

**NEW THINKING ABOUT THE CAR:  
ALTERNATIVES TO INDIVIDUAL OWNERSHIP**

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## 1. The Car: benefits for some; problems for all

Kerouac's classic novel "On the Road" encapsulated the faith of a whole generation in the car as the key to personal freedom and adventure. Most of us pay a high price for this illusion.

Widespread car ownership (61% of all households) and car use (81% of all motorised passenger miles) have brought the community problems which are now familiar to us all - probably too familiar.

1. danger and accidents on the roads,
2. noise, pollution and environmental intrusion,
3. road congestion,
4. reduced attractiveness of walking, cycling, public transport,
5. excessive parking demands, particularly in towns and cities,
6. use of and dependence on oil.

Unfortunately the debate on what should be done has polarised between pro-car and anti-car viewpoints. This is a pity, because such polarisation inhibits the constructive approach of finding a role for the car that is compatible with other aspects of life.

At least three assumptions about the car need to be challenged.

1. Everyone wants to own a car.
2. Everyone wants to drive, and to forego all other modes.
3. Car ownership - and even car use - are outside the remit of policy.

Progress could be made if these "sacred cows" could be dispensed with.

Not all of the problems associated with the car are inherent in the car itself, but are a product of the way it is at present paid for, used and owned. A major paradox in urban transport is the existence on the one hand of excessive traffic (both moving and parked) and on the other hand of inefficient use of cars, and many people with serious mobility deprivation. The car is popular, but is not without its problems.

Let us consider the private disadvantages of the car:

1. available only to those able or inclined to pay for it,
2. available only to those who can drive or who can persuade a driver to chauffeur them,
3. high average costs per mile,
4. sometimes difficult to park and to use in heavy traffic,
5. can be burdensome to its owner in terms of maintenance, repairs and administration.

With the present system of individual or household car ownership, the private disadvantages can be only partly overcome by extending the availability of cars (eg to those on low incomes). The social disadvantages can only be reduced by drastic restructuring of towns and cities or by limiting car use. The difficulties of tackling these problems are well known.

With car ownership continuing to rise, eventually - according to

official predictions- to as much as 50% above present levels, and with towns and cities already dominated by parked and moving cars, prospects for the urban environment look bleak. Also, since there is no possibility of converting our towns and cities to suit a fully motorised way of life, the quality of service offered by the car will continue to deteriorate.

## **2. Shared Car Fleets: an alternative approach.**

An alternative to individual car ownership which could radically alter the role of the car, is the provision of Shared Car Fleets (SCF). Although not an entirely new concept in transport, it has yet to be properly tested, certainly in this country. The apparently intractable problem of accommodating the car in urban areas, however, is a continuing stimulus to the SCF idea, whilst the availability of new information technology offers the potential to ensure its feasibility. It is important to distinguish the concept from 'car sharing' (or 'car pooling' in US terminology) which relates to shared rides in individually-owned cars: the SCF concept relates to individual access to cars in shared or group ownership. The innovative element is the application of shared car fleets in residential neighbourhoods as an alternative or supplement to individual car ownership.

An important feature is that, unlike ridesharing, SCF schemes do not depend on users knowing one another (let alone liking one another!), nor do they involve the difficult business of matching trip ends and times.

There are many possible forms of SCF, and eight different ones that have been or are being tried are described later in this paper. The basic concept, however, is that drivers belong to some form of club which provides a fleet of cars, and have ready access to any of the vehicles in that fleet. The SCF concept may be seen as an extension of the company "pool car" idea into the residential community, or alternatively as a more flexible form of local car rental. The SCF can lead to a radical change in the way cars are paid for and used, which should increase the efficiency of the car, while at the same time reducing the problems it creates.

We now look at three major issues which influence the role of the car in modern transport and which the Shared Car Fleet concept addresses.

