

## 1. Evaluating the Financial Benefits of a Liftshare Scheme

### 1. Car parking

#### 1.1 The costs

Savings to car parking costs can be a tangible benefit of operating a car-sharing scheme, especially if existing car parks are near capacity and/or employment growth is occurring. Surprisingly few employers actually cost their support to car commuting. It is often 'hidden' as it is spread over several budgets. The capital cost of car parking could be in one cost centre, maintenance in another and security and lighting in others - hence the full costs of car parking can often be underestimated.

Car parking costs can be divided into four main categories:

- Land acquisition
- Construction
- Maintenance
- Operations:
  - Lighting, cleaning etc.
  - Security and enforcement
  - Administration of permits etc.
  - Insurance and Business Rate charges

The first two categories involve capital costs, which are normally budgeted separately from the second two categories which are revenue costs. With a car-share scheme being a revenue cost, many organisations will only compare the revenue cost of running the scheme to the revenue costs of car parking. However, should car park construction be envisaged, then major capital cost avoidance can be a powerful argument.

If land acquisition is involved, the cost will vary considerably depending on the site. Even in rural areas, land with planning permission for development as car parking exceeds £1m per hectare, in urban areas this rises typically up to £3m and to £6 -£9m in London. Surface car parking can accommodate about 140 - 150 car parking spaces per hectare (allowing for circulation and landscaping), so at its cheapest, land acquisition costs are £6,600 per car parking space, more typically £18,000 and rising to £30,000 or much more in major urban areas.

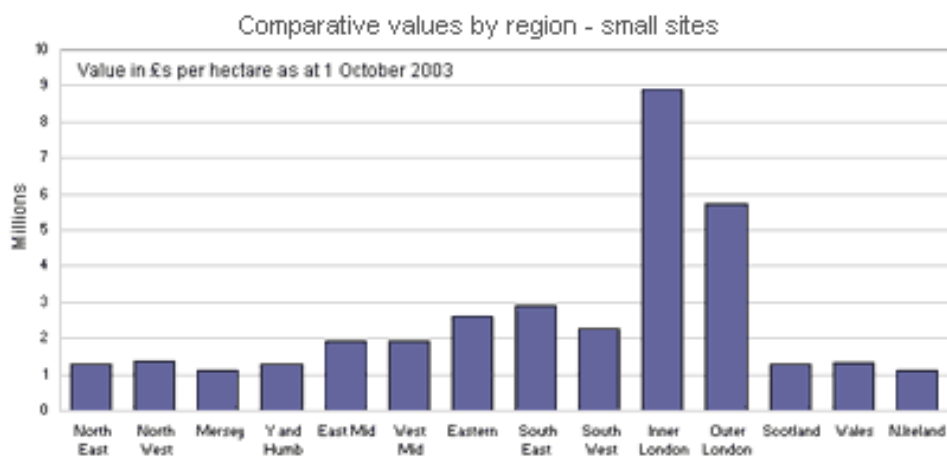


Figure 1: Land Values by Region.

Source: UK Land Directory

[www.uklanddirectory.org.uk/land-prices-historic-and-future.asp](http://www.uklanddirectory.org.uk/land-prices-historic-and-future.asp)

Building car parks is an expensive business. The new NBTN/DfT *Essential Guide to Travel Planning* (National Business Travel Network and DfT, 2007, p 18) notes that the construction of surface-level parking costs some £1000-£3000 per space, with multi-storey parking costing some £5000-£10,000 per space.

As to maintenance, a 2002 DfT survey of 21 organisations with travel plans (DfT 2002a), showed that their average annual spend on maintaining each space was £400. It would be more for multi-storey car parking.

The cost of operating car parks can also be substantial. This involves:

- Lighting and cleaning, winter salting and upkeep
- Security - patrolling and CCTV;
- Insurance and business rates
- Administration - for permits etc.

These are the least well researched costs. Car parking is often not separately identifiable (it may be, for example, just part of a site's electricity, insurance, business rate, security and facilities administration bills. Where labour is involved the cost can be substantial. For example, the administration of car parking permits alone can amount to tens of thousands of pounds per annum even if it is only the equivalent of a part-time administrative post (at least £10 per space per annum). Other operating costs could well raise the total to £30-£50 per space per annum.

It is worth noting that offsite leasing of car parking spaces costs over £1,000 per space per annum and is higher in city centres (in a Midlands city-centre it is £1,500 per annum). This reflects the true commercial cost of car parking and in itself could be taken as an appropriate annual cost figure.

