

Centre for Automotive Management  
University of Buckingham Business School

# True Cost of Business Car Operation in a Changing Economy

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In partnership with





## True Cost of Operation

### Foreword

The credit crunch, rapidly escalating fuel and raw material costs, a possible economic downturn, as well as CO<sub>2</sub> emissions and carbon footprint issues, have propelled the company car back into the headlines.

Businesses need to review their policies regarding car provision and the total cost of ownership to ensure they achieve best value for money for the organisation and its shareholders.

This report by Professor Peter N C Cooke and The University of Buckingham Business School automotive group provides an independent review of the current status of the company car and its apparent politicisation.

The University of Buckingham has also developed a business management model that enables Arval's clients to drill into the total cost-base of groups of vehicles and individual units. This will ensure that vehicles acquired from an increasingly complex vehicle range are the most cost-effective and suitable for the organisation.

While the Total Cost of Ownership is a long established principle, it has, in many cases, yet to be fully applied to the fleet industry where 'The True Cost of Ownership' might be a more meaningful description to take account of the full range of costs associated with the company car.

'True Cost' brings together the most appropriate fleet, sets objective cost levels, identifies management programmes, implements and monitors to achieve ambitious performance benchmarks for individual units.

## True Cost of Operation

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## Chapter 1

### Introduction

2008 appears to be a year that the company car is being subjected to more changes in terms of fuel costs, overall provision, management and tax proposals than any time in the past 20 years.

The company car is being subjected to more changes than any time in the past 20 years

Consider some of the issues already thrown into the ring by actual and anticipated changes, as well as others announced in the Budget for the near future – albeit some may be subject to some rethinking of government policy.

The list is concerning and continues to grow:

- Crude oil prices have driven petrol and diesel pump prices up by 20 to 30 pence per litre in just a few months. And, at the time of writing, the Chancellor still plans to go ahead with a further two pence per litre fuel tax this October. New, draconian vehicle excise duty (VED) rates have been announced taking effect from 2009. The government has also revealed further subtle, retrospective changes regarding VED in post-budget statements. CO<sub>2</sub> emissions and profiles are also attracting new interest.
- The car, whether a private or company car, seems to be increasingly seen as a 'Cash Cow' – subject to an ever greater direct and indirect tax burden.
- Congestion charges, too, appear to be firmly back on the political agenda. Add to those points issues of Duty of Care, Cash for Car and Grey Cars – and companies have to contend with many major management issues in addition to their core business activities.
- It might be claimed that 'the company car has come of age' and is now becoming politicised, which adds a further dimension and uncertainty to an already highly-complex equation.

#### A severe corporate headache

These factors might, individually or as small groups, be accepted as part of the dynamics of a rapidly developing economy. However, taken against a background of potential economic downturn, higher interest rates and the credit crunch, the situation becomes decidedly more complicated and capable of creating a severe corporate headache! And, that is before we consider the remunerative, status and fiscal position of company car recipients and the role it was originally intended for.

Capable of creating a severe corporate headache!

For the finance director, HR manager or fleet executive to keep track of all these emerging issues; recommend a cost-effective business car strategy and manage the costs, demands the 'Wisdom of Solomon'.

The adage that 'fleet management is hardly rocket science' has, arguably, been firmly consigned to posterity. Realistically, fleet management, with the associated operational, fiscal, environmental, CSR, financial and HR issues, is now one of the more highly-complex parts of overall company management – even though it is rarely regarded as a core competence.

To the majority of businesses, the company car, or rather provision of personal business mobility, has historically been a manageable concern. Complex – yes, but if the business strictly followed the rules, eminently manageable. One might claim that has changed dramatically given the maelstrom of issues raised in the foregoing paragraphs.

## Publication objectives

- To examine some of the strategic and tactical issues affecting the provision and management of company cars and other vehicles used to provide employees with business mobility.
- To consider some of the issues associated with determining absolute fleet operation costs and proactively managing the total costs of a company car fleet.
- To present a new, highly-pragmatic economic model developed by The University of Buckingham and Arval as a management tool to help businesses achieve the best value for money from their car fleets – the 'True Cost of Operation'.

Realistically, over the past decade, many economic models have been developed 'to cut company car costs' – some have been good, others less so. The new Arval/Buckingham model has a clear advantage. Firstly, it can be used to identify excess fleet costs compared with benchmark groups of vehicles managed by Arval. Secondly, it can also pinpoint individual cost areas that can be monitored and managed downwards using tried and tested programmes.