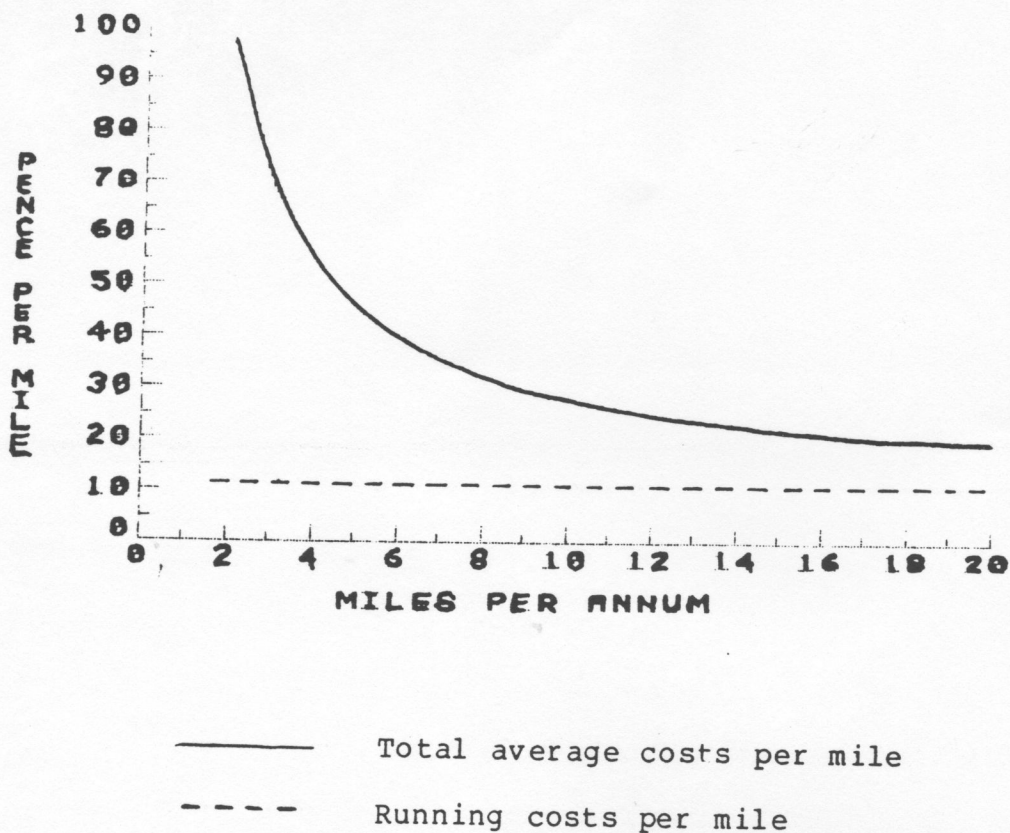
### **a. Paying for the car**

Present methods of payment for ownership and use (large lump sums, apart from petrol and oil), create a direct financial incentive for owners to undertake as many of their journeys as possible by car. A car owner cannot substantially reduce the costs of car ownership by making less use of his car, because the lump sums are mostly unavoidable.

This is illustrated in Fig.1 which shows the costs per mile of owning and running a typical family car. The larger the annual mileage, the cheaper becomes the average cost per mile. If, in an attempt to save money, an owner reduces his or her annual mileage from 7,500 to 5,000, 33% of the car's utility is foregone, but only 12.5% of the costs are avoided. Thus the so-called "standing

charges" should be seen as "unavoidable costs". Unless very high mileages are driven, running costs are nearly always less than half (and for many motorists much less than half) the total costs of owning and using a car.

Fig 1. AVERAGE CAR COSTS AND ANNUAL MILEAGE



Source: RAC statistics for 1100-1300cc cars, 1985 prices

Research into perception of car costs<sup>1</sup> tells us that motorists tend to underestimate the cost of car travel, largely because they ignore depreciation costs. The "perceived" costs of motoring are well below the true average costs. The problem, however, may be no so much underperception but nonperception of costs. The average cost per mile of running a car is not simple to calculate, and most people will take the trouble only if there is some purpose to it. It has been found, for example, that those with company cars have a much poorer perception of the true costs than do those who are self employed and need to keep a tally of total car expenses to set against tax. Where there is no question of changing any particular travel decision, there is little incentive to discover the true costs of individual trips.

Furthermore, since standing charges cannot be avoided (except by giving up car ownership altogether), there is little point in taking these into account when deciding whether or not to use the car for a particular journey. (This is seen when friends travel together in the same car: they may share petrol costs, but rarely any other costs).

As a consequence, car travel is perceived as being much cheaper than it really is, thus exaggerating its apparent attractiveness relative to public transport and other modes of travel. <sup>2</sup>

The problem, therefore, is not how to improve people's perception of car costs, but to provide them with an incentive to take these costs into account when deciding how to travel. With Shared Car Fleets the user is charged according to use (eg. mileage, time, fuel) and this solves simultaneously the problem of perception and the problem of unavoidable standing charges. In this way the SCF removes two major factors which encourage car use.

As with taxi hire and (to a lesser extent) car rental, an SCF gives people the choice of "drive less, pay less" which is virtually absent from individual car ownership.

Although the impact on travel demand cannot readily be predicted, the expectation is that demand will be sensitive to SCF price changes, and at similar overall costs will produce a reduction in demand.

#### b. Motives for car ownership

A distinction must be drawn between ownership of a car as a means of acquiring constant access to a car, and ownership of a car as an end in itself (eg. for status reasons). Currently this distinction is blurred since people satisfy both desires when they buy a car. We will not know what proportion of motorists will willingly give up owning cars until alternative access to cars is provided, for example through Shared Car Fleets, but there is some interesting evidence available.

A survey of attitudes towards the car <sup>3</sup> amongst a sample of adults in London put into perspective the view commonly expressed that people will not give up car ownership because of their emotional attachment to the car itself. Overall, when car owners had to choose between seeing their car as something they positively enjoyed and took a "pride" in owning, or as something whose value was simply that of a means of travel, just over half chose the latter "utility" option.

It is often assumed that ownership of a car is important for reasons of personal status or ego. While for some status may be important, SCF schemes in other countries have already demonstrated that others have been willing to forego car ownership in favour of the benefits which SCF provides. In any case, certain facts are difficult to reconcile with the notion that car ownership is a totally satisfying experience. For example, major SCF schemes have been successful in affluent communities in Sweden and the USA. Nearly half of privately owned cars in the UK are more than 6 years old. <sup>4</sup> At an average of 15% of the household budget, private motoring is not cheap, and there is some evidence that private car sales (as opposed to company car sales) have declined in the face of rising car prices. <sup>5</sup>

The notion of reluctant or "unwanted" car ownership has been described by Plowden <sup>6</sup>. He says "the poverty of the available options often forces people to choose in a way which is contrary even to their own wishes" (p21). While "unwanted car ownership" is

a very real phenomenon, it is difficult to measure. Table 1 (from the survey referred to above <sup>3</sup>) shows groupings of people which may include reluctant car owners, but it should be noted that they are not exclusive groups.