### 1.2 Cost Summary per Car Parking Space

	Rural/urban fringe	Urban	City Centre
Land acquisition	£6,600	£18,000	£30,000
Construction	£1,000	£3,000	£5,000+
Maintenance	£400 per annum	£400 per annum	£600 per annum
Operations	£30 per annum	£50 per annum	£50 per annum

### **1.3 Realising Car Parking Costs**

If an organisation is in a position of needing to expand car parking and has a constrained site, then land acquisition of typically around £20,000 per space would be involved, plus another £1,000 - £3,000 per space in construction costs. Going to a multi-story car park to avoid the cost of land acquisition would push construction costs to £5 - 10,000 per space.

If the organisation is leasing spaces offsite, the savings of around £1,500 per space is real and immediate.

If a site has surplus parking spaces, then the land acquisition and construction costs appear to be out of the equation. However, there is the issue of value yield. The land could be put to a higher value use, developing income generation through, for example, reallocating parking to additional business park or retail units for rent. It might even be as charged car parking - for example some airports are seeking to reduce employee car parking in order to transfer the spaces to air passengers. Thus a cost becomes a revenue stream.

In terms of revenue costs, expenditure on maintenance and operations will be around £500 per annum. This will apply to all types of car parking. The scope to cut this cost in practice will vary, as it may not be possible to cut some of the cost headings in proportion to car parking spaces. Although maintenance and operational costs (particularly labour) can be reduced, it will not necessarily be on a straight-line £500 per space. It may be closer to £200 or £300 per space. Overall, properly costing car parking can help to overcome a cultural barrier to a car-share scheme. A key issue in making the business case for car-sharing is to get decision-makers to objectively evaluate the savings that could arise. Traditional expenditure on supporting car commuting is so deeply ingrained in an organisation's culture that there is little rigour in evaluating the costs involved. Subsequently the financial benefits of car-sharing and travel plans are overlooked.

## **2. Wider facilities benefits of car-sharing**

There are a series of other benefits to an organisation of managing commuting and car parking demand through car-sharing and other travel plan measures. The first group of benefits are those that link most closely to a Facilities function. These are:

- Planning conditions
- Community relations
- Environmental standards
- Sector requirements

### **2.1 Planning conditions**

Any development of a site is subject to the planning application process to the local authority. At this stage the Local Authority may place constraints against the development, known as a 'Section 106 Agreement' (Section 74 in Scotland). A Section 106 agreement can be imposed to aid improvements to the highway or the localised infrastructure, such as bus stops and cycle ways. At the premises they can be used to impose on-site facilities, such as cycle showers, cycle lockers, car-sharing bays and even the appointment of a Travel Plan Co-ordinator. Furthermore, if structured appropriately, the agreement can have year-on-year impact as the local authority can specify reductions in single occupancy car usage reported annually.

### **2.2 Community relations**

Community relations can also impinge upon car parking responsibilities. This may occur if employees are causing annoyance by parking in nearby residential streets. A facilities department may end up being required by management to address this issue if it is affecting the organisation's image and reputation.

## 2.3 Environmental standards

Car-sharing can be used by organisations as a means to obtain environmental accreditation (often because of supply chain pressure). The Environmental Standards ISO14001 and BS8555 enable businesses to identify and monitor their environmental impacts. These standards are normally the foundation of the organisation's environmental management systems (EMS). ISO 14001:2001 raised the focus of transports impact within the accreditation process.

## 2.4 Sector standards/requirements

Certain sectors of the economy have governmental targets to implement travel plans or are part of an environmental management process that travel plans play a part in. Travel plans are now required at government offices, schools and the National Health Service sites. However, the standard of travel plans varies greatly. Higher education sites are included in the Higher Education Funding Council's carbon management programme.

## 2.5 Wider facility benefits - summary

These wider facility benefits pick up the theme from the analysis of car parking costs. This is that there are certain situations and times when the benefits of car-sharing and travel planning will come to the fore. This suggests that, rather than generalised marketing, a market segmentation approach is needed, identifying the situations where a car-sharing scheme will yield high benefits.

# 3. Human Resources and strategic benefits

Car-sharing and travel plans also have benefits beyond an organisation's facilities/estates function.

## 3.1 Reduced absenteeism and lateness

This is a growing concern of HR departments and sometimes the subject of high cost incentive programmes. The UK absentee rate is 9 days per employee per year and costs UK businesses £12b per annum. This does not include lateness caused by commuting problems. Most absenteeism is reported as self-certificated short-term sickness, but can cover a variety of minor issues. Improvements to the comfort and reliability of travel produced by car-sharing can potentially reduce absenteeism and only need do this by a small amount to produce a substantial saving. A 10% reduction (0.65 working days p.a.) for an organisation with 1,000 employees on an average salary of £24,000 would save £64,000 per annum.