The Arval 'True Cost of Ownership' model – the TCO model – does not seek to offer a panacea for business vehicle cost management and budgeting. Rather, it offers a powerful tool to assist in developing effective cost-management and budget programmes for fleets with several thousand units or more modest fleets with several hundred vehicles. It also provides the means to achieve and manage significant cost savings, CO<sub>2</sub> reductions and Health and Safety benefits.

A powerful tool to assist in developing effective cost-management

## Report outline

The report has been kept short and objective, focusing on analysis, benefits and outcomes rather than technology. The principal chapters might be summarised as follows;

- **Chapter 2;** considers some of the changes in the company car environment. This chapter discusses the strategic issues – drivers for change and the key stakeholders in the company car. Both are complex and have subtle but important influences on business car provision.

The chapter also highlights some key 'tactical issues' – those operational and business, environmental and legislative issues influencing both the company car and the 'grey car'. It also underlines how the subject is getting increasingly complex, with penalties for even minuscule administrative misdemeanours continuing to grow. While motor manufacturers are responding with evermore fuel and CO<sub>2</sub> emission-reduced cars, the escalating cost of fuel will have a dramatic influence on future business car costs.

The message from the chapter is a warning that, while 'the management of the company car is becoming far more expensive and complex – with growing legal and financial penalties for failing to satisfy over-complicated rules – it can be managed effectively'.

- **Chapter 3;** reviews the elements of conventional company car financial management and budgeting; its aims and objectives, and the type of assumptions and decisions concerning total cost management and budgets.

The chapter also highlights how the field of total cost of ownership and budgeting for business cars has become more complicated. Despite this, perhaps less time is being devoted to fleet management, even though businesses seek to reduce or outsource administrative activities.

Given the challenging inflationary and recessionary direction the UK's economy could now be heading, there is a special case for urgent car fleet cost-management and a thorough understanding of escalating costs, economic downturn and management in recession.

The company car is becoming far more expensive and complex

Few organisations have in-depth management experience in terms of working with growing inflation and economic downturn, let alone the time to devote to associated fleet management issues.

- **Chapter 4;** outlines the Arval/Buckingham 'True Cost of Ownership' model. The thinking or the philosophy behind this model is to use the high-quality, operating cost data and management programmes delivered by Arval to determine operating cost benchmarks for different groups of vehicles. Those benchmarks can then be used for comparisons with a company's fleet and potential cost savings identified. That is but the first part of the exercise.

The second part establishes the type of programme and potential cost reduction that might be expected if specific Arval fleet management programmes are installed.

The third part of the exercise would call for the management of these programmes by Arval on a real-time basis. This would demand regular feedback on performance of the target segments of the fleet, and also of individual units on the fleet.

Given the complexity and dynamics of fleet tax and legislation for individual employees and the organisation, the investment in intellectual property to develop such a model is enormous. Realistically, such an outlay can only be justified by a fleet management organisation like Arval.

- **Chapter 5;** seeks to pull together the various strands from earlier chapters in the report as well as suggesting some short and medium-term actions that fleet executives and finance directors might consider to retain their level of fleet efficiency and reduce the True Cost of Operation – TCO.

The Arval/Buckingham TCO model may well represent a substantial shift in thinking regarding the approach to dynamic car fleet management and monitoring – as the ancient Chinese proverb says, 'every journey starts with but one step'.

This is a first step and, given the state of change in the automotive industry and the provision and management of company cars and business mobility – it could well herald the start of a new, long and most cost-effective initiative.

Benchmarks can be used for comparisons and potential cost savings identified

### Some initial conclusions

The fleet industry is in a state of flux.

External influences are driving up costs. The result will, inevitably, lead to higher vehicle operating costs. Add to that changes in VED, greater focus on the environment and carbon footprints, moves to change the basis of tax for cars – and the whole field of car fleet management is destined to change radically in the next few years.

While fleet management was once regarded as being 'hardly rocket science' that has now changed for ever. The sheer range of changes facing the industry is likely to drive a fundamental need for ever-tighter management of true costs of ownership.

Clearly, the new Arval 'True Cost of Operation' business model has come on stream at a most opportune moment.