**TABLE 1. EXTENT OF "UNWANTED CAR OWNERSHIP"**

	SIZE OF GROUP IN SAMPLE	% OF CAR OWNERS IN SAMPLE
1) THE ELDERLY (56+)	59	16%
2) PEOPLE WHO DRIVE FREQUENTLY BUT WHO FIND CAR OWNERSHIP FINANCIALLY DIFFICULT	190	53%
3) THOSE WHO DRIVE TO WORK AND FIND PUBLIC TRANSPORT INCONVENIENT	113	31%
4) THOSE WHO EITHER USE PUBLIC TRANSPORT A LOT OR WHO DRIVE INFREQUENTLY	109	30%
5) THOSE SUFFERING FROM A LACK OF PARKING SPACE NEAR THEIR HOME	135	38%

#### c. Redundancy in the car stock

The present system of car ownership (on an individual or household basis) apart from excluding a substantial section of the population from the benefits of cars, leads to a very low utilisation of vehicles. The average family car is driven for less than 5% of its life, and 20% of family cars do less than 4000 miles per annum, costing their owners over 50 pence per mile (1985 prices) <sup>7</sup>.

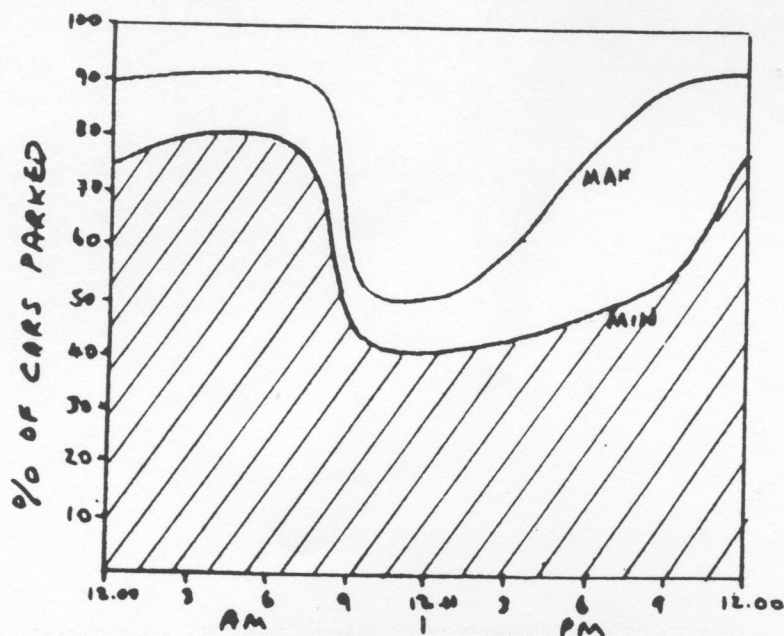
Perhaps a better measure of car use is the time the car is away from home. (A car parked at the shops or at the workplace may be regarded as a "stored utility" for the journey home.) Redundancy in the car stock is that time spent by cars at the home base.


Surveys by the author <sup>8</sup> of two streets (one in inner London, one in outer London) have found a minimum total redundancy of 62% (higher total redundancy on certain days of the week), and a minimum of 40% of residents' cars parked outside the home at any one time. The aggregated results are shown in Fig. 2.

Dix, Carpenter et al have also investigated car use patterns by life-cycle groups (rather than by area). Table 2 is derived from their work and shows marked variations in redundancy, but at no time and in no group in their sample was redundancy less than 30%.

The SCF concept rests on the ability to reduce car redundancy by reducing the total stock of cars in domestic use. Reductions in car travel resulting from the SCF payment regime will further enhance the ability to reduce the total stock of cars.

Fig. 2 USE PATTERN OF PRIVATE CAR FLEETS IN 2 STREETS  
(INNER AND OUTER LONDON)



 Redundancy in the car fleet

Source: Surveys by Pharoah and Yerworth 1978-1985

TABLE 2. CAR USE PATTERNS BY STAGE IN LIFE CYCLE OF HOUSEHOLDS

GROUP	DESCRIPTION	MINIMUM %AGE OF CARS PARKED AT HOME
A	Young adults, no children	33
B	Adults with pre-school children only	45
C	Adults with pre-school and older children	40
D	Adults with primary school children	30
E	Adults with secondary school age children	
F	Families of adults, all of working age	
G	Adults without children, of working age	33
H	Elderly persons	70

Derived from Dix, Carpenter et al, "Car Use: A Social and Economic Study", Gower, 1983. (Note. The figures were interpolated from diagrams and are not therefore to be taken as precise)

### 3. The Objectives of Shared Car Fleets

The objectives of shared car fleets can be summarised under four headings:

