group of Plessey employees living in the Chelmsford area joined together in 1979 to

see whether they could improve their means of making long journeys to work by organising some form of collective travel. In October of that year they persuaded a local coach operator to apply for a road service licence to run a service from Witham to Ilford, via Hatfield Peverel, Boreham, Chelmsford and Ingatestone (the route was more or less that shown between points 3 and 8 in Figure 1). They did so by canvassing interest in such a service and drawing up a list of about 30 Plessey employees claiming to be willing to use it.

A number of these people gave evidence on behalf of the coach operator at a Traffic Commissioners' hearing in January 1980, when objections to the grant of a licence by British Rail and three other bus and coach operators were heard. The Plessey company also sent a representative to support the application on the grounds that the proposed service would help them to retain a number of highly qualified staff engaged on work of national importance. Such evidence, together with the fact that other transport services in the area were inconvenient for journeys to the Plessey site, persuaded the Traffic Commissioners to grant the coach service an experimental licence for an eighteen-month period.

The service began operating in March 1980. Fares were charged on a weekly basis, and varied from £8 per week for journeys from Witham to £7 per week for journeys from Ingatestone. Not all the people originally expressing an intent to use the service did so, and loadings were initially about 15. They rose slowly to around 24 over the next few months and, as the service had been made available to the general public, two or three commuters from outside the Plessey company were eventually included in this number. However, by June the loading was still less than the operator's break-even requirement and so, with the summer coaching season imminent and other profitable work available for his vehicle, he chose to withdraw the service.

It was some six months later, at the end of 1980, that TRRL approached the group to see whether they would be interested in participating in a minibus pool experiment. Minibus use was another possibility that they had been contemplating in the interim, and they therefore agreed.

3. THE POTENTIAL BENEFITS OF MINIBUS POOLING

Despite their agreement to participate in the minibus experiment, initial discussions with the group indicated that they would have still preferred a coach service option had it been feasible. This was primarily because they foresaw that the arrangement would be easier to set up and administer. The first step taken by TRRL was therefore to reinvestigate possibilities for this alternative form of travel.

At the end of 1980 the group were still maintaining a list of about 25 potential coach users. Checks with Plessey management indicated that, given existing recruitment patterns, there was not much hope of increasing this number significantly by further canvassing within the company. Quotations for a contract coach service from local coach operators varied between £50 and £75 per day, so at the fare levels acceptable to the group, a maximum of £2 per day, a coach service would only have been able to operate on the borders of viability even if all potential users chose to use it: it would only have taken one or two to drop out for this viability to have been lost.

On the other hand TRRL calculations⁴ showed that, with fares of such a level, break-even minibus pooling was clearly possible. In light of such evidence Plessey Avionics and Communications were persuaded to assist in the organisation of the experimental minibus pool service at the beginning of 1981. Despite having a policy not to

become actively involved in staff transport provision, the company accepted that collaboration with TRRL in this particular project would help a group of highly-valued staff cope with long commuting journeys from an area containing rival employers.

4. DETAILS OF ORGANISATION AND OPERATION

4.1 *Vehicle supply and licensing arrangements*

The most convenient vehicle supplier for the Ilford service proved to be SPE (Vehicle Services) Ltd, a vehicle leasing subsidiary of the Plessey Company. The major part of this subsidiary's business was to supply the cars and other vehicles used by the various parts of the parent company, including the Avionics and Communications Division. The main site of SPE was about half a mile from the latter's Ilford factory.

In GB minibus pooling, using vehicles with more than eight passenger seats, falls within the ambit of bus service licensing. Reference 4 describes present licensing requirements fully, and indicates that for most minibus operations the following will be necessary:

- (i) a *public service vehicle operator's licence* to authorise the operation of one or more public service vehicles;
- (ii) a *road service licence* to authorise the operation of a specified service (this may not always be necessary⁴ but, when it is, has to be held by the holder of an operator's licence);
- (iii) a *Certificate of Initial Fitness* to authorise a particular minibus to be used as a public service vehicle;
- (iv) *public service vehicle driving licences* to authorise particular individuals to drive the minibus.

By agreeing to act as holder of the operator's and road service licences, SPE helped to overcome possibly the greatest hurdle facing prospective minibus poolers in GB. Given existing legislation such pooling may be difficult to organise unless the vehicle supplier or the group's employer is prepared to support them in this way (see Reference 4 for fuller discussion of this point). As SPE did not have the main occupation of operating public service vehicles adapted to carry more than eight passengers and was not intending to operate vehicles adapted to carry more than 16 passengers their operator's licence was of the restricted kind⁴.