Fundamental need for ever-tighter management of true costs of ownership

## Chapter 2 Changes in Total Cost of Business Car Operation

The automotive industry and the company car are all in a state of flux, even revolution

The previous chapter suggested the economy, automotive industry and the company car are all in a state of flux, even revolution, with cost levels escalating unsustainably. Indeed, the rate and rapid speed of change is thought to be such that many businesses are in a state of shock or denial that it is all a bad dream.

This chapter seeks to put company car operating costs in context and highlight those that can be influenced by tight management and monitoring. It asks how costs fit into the new and emerging role of the company car, as environmental issues and fuel management becomes more crucial. The chapter also aims to put in context some of the different pressures and changes being forced on the company car.

The first part of the chapter looks at the total cost field split into the broader strategic issues associated with the company car – essentially 'soft issues'. The second part brings together 'hard issues' like fuel costs, CO<sub>2</sub> and tax. No attempt is made to review every single cost associated with the company car. That would require a substantial book in its own right!

### Strategic issues and the company car

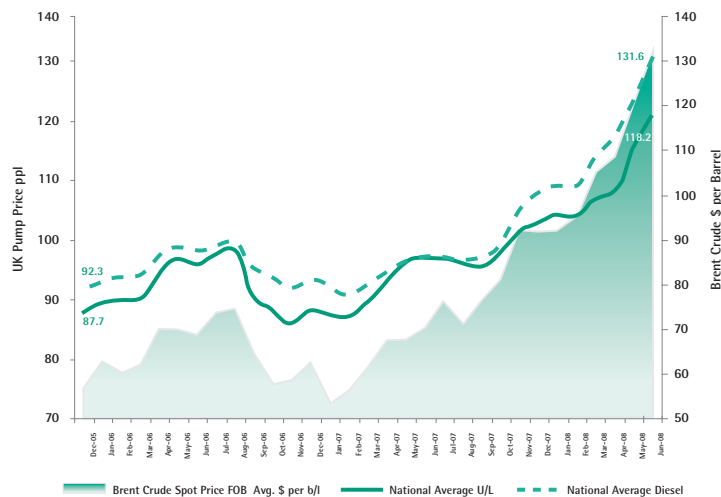
The first group of issues discussed are external and outside companies' direct control. However, awareness of them allows management to respond to them and take steps to minimise their impact.

An almost explosive growth in the price of crude oil

### The price of oil

The past two years have seen an almost explosive growth in the price of crude oil. As a result, the pump price of petrol and diesel has escalated. Figure 2[1] traces the recent price of a barrel of oil and the prices of petrol and diesel.

Figure 2[1]; Brent crude per barrel, unleaded petrol and diesel ppl



Source; IEA

Some analysts claim oil prices are a subject of speculation like minerals, wheat and rice. However, the substantial growth in demand suggests prices will remain high. Some respected analysts are predicting oil could even reach \$200 per barrel in the foreseeable future.

Figure 2[1] shows an apparent disconnect between price per barrel and the pump price per litre. The implication is that HM Treasury is taking a significant windfall margin on the finished product. It remains to be seen how much it might be willing to surrender?

## Drivers for change and the company car

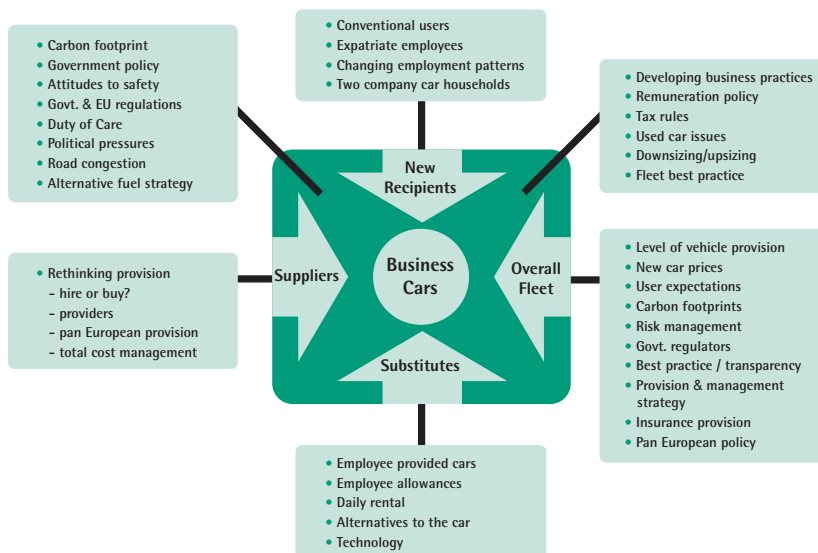
The company car is under continuous external pressure – so-called 'drivers for change' include the provision and use of the company car, alternative methods of providing business mobility, suppliers and service providers.