- a. To reduce the total stock of cars owned
  - inhibit the trend towards multiple car ownership
  - improve the productivity of cars in private use
  - ease parking in residential areas
  - aid conservation of urban form
  - improve visual amenity
  - more space for other purposes (eg childrens play)
  - improve safety in residential areas
- b. Extend car ownership to those at present unable to afford it
- c. Reduce problems of individual car ownership
  - cost, (particularly large lump sums)
  - maintenance, cleaning and repairs
  - avoid need for individual car space for each dwelling
  - only pay for the mileage driven, or the time away from home (opportunity to drive less, pay less)
- d. Encourage more sparing use of the car
  - reduce accidents and danger
  - improve public transport patronage
  - increase attractiveness of walking and cycling
  - reduce congestion
  - encourage higher occupancey rates for car travel
  - reduce environmental intrusion of traffic
  - reduce energy consumption

In short, shared car fleets change the relationship between car ownership and use, so as to reduce both without significantly reducing the benefits of either.

### 4. Proposed Neighbourhood Shared Car Fleet for London

A research project at the South Bank Polytechnic explored the potential of a particular form of shared cars designed to overcome most of the limitations of other schemes that have been put



forward. The intention was to mount a demonstration scheme in Richmond, with the cooperation of the Borough Council. More than twenty people in two streets wanted to become the first members but finance was not available to start the scheme.

In this scheme people in the selected locality would be able to join a "club" providing access to any one of a pool of vehicles kept in the locality itself. These vehicles would be available 24 hours a day without the need for booking, and paid for on a mileage rate. They would provide an alternative to individual car ownership.

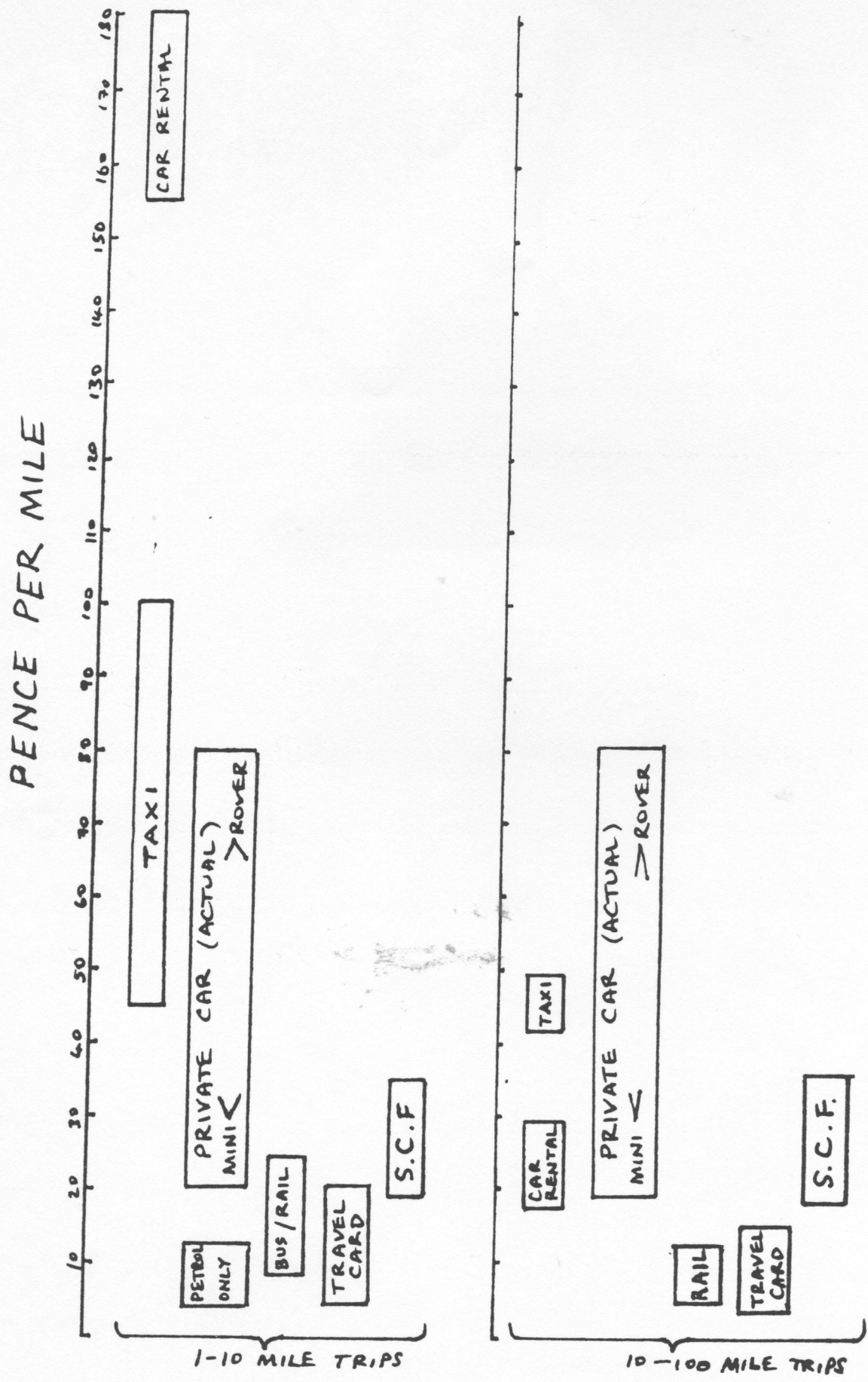
The scheme used a meter technology designed to overcome problems associated with other shared car schemes. The major benefit is the avoidance of booking. Booking requires staff 16-24 hours a day, substantially raising overhead costs and thus setting a large minimum size of scheme for economic viability. The other alternative to booking and meters, namely ad hoc cooperation between members, requires considerable voluntary effort, and complexity tends to dictate a rather small maximum size of scheme. Meter-based schemes may be as large or small as circumstances require, without any major cost or complexity penalties.