Although SPE owned several Ford Transit minibuses as part of their existing fleet none were public service vehicles that could be used for the experiment. The company therefore deemed it appropriate to purchase a new one for this purpose. To accommodate all the workers likely to want to use the service, it appeared that this new vehicle should incorporate more than the usual 12 passenger seats. During discussions with TRRL on the question of model choice both SPE and the Plessey worker group expressed the view that the production version of the long-wheelbase Ford Transit, with 14 passenger seats, was ideally suited to their respective requirements. Not only did it offer some additional capacity, but could also be readily absorbed into the conventional SPE fleet in the event of the experiment failing. The production version of this particular vehicle does not meet existing public service vehicle specifications, and requires major modification to enable it to do so. However in view of its suitability and the experimental nature of the Plessey service, the Department of Transport was prepared to grant a dispensation order

under Schedule 5, Part 1, Section 3(1) of the 1980 Transport Act to enable the vehicle shown in Plate 1 to be used. While this vehicle did not conform with normal public service vehicle standards, it was modified to meet the lesser Minibus Act requirements*.

To enable them to take public service vehicle driving tests, TRRL provided three members of the Plessey worker group with several hours training from a qualified driving instructor and a week's joint use of a minibus for practice purposes prior to the start of the experiment. The tests which they took were for Category 4 vehicles, up to 17.5 feet in length. The test format for this particular category of vehicle is similar to that of the usual car driving test, but incorporates several additional manoeuvres and knowledge tests, and requires a somewhat higher level of performance to be attained. One of the three volunteers passed the test at the first attempt while another passed at the second. Two drivers were reckoned to be sufficient to initiate the experiment, but the intention was to get several more qualified once the SPE vehicle became available. During the week in which a vehicle was supplied by TRRL, the group were also able to try out dummy service runs to check operational arrangements.

Licensing was one of the major aspects on which TRRL was able to provide advice and assistance. Even matters that a professional transport operator might take for granted, such as which licences were necessary, where application forms could be obtained and how they should be filled in will be beyond the knowledge of most employers and their employees. By chance the organisation of the Ilford service involved three different Traffic Area Offices (the operator's licence being obtained from one, the certificate of initial fitness from another, and the road service and driving licences from a third). The timescale for obtaining such licences is at best several months, and can be extended by requirements that an unexperienced applicant may overlook. For example, because the original road service licence application did not state explicitly that operation was solely for the purpose of conveying Plessey employees to the Ilford establishment, a local stage operator deemed it necessary to lodge a holding objection to it pending written confirmation that there was to be no localised carriage of passengers over one particular route section. It also proved necessary to resubmit the road service licence application, because it was originally made in the name of the Plessey Company rather than SPE (Vehicle Services) Ltd, who were eventually to hold the operator's licence. While between them TRRL and the various other parties involved in the Ilford experiment were able to keep track of progress of the various licence applications, a considerable amount of telephoning and letter-writing was involved. It was clear that without TRRL assistance these other parties would have found the licensing requirement a daunting obstacle to overcome. In addition, without the vehicle licensing dispensation that TRRL was able to negotiate with the Department of Transport, SPE (Vehicle Services) Ltd would have been compelled to use a vehicle which in their eyes was less suitable and, probably, considerably more expensive than that actually employed.

4.2 *The Travel Club*

From the list of potential coach users maintained by the group it was initially possible to identify thirteen certain minibus users. Several non-Plessey workers on the list could not be considered for inclusion in this number as the intention was to insure the service by extending the company's general employer liability cover (see Section 4.3). In order to administer the operation of the service this pool of thirteen formed themselves into a Travel Club with an elected Committee of Chairman, Treasurer, Secretary and two others. This Committee's purpose was not only to oversee the day-to-day running and financing of the service but to decide on operating rules, such as what was to happen about fare payments when individuals were unable to travel due to illness or other reasons.

* Some of the more stringent public service vehicle specifications are waived for minibuses used in the course of fare-paying operations for social and welfare purposes. These exemptions were first laid down in the Minibus Act of 1977⁵.