The paradigm in Figure 2[2] shows a cross-section of 'drivers for change', those external macroeconomic issues continually reshaping company car provision and the types of vehicles companies provide.

The key message is that many of the 'drivers for change' are external forces companies need to be acutely aware of, but are unlikely to be able to influence. The result is that awareness provides the ability to utilise those drivers to the benefit of the organisation or at least take steps to minimise any adverse effects.

External forces companies need to be acutely aware of

Figure 2[2]; Drivers for change and the company car



## Industry influenced issues

### Vehicle manufacturers' involvement

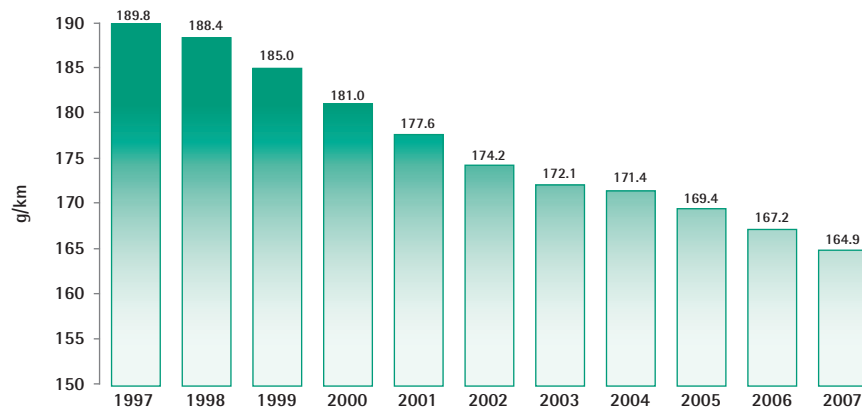
Vehicle manufacturers have responded to the demand for lower carbon footprint vehicles, the knock-on effect being better fuel consumption and mpg implications. There are essentially two key measurements – the average CO<sub>2</sub> emissions figures shown in Figure 2[3] overleaf and the response to those in terms of the impact of the greater charges for VED shown in Figure 2[4].

### Vehicles' carbon footprints

The environment and the motor vehicle have become a high-profile issue. While vehicle emissions represent but a small percentage of the total CO<sub>2</sub> created, they attract a disproportionate amount of interest as they can be controlled or taxed.

Figure 2[3] shows how the average UK new car CO<sub>2</sub> emissions have fallen since 1997. While, at first glance, the figures may appear encouraging, taking into account the escalating cost of fuel, this has less impact on the total cost of operation than might have been the case in less fraught times.

Figure 2[3]; UK average new car CO<sub>2</sub> emissions



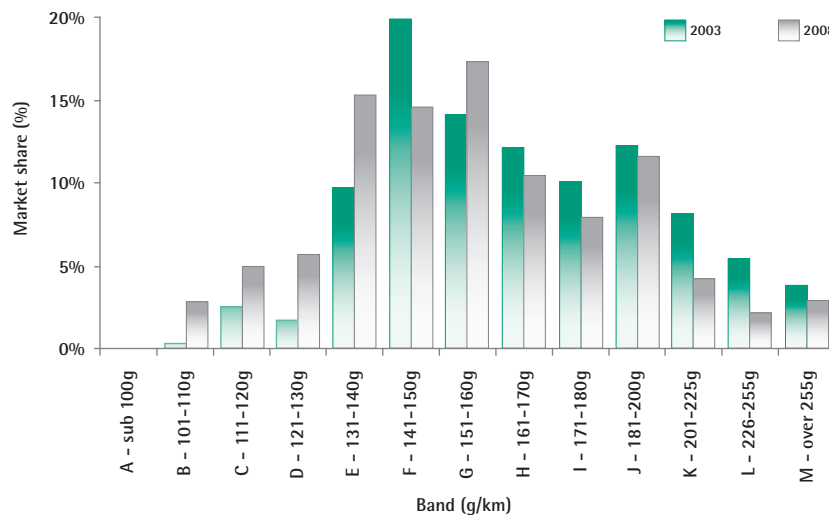
Source: SMMT

One must assume that, as manufacturers further develop green credentials and technology improves, CO<sub>2</sub> emissions will continue to fall. The real challenge is whether manufacturers and Brussels will be able to see eye to eye on the speed and level of the CO<sub>2</sub> footprint reduction. If they chase too ambitious a rate, vehicle manufacturers will be forced to increase prices or go for too gentle an improvement and the planet will suffer.