The meter specified for the London experiment is called a Travel Cost Recorder (TCR). The TCR is a microprocessor controlled billing meter for motor vehicles. It computes the cost of individual journeys and allows this information to be continuously displayed, and recorded for the purpose of billing. Essentially it is a means whereby car use can be charged on a "pay-as-you-drive" basis. Accumulated costs for each user are stored on a removable "key counter" which also enables the user to gain access to any number of vehicles or vehicle types. Payments for vehicle use can be made away from the vehicle, eg at garages or local offices.

Subscription charges would be small and the main payments for the use of the cars would be on the basis of mileage (and possibly fuel consumption and time) measured by the TCR. This is of fundamental importance because it means that the user would pay more nearly the average cost rather than the marginal cost of his or her journeys. There would be no difference between perceived and actual costs since the latter would always be displayed on the key counter. This "pay as you drive" system would enable members to compare real journey costs thereby encouraging the use of other modes including public transport for a greater proportion of their journeys.

An example of the relative costs of different modes is shown in Fig. 3, based on a survey of 1985 prices in London. From this it can be seen that SCF cars are likely to be cheaper than taxis and car rental for short to medium distances. For long distance trips car rental is more competitive, though public transport remains cheaper. SCF cars may also be cheaper per mile than individually owned cars, but this depends heavily on the annual mileage driven and the type of car owned.

Fig. 3 COMPARATIVE TRANSPORT COSTS, LONDON 1985



## 5. SCF Schemes in the U.K. and Abroad

A summary is given at Appendix 2

### FRANCE- SOCIETE PROCOTIP

The Procotip scheme introduced in Montpellier, France, in 1971. It has been described as "a kind of self-drive hire service" providing a pool of cars in the town for any driver who subscribed to the club. "By 1972 members of the cooperative had the use of thirty seven bright blue Simca 1000's.... On an assumption that one car in cooperative use would replace fifteen to twenty privately owned ones, Philippe Leblond (designer of the scheme) calculated that a fleet of 600 cars would be able to sweep 12,000 cars off the streets of Montpellier and thus eliminate the acute congestion found there".<sup>9</sup>

Users received a key which opened all the cars in the scheme. The key had a user identification number which was recorded by a dashboard meter when the car was started. The meters accepted plastic tokens, pre-purchased by the user, which were then 'consumed' in proportion to the length of time the engine was running. The cars were kept in specially designated groups of 3 or 4 parking bays spread throughout the town.

The Procotip scheme foundered for a number of reasons including lack of financial support to bring the scheme to a sufficiently large size, and difficulties of preventing illegal use of the designated parking bays. Also the pre-microchip meters were clumsy and difficult to maintain. In addition the scheme was over-ambitious in terms of the expected reduction in the number of cars in the town. The scheme attempted to tackle the 95% redundancy of cars based on driving time only- i.e. 600 cars utilised all the time will satisfy the same demand as 12000 cars driven 5% of the time. Although theoretically desirable, this was impractical because the cars could be picked up or left anywhere in the town, which meant that users could never be sure of finding one near their home. Thirdly, a lot of operational backup was required, for example to keep the cars refuelled.

### JAPAN- TOWN SPIDER

The Town Spider is a public-use rent-a-car system developed by Toyota for use in dense city areas. It uses 2-passenger cars operating from a network of parking lots. Time charges and other data are transmitted automatically to a central control computer through a radio transmitter/receiver installed in each car. Carrying only digital data, efficient use is made of scarce radio frequencies. The driver activates the car by inserting a magnetically encoded membership card into an electronic card reader linked to the radio. Spiders are oriented toward eventual use of battery powered engines.

A scheme similar to the Town Spider has been planned in the Netherlands. The City Shopper scheme will use 2-passenger cars which will be accessed by a "data key" and, like the Town Spider, data collection and user billing is achieved via data radio links between the cars and a central computer. The cars are meant for high utilisation (20-30 trips per day) on short inner city trips.

Both the Town Spider and City Shopper schemes are similar in basic concept to the Procotip experiment, serving a large area from designated parking spaces. Such schemes have an inherent problem of ensuring an adequate distribution of vehicles.

#### **NETHERLANDS- WITKARS**

The Witkar, a small two-seater electric car, was introduced to the streets of central Amsterdam in 1974. The basic goal of its designer, Luud Schimmelpennink, was to reduce the volume of cars - both moving and parked - by providing transport for those trips not served by conventional public transport but with less damage to the environment than the traditional car.