4.3 Service economics

The economic arrangements set up for the operation of the service were as follows. SPE (Vehicle Services) Ltd leased the minibus to the Plessey Avionics and Communications Division on the basis of a three-year contract. The monthly charge of £330, which was fixed for an annual mileage of up to 25,000, covered the costs of depreciation, maintenance and road fund tax, as well as VAT. Fees for the various public service vehicle and road service licences referred to in Section 4.1 were also initially met by the Avionics and Communications Division. The Division then arranged to recover both the leasing charges and the licence fees from the fare payments made by the minibus passengers. These fare payments were also designed to be sufficient to cover the costs of fuel, which was purchased directly by the pool as and when it was required. A full breakdown of all the service operating costs is given in Table 1.

TABLE 1
Service operating costs (December 1981)

Item	Monthly cost (£)
Vehicle leasing charge (covering depreciation, maintenance, road fund tax and VAT)	330.0
Insurance (extension of employer's liability cover costing £185 per annum)	15.4
Licences:	
(i) public service vehicle operator's licence (£210 for five years);	3.5
(ii) Certificate of Initial Fitness (one-off payment of £35);	0.6
(iii) road service licence (£60 for five years)	1.0
Fuel (assuming a cost of £1.65 per gallon, fuel consumption of 20 miles per gallon, 75 miles per day and 21 days per month)	129.9
Total	480.4

Several points relevant to Table 1 are worthy of mention. The leasing charge relates to a minibus initially costing £7596. It covers the cost of obtaining the capital required for purchase from a merchant bank, and a depreciation rate of approximately 70 per cent over three years. Allowance for maintenance (both servicing and repair) is made at a rate of 3.5 pence per mile. This is substantially less than the figure (of approximately 11 pence per mile) employed in Reference 4, and obtained from Reference 6. Part of the difference is likely to stem from the fact that the SPE figure relates to a new vehicle. The leasing charge includes an allowance of 10 per cent to cover SPE overhead costs, but does not include an element of profit. To facilitate the experiment the SPE agreement with Plessey Avionics and Communications waived their usual requirements for an initial 3-month down payment on the lease and premature termination penalties. Arrangements were made with the Metropolitan Traffic Area to pay the £210 fee for the public service vehicle operator's licence in two instalments.

The fare payments required to cover the costs listed in Table 1 depend on the number of passengers carried. For an average of 12, the necessary charge is £1.91 per day, while for a full vehicle (ie 14 passengers) it comes down to £1.63 per day. In practice it was decided that the Travel Club Committee should set fares, bearing in mind the need to build-up or maintain a cash reserve, and to keep them under review in light of possible changes of circumstance, for example petrol price increases. Given the average journey length made on the Plessey service (between 25 and 30 miles) these break-even fares are broadly in line with those originally estimated in Reference 4.

4.4 *The start of operations*

The minibus began operating in November 1981 over the route shown in Figure 1, carrying the thirteen Travel Club members. It usually ran from one of the villages to the north-east of Chelmsford, Tolleshunt Major, and picked up passengers at Great Totham, Hatfield Peverel, Boreham and three points in Chelmsford on its way to Ilford. Total vehicle journey time was approximately one and a quarter hours one way, and individual poolers travelled between 21 and 37 miles. The latter implied that on average fares were equivalent to about 3.4 pence per mile.

Programmed vehicle maintenance was carried out by SPE (Vehicle Services) Ltd at Ilford during the working day, so that the minibus was always available to the group at the necessary travel times. To cover the eventuality of breakdown it was enrolled in a vehicle recovery scheme.

Arrangements were made to pay fares by means of a deduction from salary, to cover leasing charges, insurance and licences, and a contribution to a fund held by the Travel Club's Treasurer, to cover the cost of petrol and an allowance for contingencies (eg individuals dropping out of the arrangement).

At the end of the first three months' operation all the original Travel Club members were continuing to use the minibus service. This was in spite of the extreme weather conditions of the 1981/2 winter which served to test their commitment to it severely. No serious attempts had been made to fill the remaining two seats in the vehicle, although a number of preliminary inquiries had been received from other prospective users. One contributory reason for this was the feeling of some Travel Club members that they preferred to pay a somewhat higher fare to retain additional space in the vehicle, in spite of the fact that it proved to be exceptional for all 13 users to travel on the same day.

5. THE SERVICE USERS

The minibus users, who were all male, came from various departments of Plessey Avionics and Communications, working in the drawing office, as accountants or administrators, or for various electronic engineering divisions.