## 3.2 Staff recruitment, retention and reduced turnover

Commuting problems can be important for staff retention and turnover, particular for more remote sites with poor alternatives to car commuting. This is a growing issue as in many sectors full employment makes staff recruitment difficult, coupled with demographic changes (e.g. more part-time staff and recruiting older staff). Because staff turnover costs are so high, it only takes a very small number of these to be due to commuting problems to justify the cost of a car-share scheme.

Vergereau and Evans (2007), using data from the 2007 CIPD survey on recruitment, retention and turnover, show that there is a minimum cost of £8,200 per employee per annum. This is for lower grade administration, secretarial and technical staff. For higher level staff the turnover costs are considerably higher. Their study notes that if a travel plan can reduce employee turnover by 5%, then a company with 200 employees and an 18% turnover rate could retain 2 additional staff per year, saving them £16,400 per annum. For an organisation with 1,000 staff, this would be a saving of over £80,000 per annum.

A more detailed study on the business cost benefits of travel plans is currently being conducted by David Hurdle.

### 3.3 Improved physical fitness and alertness of staff

Improved fitness can improve performance (particularly a benefit of walk and cycle travel plan measures, but car-sharing can be part of a blended approach that increases physical fitness). More widely, poor commuting is a source of physical tiredness and stress resulting in a need for recovery time at work. Improvements to commuting conditions will therefore contribute towards productivity.

### 3.3 Human resources and strategic benefits - issues

An important point is that, unlike the facilities benefits of car-sharing, the HR and strategic benefits are part of a wide mix of factors and so the travel aspect is rarely considered. However, the costs involved are so substantial that even a small impact from a car-sharing scheme could justify its entire cost.

For promoting car-sharing, there is evidence that market segmentation is needed to focus on situations where travel impacts are likely to be greatest.

## 4. Evaluating the role of car-sharing and travel plans

Car-sharing schemes and travel plans as a whole often originate within a facilities or estates department, partly as a result of the link with a planning application, but also as many of the activities of a travel plan require the sort of infrastructure changes which are a facilities function, such as car parking management or new walking and cycling facilities. What appears to have occurred with a number of travel plans is that they have become 'ghettoised' within the facilities or estates function, where the travel plan concentrates on trying to reduce single occupancy vehicles coming to the site, thus remaining predominately a parking management

scheme, with few links to the wider organisation. This results in a limit of embedding within an organisation of a travel plan at the facilities level, where the travel plan remains an isolated scheme, as shown in the diagram on the left.



This limit of embedding is reflected in the level to which many travel plans are monitored and evaluated. However, this may also be a function of the monitoring and evaluation tools available. These too are built around the facilities function of travel

plans and make no real links across to the HR and strategic business benefits of travel plans. For example, the Dft's Workplace travel plan evaluation tool (Department for Transport, 2002) is designed to aid in the choice of a travel plan instruments, and assess the impact of these instruments on the number of car parking spaces required. Similarly TRICS (TRICS.org) independently assesses the effectiveness of travel plans, by, evaluating the impact on the transport network and car parking requirements.

These concentrate on the infrastructure or 'hard' end of the range of travel plan measures, but in order to change attitudes towards travel, a travel plan needs to move beyond this level to include behaviour change initiatives, the 'soft' end of the range of measures. There are two European monitoring and evaluation tools that monitor behaviour change. MOST Monitoring Evaluation Toolkit (MOST-MET), which uses indicators to measure the levels of personal acceptance of a travel plan measure (Finke et al, 2003) and Tapestry that monitors and



of most established CSR expenditures. Indeed there have been numerous studies to try to identify the statistical relationship between CSR and traditional financial performance (Pava and Krausz, 1996) with no agreed method. It is therefore likely that the benefits of a travel plan to CSR will be based on a belief that it is the right thing to do.

Overall, this analysis suggests that there are key organisational barriers in the understanding and evaluation of travel plan measures, such as car-sharing. To promote a wider uptake probably involves more than a factual identification of car park cost savings. Getting management to recognise the role of car-sharing is a process that probably is best approached in a targeted manner. A market segmentation approach is needed; identifying situations where car-sharing can contribute most to (a) facility department needs and (b) to HR and strategic needs. This paper has identified some of the factors that could become the basis of such a market segmentation approach.