Environmentally, this reduction in average CO<sub>2</sub> emissions can be claimed to be impressive, but in terms of cost reduction it is much less attractive. Government policy is to drive down emissions through fuel tax escalation and through taxation or allowances on cars in the form of VED and congestion charging.

Government policy is to drive down emissions through fuel tax escalation and taxation

Figure 2[4]; First quarter 2008 new car market by 2009 VED bands



Source: SMMT

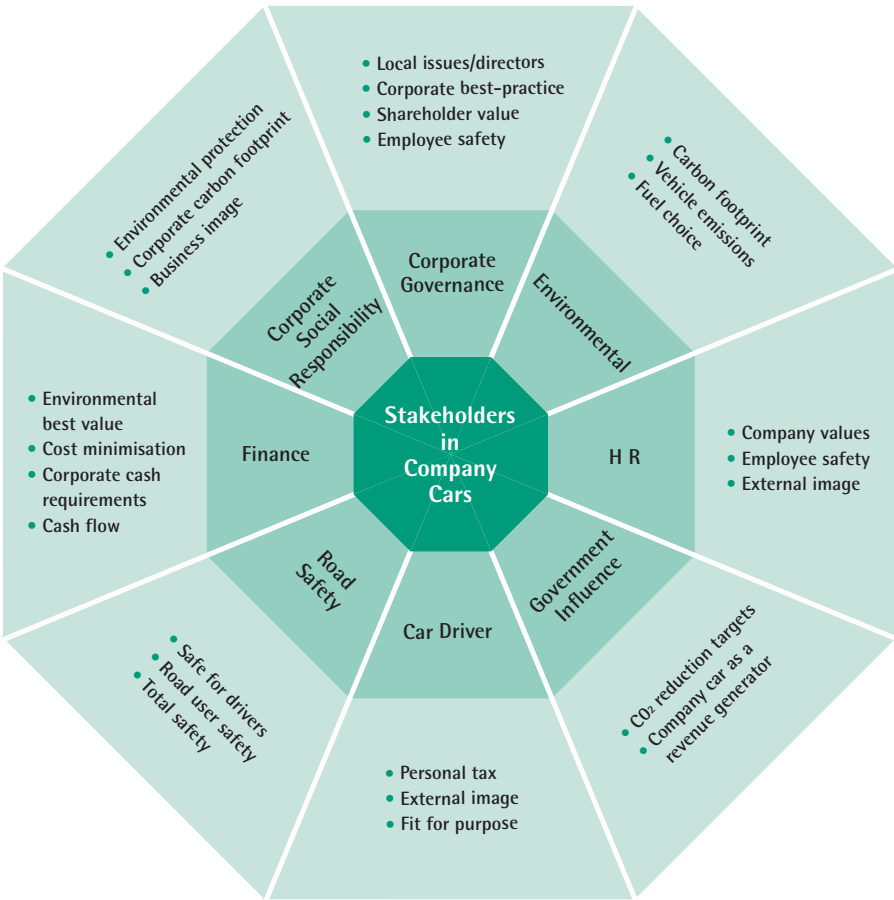
These strategies have started to have an effect. Figure 2[4] illustrates the way the mix of new cars registered in the first three months of 2008 appear more fuel-effective than five years earlier by the steady move to lower VED bands.

**Stakeholders in the company car**

Drivers for change may represent the external, macroeconomic influences on the business car, but there are influences closer to home as well. The provision of company cars is also influenced by internal stakeholders who may have a range of varied and sometimes contradictory interests, all or any of which might be brought to bear on the fleet and individual company cars.