Any of the 35 cars could be hired from one of six stations within the central three square kilometers of Amsterdam, and users were charged until the car was deposited at the same or another station. Each station was linked to a central computer which calculated the cost for each user and debited this amount from the user's account at the Amsterdam Savings Bank. The computer also collected data on car use and provided instant information on parking availability at the user's destination. Witkar batteries were automatically recharged by overhead gantries at the stations.

Like Procotip, the Witkar organisation was a cooperative society and working parties of volunteers looked after administration, maintenance, publicity and (initially) manning the stations. Membership of the coop cost Dfl 25 (about 5). At its height, Witkar had 3400 members. To hire a car members had to pay a further Dfl 25 for a personal magnetically encoded key (like a credit card) to be inserted in the car during operation.

The system operated until 1981 and managed to overcome early operating problems. Its main fault was the restricted area of service. It catered for short trips for which the main competitor was walking, so it was never likely to reduce congestion.

#### **SWEDEN- SAMBIL**

Vasteras Shared Car Users (SAMBIL) is an independent non-profit organisation which enables car-owning households to hire out their cars to non-car owning households. Introduced in 1980, the scheme had achieved a membership of 100 households by 1984. The basis for the cooperation is written into an agreement for joint car use which states the right to use, fares and damage responsibility. These agreements are usually of a bi-lateral nature though some members have signed more than one agreement to achieve higher mileage or better availability.

The success of the scheme depends upon cooperation between the households who have responsibility to each other. Attitudes to the scheme, as revealed by questionnaire surveys and interviews, have been generally favourable.

#### **HYRBIL (Sweden)**

The HYRBIL car coop is now being implemented in the neighbourhood of Vivalla in Orebro. The concept was established in 1983 with the support of a cooperative petrol station in the centre of the area.

The society keeps 10 cars of various sizes and began with 30 member households. Cars are available at the petrol station at non-profit rates for members.

The HYRBIL scheme follows a one year experiment in 1980-81 called HYR125, in which holders of public transport fare cards could rent cars from organised car rental agencies at a 40% reduction. 1% of all driving licence holders, and 1% of all fare card holders tested the offer. 25% of this group were considered to be a "new market" for both fare cards and car rental. HYR125 accounted for nearly 15% of the total car rental market. 70% of the renters did not own a car, and 80% of these said they would not buy a car if the system was made permanent.

A further proposal arising from this experiment is for a nationwide network of 25 paratransit stations located at main railway stations.

### **U.K. - GREEN CARS**

Green Cars, as described by S. Cousins of the Open University, are "cooperatively owned by more than one family or shared between people without... intimate personal relationships". Both fixed and running costs are allocated in proportion to the use made of the car by each member, the amounts being calculated periodically with the help of log books. A meter has been developed at the Open University for the purpose of allocating costs automatically on a mileage basis. Although there are at least 17 Green Cars operating in the UK more or less successfully, the main problem is the inflexibility inherent in schemes with only one or two vehicles. Advance booking is required to ensure car availability, and success depends largely on the participants' compatibility and ability to cooperate.

### **BOTTON VILLAGE**

Botton village in North Yorkshire was the first of several founded by the Camphill Village Trust to provide an integrated caring community for mentally handicapped people. The village consists of 22 households with a total of over 300 people, 150 being mentally handicapped, 165 being "co-workers", or staff. The transport needs of this community are met partly by vehicles "dedicated" to specific purposes, but also by a shared fleet of 7 cars. These are available for rent to any of the co-workers at an inclusive but non-profit charge of 25.3 pence per mile. The economy of the village is unusual, however, since each household budgets for its needs on a collective basis, and co-workers do not earn wages. Travel needs are also atypical because the village is to a large extent self-contained in terms of food and other provisions.

### **U.S.A.**

The U.S.A. entered the arena following a second major oil crisis in 1979, which provided the impetus for energy saving projects of all kinds, including two shared car fleet experiments.

Surveys in the U.S.A. found 10% of the population interested in the shared car fleet idea, with as much as 25% interested in some urban areas. Interest was highest among better educated younger adults

with average or below average income. These characteristics were matched partly, but not entirely by participants in the two U.S.A. SCF experiments. Interest in SCF might be higher in the U.K., where car ownership is both more costly and more difficult than in the U.S.A.

### **MOBILITY ENTERPRISE**

The Mobility Enterprise - operated by Purdue University, Indiana, from 1983 to 1985 - aimed to increase the productivity of the car through the use of 'mini/micro' cars in conjunction with a shared fleet of intermediate and full-size vehicles. Unlike other shared car schemes, it operated in a car orientated area (West Lafayette) with high car ownership, low density housing with individual off-street parking and virtually no public transport. The aim was not therefore to direct people away from cars, this would not be feasible, but to reduce multiple car ownership, and to increase the proportion of travel made in small, energy-efficient cars.

The 14 member households of "Mobility Enterprise" were provided with a mini/micro car (specially imported from Japan) to meet their daily and local travel needs. In addition they were given access to a shared fleet of 3 full size vehicles for longer trips or when more load carrying capacity was required. A monthly fee of \$182 covered all operating costs except petrol and 10 coupons for use of the shared fleet. Rebates were payable for unused coupons, and returns of travel diaries. Administration and maintenance was carried out by Purdue University who also monitored the schemes. Meters were installed in the vehicles but these are electronic tachographs used for data collection on vehicle performance, and were not used to compute or allocate user costs.