Most were able to walk to their appointed minibus pick-up points, taking up to 10 minutes to do so. Another was required to make a 20-minute journey by bus and two who lived in the Colchester area (see Figure 1) drove together to the village of Hatfield Peverel where they left their car during the day.

All but two of the minibus users had previously travelled to work by car, either as solo car drivers, car poolers*, car drivers with passengers or car passengers. The service therefore probably removed four cars from major roads at peak times. The remaining two users had previously travelled by train. The ex-train-users saw the minibus as being a cheaper, more reliable and generally quicker means of travel, with cost savings of £25-£30 per month being mentioned. Ex-solo-car-drivers also saw it to be cheaper by roughly similar amounts, but reported that one way journey times were longer by up to 25 minutes. Ex-car-poolers and ex-drivers-with-passengers seemed to regard it

* Two or more people travelling together taking it in turns to drive their own car and give a lift to the other(s).

both as a more expensive and slower means of travel, quoting additional costs of up to £10 per month and increased journey times of up to 15 minutes one-way. However, to offset this, they generally liked being driven to work and having no worries about the reliability of their own cars. When asked about possible disadvantages of minibus use members of all four groups also mentioned reduced journey-timing flexibility. For the remaining group, previously travelling as car passengers, the minibus was a slightly more expensive form of travel, but offered a guaranteed journey every day. In the final analysis however such observations merely serve to highlight some of the trade-offs that must be made in travel decision-making. Actual behaviour showed that the advantages of minibus pooling were sufficient to draw members of the Plessey group from all four previous means of travel.

Discussions with some members of the group also indicated that they were attracted to minibus pooling by virtue of the fact that it fixed the major part of their travel costs for a period of up to three years. The only component of cost that was likely to rise was that of fuel, and this constituted only about a quarter of the total (see Table 1).

6. DISCUSSION

The Ilford experiment suggests that minibus pooling can be an attractive means of travel for relatively small groups of workers with long distances to commute, and may cater for journeys for which conventional public transport cannot effectively provide. Equally it shows that the present requirement for conventional bus licensing is a daunting obstacle for potential users. The bus licensing system is difficult for the man-in-the-street both to comprehend and tackle.

Prior to the experiment the Plessey group had been seeking a means of collective travel for some time. At first sight a contract coach seemed a possibility, but closer investigation revealed that it was not a viable proposition given the numbers involved. While they were subsequently persuaded that minibus pooling was the better option, it is doubtful whether the group could have set up a legal scheme without involvement of TRRL to advise on licensing matters or Plessey Avionics and Communications to help set up suitable vehicle-provision and licence-holding arrangements.

In the United States, where it has already made a considerable impact, minibus pooling has been removed from the ambit of bus licensing in most states. Before the usefulness of similar regulatory changes in GB can be considered it is necessary to gain a wider understanding of the performance of minibus pooling in this country: this cannot be provided by the Ilford experiment alone. Accordingly future TRRL studies of minibus pools will aim to assess their operations under a range of circumstances to help determine future policies toward them.

7. SUMMARY

This report may be summarised as follows:

1. The first known example of a minibus pool in Great Britain has been reported. It carries a group of employees of Plessey Avionics and Communications, living in the Chelmsford area and working in Ilford, to and from work. The experimental service was set up jointly by the group, Plessey Avionics and Communications and TRRL. It commenced operating in November 1981.

2. The group member who drives the minibus travels free, while the remainder share its full running costs between them. A Travel Club has been formed by the group to take decisions concerning fare collection, who drives on particular days, and what happens when individuals are unable to travel.
3. The minibus is supplied by SPE (Vehicle Services) Ltd, a vehicle leasing subsidiary of the Plessey Company at a commercial rate. The maintenance of the vehicle, which is also fully covered by fare payments, is carried out at the Ilford end of the journey during working hours.
4. By February 1982 the service carried 12 fare-paying passengers, in addition to the driver. The fare paid by each was £1.91 per day to cover journey lengths lying between 21 and 37 miles (ie an average of about 3.4 pence per mile). For a full load, of 14 fare-paying passengers, the necessary fare charge would have been £1.63 per day.
5. The service users, who were all male, came from various departments of Plessey Avionics and Communications, working in the drawing office, as accountants or administrators, or for various electronics engineering divisions. Most were able to walk to their appointed pick-up points, but a few were required to use a bus or car.
6. All but two of the minibus users had previously travelled to work by car, either as solo car drivers, car poolers, car drivers with passengers or car passengers. The remaining two had travelled by train.
7. The service required full bus licensing, and this was one of the aspects where TRRL was able to provide advice and assistance. PSV operator and road service licences were held by the vehicle-leasing subsidiary, SPE (Vehicle Services) Ltd, and two members of the group obtained PSV driving licences prior to the start of operations. To provide adequate driving cover several other group members also intended to obtain PSV driving licences.
8. The Ilford experiment suggests that minibus pooling may be an attractive means of travel for relatively small groups of workers with long distances to commute, and may cater for journeys for which conventional public transport cannot effectively provide. Equally it has shown that bus licensing requirements are a daunting obstacle for potential users. The bus licensing system is difficult for the man-in-the-street both to comprehend and tackle.
9. TRRL hopes to help organise a series of minibus pooling experiments, with the aim of establishing the potential of this form of travel in Great Britain, and whether or not there is a case for amending legislation to facilitate its use.