Perhaps the best way to illustrate some of those critical internal stakeholders is through a Stakeholder Analysis:

**Figure 2[5]; Stakeholders in the company car**



In one stroke, this paradigm sets the task of managing costs in context. Each interested party has its own agenda; which do not necessarily coincide, even within the organisation. A key part of successful total cost management is to have an overarching information management system to monitor costs effectively and provide feedback to control them.

A key part is an overarching information management system

**Tactical issues**

While external issues impact on total cost, there are several short-term factors that can be managed to help achieve best value for money for the fleet, although strong internal discipline may be necessary to achieve this. The paragraphs overleaf highlight some of these issues.

Strong internal disciplines may be necessary

### Fuel cost, use and the carbon footprint

While fleet operators may not be able to influence the average price of fuel, it is possible to influence fuel purchase by issuing strict instructions covering which fuel sites are to be used and their location.

Driving style can have a very big effect on average fuel consumption

Equally important, the driving style of individual drivers can have a very big effect on average fuel consumption. Strict monitoring is probably the best tool for this, although it can be a very time-consuming exercise. Absolute fuel consumption throws up a further measure of fleet effectiveness in terms of the carbon footprint. Just how much fuel is consumed, and how does that tie in with a company's green credentials?

While there is already much talk, there appears to be more running on the spot than action regarding alternative fuels, though the bio fuel debate seems to be hotting up.

Also gathering pace is the debate regarding hybrids and their place on the fleet. While hybrids may be 'good for the green agenda' is there yet enough of them available to form a sensible fleet hierarchy with cars that are fit for purpose and hold together as a logical fleet?

### Tyre cost and use

Despite deals available for large scale purchase, the cost of tyres has risen significantly and, given the escalating price of oil, is likely to continue to rise. Thus, selection of appropriate, cost-effective tyres and proper management through regular tyre pressure checks, alignments and driving styles are all important elements in the total cost of ownership.

There are tax issues for both companies and recipients of company cars

### Tax impact

With a product as complex as a company car, there are tax issues for both companies and recipients of company cars. If a fleet car is not right for the role, either the organisation or car recipient could be subject to 'unnecessary tax' payments. Essentially, companies need to consider the following tax implications;

- Company-based tax; relating to the capital cost and write-down on the car as an asset. How can companies strike the best deal with regard to the most suitable cars for the role? Changes are proposed in the 2008 budget? A new CO<sub>2</sub> capital allowance regime will go live on 1st April 2009.
- Fuel choice; given that the diesel/petrol relationship has changed significantly, what is the most total cost/tax-effective fuel for the projected mileage?
- VED; new government proposals for vehicle excise duty will see huge changes in the annual charges for cars determined by vehicle emission ratings. At the time of writing, there appears to be possible u-turns and second thoughts emerging, so the final picture may well change – a little.
- Congestion charges have become politicised. Once more, these are open to change by local authorities – with special focus on 4x4s and alleged gas-guzzlers. Now certain local authorities have the right to levy congestion charges; the real concern might be they will not be consistent in their approach, so creating even further administrative complexities.
- Individual or personal tax paid by individuals for the benefit in kind (BiK) they receive in the form of the car. If the remuneration package should include fuel for private mileage; what level of car should be provided; what level of tax might have to be paid on it?

Congestion charges have become politicised

Tax is an increasingly complicated issue and, if one includes the forthcoming VED changes, it will become ever more difficult.

Failing to understand the complexity of the regulations, or not act on them, could lead to the ubiquitous 'administrative fine' through the post – or an early court appearance.

### Duty of Care

Good risk management is not just an element of corporate social responsibility, but is also a key part of fleet management. There is also clear evidence that it delivers business and cost benefits too. The provision of a car 'fit for purpose' is a widely accepted protocol. Duty of Care calls for company-provided transport to be 'fit for purpose' in terms of it being safe, correctly maintained and available for use. That transport has to be actively supervised and managed, together with an audit trail created and sustained at a tangible cost.

The organisation also has a Duty of Care regarding daily rental cars rented on behalf of employees.

Duty of Care is beginning to create a major issue for fleets and fleet management given the implementation of the Corporate Manslaughter Act. There are clear rules as to what constitutes Duty of Care and the steps the board of directors has to take. Penalties for failure can be draconian. The business case for adhering to Duty of Care is perhaps best called 'risk management' – the cost of failure can be extremely high.