The scheme was liked by the participants, and was successful in getting them to use fuel-efficient vehicles for 75% of their household trips, and 57% of mileage. The number of second cars owned by member households was also reduced. The scheme ran for a limited duration because the mini/micro cars did not meet U.S.A. safety standards and their import licence was restricted to 3 years. But a lasting effect has been that members have bought smaller cars than they owned prior to the scheme, and most would have bought the mini/micros given the chance. This must be set against a recent trend in the U.S.A. towards the purchase of larger cars.

### **STAR**

STAR stands for short term auto rental and is the name of a car rental club for the 9000 residents of the Parkmerced apartment complex about 25 minutes metro ride from downtown San Francisco. STAR members paid \$25 a year subscription to share 70 cars located at an underground garage. As its name implies STAR was a form of car rental designed to cater for short duration as well as longer trips. A ten minute shopping trip for example could cost well under a dollar. Insurance, servicing, washing and repairs were all included. Individual trips were paid for on a mileage and time basis (billed monthly) and were manually booked in and out from the STAR office on site.

STAR was the brainchild of John Crain (of Crain Associates) who put

up \$200,000 in confidence of his scheme becoming a commercial success. The scheme operated from 1983 to March 1985 during which time it is estimated that a third of the 350 STAR users either gave up car owning or postponed a decision to own a car. STAR was described by one observer as a "corner-shop rental business" without the expensive image-boosting and marketing which national firms employ. Since STAR served a domestic rather than a business market, this seemed not to matter.

There were problems in the design of STAR which lead to its closure, notably the use of secondhand cars, which proved unreliable, and the administrative burden of manual booking and accounting. But the scheme was popular with members, and provided extra mobility, apparently without any overall increase in vehicle miles travelled.

## 6. Conclusion

The evolution of shared car fleets has been from Central Business District circulation systems, to an emphasis on schemes based on residential neighbourhoods, managed by transportation brokers or user cooperatives. All have been concerned with making more efficient use of the car, and reducing its damaging effects on society and the environment. There is now ample evidence from SCF schemes in other parts of the world that the concept is capable of flexible interpretation to suit varying objectives and circumstances, that there is considerable latent demand for such schemes, and that they are popular with those who participate. The ability of SCF schemes to generate a commercially attractive rate of return is so far less clear, as is their ability to reduce vehicle miles. Only properly conducted experiments can provide the answers.

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## APPENDIX 1

### SUMMARY OF BENEFITS & DISBENEFITS OF SHARED CAR OWNERSHIP SCHEMES

#### Private benefits

1. Small capital outlay and periodic payments
2. Opportunity to save money by driving less
3. Reduced motoring costs for some
4. Providing more modern vehicles for household use
5. Less worry about breakdowns and damage to vehicles
6. Less time and trouble involved in car maintenance, repair.
7. Easier parking near the home (in high density areas)
8. Dispensing with the need for parking space attached to individual dwellings
9. Bringing car availability to a wider range of people

#### Community Benefits

1. Less parked cars
  - less danger
  - less visual intrusion
2. Less car trips
  - more space for other purposes
  - reduced traffic congestion
  - reduced environmental intrusion
3. Increased patronage of public transport (thus better services and/or lower fares)
4. Higher density of development possible for given environmental standards
5. Easier conservation of existing urban form
6. Possibly increased community spirit and involvement
7. More equitable access to cars (less dependent on income)

#### Private Disbenefits

1. Less choice of vehicle type
2. Less assurance about availability (although availability will be less affected by breakdowns)
3. Car not available for prolonged periods of absence from home
4. Less control over vehicle maintenance standards (could be an advantage for some!)
5. Use of less convenient mode for some trips



## APPENDIX 2 - NOTE ON ELASTICITY OF DEMAND FOR CARS

Most travel behaviour research has concluded that car use is relatively inelastic to price rises (eg. 0.2 or less in the short term) <sup>2</sup> but there are several reasons why such results cannot be applied in the SCF context.

Firstly, elasticity has almost without exception been investigated only in relation to petrol price rises, and since petrol accounts for less than 50% of average costs, much higher elasticities would be expected where all costs are related to mileage.

Secondly, elasticity figures invariably relate to global changes in demand, and we have little idea how elasticity varies, for example between high mileage and low mileage drivers, or between company and private mileage. Assuming a classic shape for the demand curve, we might expect elasticity to be greater for high mileage motorists, but these tend also to be company car users.

Thirdly, elasticity has obviously been studied where perception of costs is highly variable and inaccurate. As already discussed, SCF users would fully and accurately perceive the true average cost of car trips.

Fourthly, the removal of standing charges substantially increases the opportunity of SCF members to save money by driving less. The impact of this on demand for car travel could be considerable.

The general conclusion is that the demand curve for Shared Car Fleets is likely to be substantially different from that relating to individual car ownership.

The SCF thus opens up a whole new field of investigation into perception, elasticities, cross elasticities, mode choice and travel behaviour, as well as equity issues in transport.