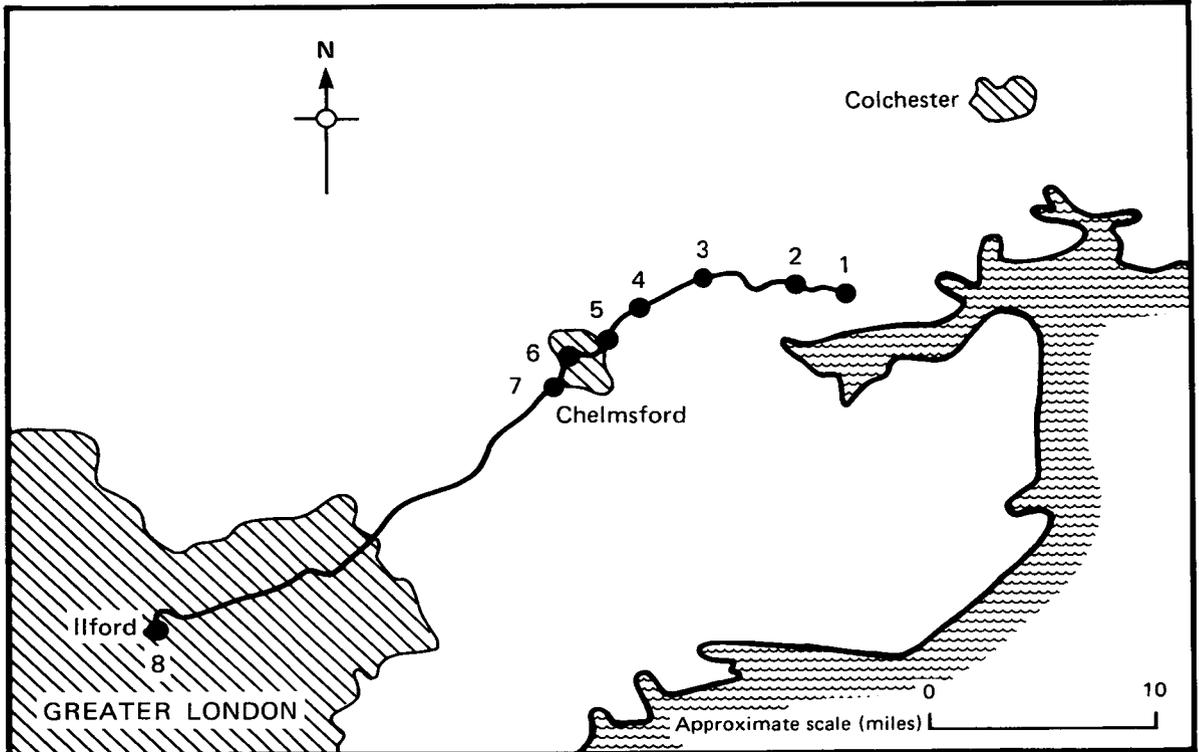
8. ACKNOWLEDGEMENTS

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TRRL wish to thank the minibus pool users, Plessey Avionics and Communications and SPE (Vehicle Services) Ltd for their participation in the Ilford experiment.

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- | | |
|--------------------|-------------------|
| 1 Tolleshunt Major | 4 Boreham |
| 2 Great Totham | 5,6,7 Chelmsford |
| 3 Hatfield Peverel | 8 Plessey, Ilford |

Fig.1 Schematic diagram of minibus route



Plate 1 The Ilford service minibus

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