Penalties for failure can be draconian

### Accident management

All such issues have a cost that can influence the budget and total costs of the vehicle. Given escalating costs elsewhere, there is every expectation accident management costs will go up too.

An additional part of Duty of Care is incident management. If a vehicle is damaged, it has to be recovered and repaired. The checklist below highlights a cross-section of the costs that can be incurred as part of an accident, even if it is minimal. The cost is frequently not so much monetary as the employee and management time involvement.

#### Figure 2[6]: Accident Costs

• Hire of replacement vehicle
• Insurance costs
• Time off work for driver – to recover and complete documentation
• Legal time/issues
• Management time/litigation

*For illustrative purposes only – not comprehensive*

The hidden costs of an accident or incident are often significantly greater than the cost of mending the vehicle.

Hidden costs of an accident are often greater than the cost of mending the vehicle

### Grey cars

Companies no longer just have the responsibility for cars they provide on behalf of the business. Organisations also have a Duty of Care responsibility for any cars provided by employees and used for work, whether those cars are privately financed or form part of a 'cash for car' scheme. They are the so-called 'grey car' fleet. Some would call this a much under reported element of risk management.

Questions may be asked regarding the monitoring of 'grey cars'. What exactly should be monitored and followed up? Consider the range of issues in Figure 3[2] on page 15 when pricing a 'grey car' – and the potential risk management issues.

**Figure 2[7]; Grey cars and total costs**

- Appropriate vehicle type and age – suitable for company image
- Appropriate/current MOT
- Tyres and maintenance record checked – how often?
- Insurance – is the policy appropriate for business use?
- Vehicle cleanliness/suitable for company business?
- What mileage allowance is paid/checking/approval?

*For illustrative purposes only – not comprehensive*

#### **Default revenue generation**

The range of car defaults a company, or a provider, can now be fined for, is growing at an enormous rate. To a business it is not just the act of having to pay the fine. However annoying that might be, the administrative hassle of documentation involved, and the negative impact on the ethos of corporate social responsibility, is both costly and time-consuming.

Default revenue for administrative errors is now generated by central government and the various agencies and local authorities – such as not submitting documentation on time, failing to pay congestion charges, fines for speeding and parking offences. While some of these penalties may be the result of poor management, others have turned into blatant revenue generation running to hundreds of millions a year.

#### **Differential impact of inflation on vehicle costs**

Conventional wisdom would have looked at the impact of inflation at the start of a chapter on total cost of ownership. However, with the current economic situation and measures of government inflation staying broadly within government parameters, one must ask if experience suggests we are living in a parallel universe.

Government statistics for the consumer Retail Price Index (RPI) are based on a broad range of items which, the sceptic would claim, do not include or give due deference to a true household list – and the car is a natural part of that index. Thus, the ongoing 'under 3%' shown in Figure 2[8] overleaf belies the change in fuel prices over the past year; the new changes planned for VED and further hikes in fuel duty.

Blatant revenue generation running to hundreds of millions a year

Figure 2[8]; Retail Price Index and Consumer Price Index 2006–2008



Source: Office for National Statistics

While not wishing to enter the political debate on 'selective RPIs' the message is one that recent experience in car operating costs, particularly fuel, have moved out of line with the government statistics. The consequence is that future projections of company car costs are becoming evermore complex and the Total Cost of Ownership figures shown in Figure 3[1] on page 15 are likely to change rapidly.

Projections of company car costs are becoming evermore complex

**Some initial conclusions**

This chapter has made no attempt to cover the whole range of costs associated with company vehicles but, rather, to illustrate the spread – and contend that it is possible to manage them effectively.

The foregoing notes have covered the breadth of vehicle costs and shown how many of them are beyond the control of companies. However, some of them are and, through effective and comprehensive fleet planning and judicious budgeting and monitoring, it is possible for companies to achieve significantly better operating costs.

## Chapter 3

# A Holistic Approach to the Total Cost of Ownership

The previous pages presented a scenario of the expanding total cost of business car provision, with those costs growing at different rates. It is against this dynamic scenario that fleet managers and finance directors need to generate total cost of ownership, to build budgets, and monitor and proactively manage the total cost of their fleet.

Two adages regarding fleet management justify repeating:

- 'Seeking to manage the vehicles once they have been chosen is managing but half the costs.'
- 'Managing a fleet on historic information is like driving a car using only the rear view mirror.'