## COSTS OF NEIGHBOURHOOD AND PRIVATE CARS COMPARED

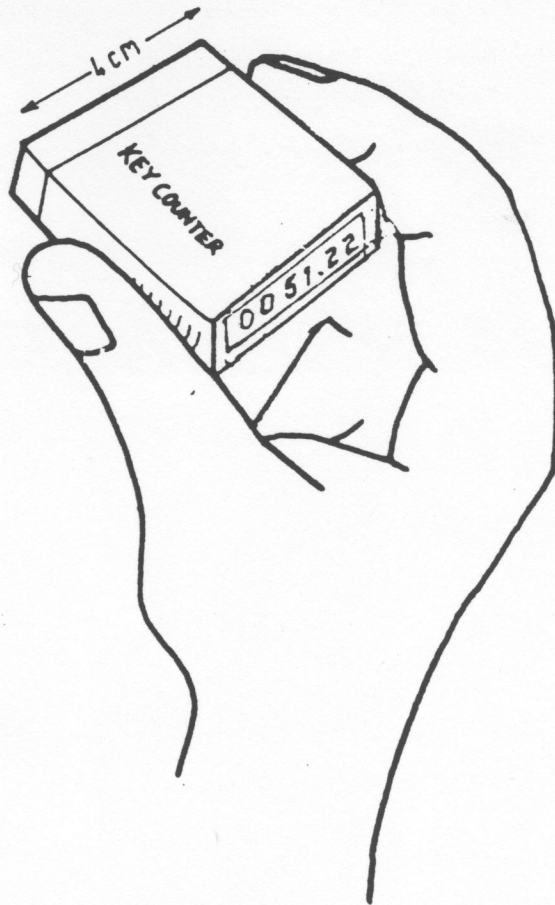
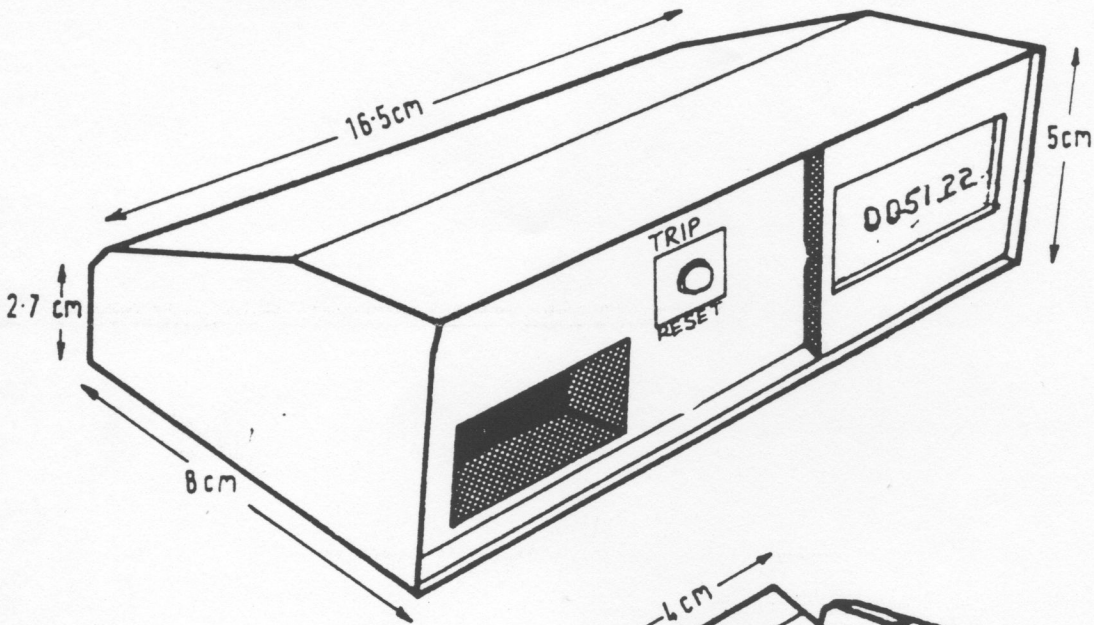
MEMBERS DRIVING THESE MILEAGES PER ANNUM	INDIVIDUAL (PRIVATE) CAR OWNERSHIP (mileage as driven) (a)	NEIGHBOURHOOD CAR FLEET each car 12000 miles pa. (b)	MEMBER SAVES WITH NCF (* = loss) £ per annum (c)
2000	1965	700	1415
3000	2070	1000	1220
4000	2174	1300	1024
5000	2279	1600	829
6000	2383	1900	633
(national average)			
7000	2488	2200	438
8000	2592	2500	242
9000	2697	2800	47
10000	2801	3100	149*

(a) Based on average costs of 1000-1500cc cars in private ownership (AA statistics), but no provision is made for parking charges. Savings would thus tend to be larger in "respark" areas.

(b) Assumes 30p per mile plus subscription charges of £100 per annum.

(c) Includes interest earned at 7.5% from capital no longer tied up in car ownership, assumed to be £150 pa. for a car valued at £2000.

# TRIP COST COMPUTER WITH PERMANENT COST RECORDER (KEY COUNTER)



FUEL PURCHASED  
BY CREDIT CARD  
(eg 'OVERDRIVE')