One might argue that these euphemisms have never been truer than in 2008.

To be meaningful, total cost of operation and budgeting demand a holistic approach, as both disciplines are called on to embrace an ever-increasing range of issues within the business management.

Total cost of operation and budgeting demand a holistic approach

### True Cost of Operation – a working definition

The Cost of Operation is commonly taken as;

*'The average of all of the costs associated with providing and managing a group of business vehicles.'*

A short definition but, while it embraces both the fixed and variable costs of the operation, it rarely covers all of the true costs of operation. There will be 'costs that escape'.

The True Cost of Operation includes all of the costs associated with running the vehicle. In the case of leasing, part of those costs will be included in the monthly lease cost – service, tyres, cost of capital depreciation etc. – depending upon the contract agreement. However, if a company is managing the costs itself they will form an important part of total vehicle cost. There are still further costs – fuel, insurance, administration and vehicle choice that will be paid directly or indirectly by the user organisation and may not necessarily be allocated back to the individual vehicle cost.

The True Cost of Operation identifies these costs as part of an outsourcing operation and seeks to manage and monitor them against best-practice benchmarks. These benchmarks will include choice of the most suitable vehicles for purpose and non-leasing costs associated with these units.

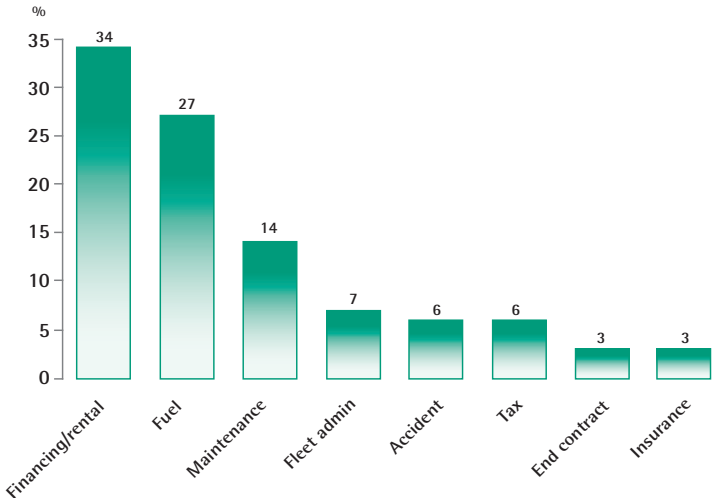
Thus, the True Cost of Operation can be identified, managed and monitored against best practice benchmarks for individual units on the fleet to ensure the operator is achieving best value for money.

### Whole-life costs

These escalating cost issues can be tracked across other parts of total cost of vehicle operation. To put the different elements in context, Figure 3[1] on page 15 outlines the breakdown of total cost of ownership of a car over a four-year cycle.

Of course, the rapid escalation in the cost of fuel could soon render these numbers out of date, with fuel perhaps becoming the largest single cost of ownership. However, they provide a clear indication of the relative importance of the different groups of costs.

**Figure 3[1]; Total cost of ownership**



Source; Arval

Of course, these cost relationships will vary with vehicle type, with vehicle use and the driving style of individual drivers. However, the clear message is that costs are broadly spread within these areas.

Historically, finance and depreciation was the biggest expenditure category. If fuel does become the largest single cost group, it is a total cost which can be managed.

**The budget**

The simplest definition of a budget is 'a financial plan'. It starts from a given point; takes account of significant events through the planning period, revenues and expenditures as well as capital – and shows the projected figures on a monthly basis and an end-position.

Perhaps that is an idealistic, even historic, situation as one might need to add phrases such as 'realistic financial plan' or 'transparent' and 'protecting shareholder value', among others, to set it in a modern context. New phrases and demands such as 'carbon footprint' and 'minimising total emissions' as well as 'optimising the employee and corporate tax position' are also increasingly raised as issues of total cost of ownership and budgeting.

**Building the budget**

A budget is rather like a movie film – a series of still shots which, when presented in sequence, show a moving picture. The stills for a budget are the monthly accounts. The moving picture is the particular year the forecasts have been prepared for. In the same way that a movie film would not tell one much, if all that was seen was the short before the final credits, so a company budget is not of much practical use if all one sees is a still of the year-end position.

For a budget to make sense, like a film, it should show a number of actions that culminate in a finale – in a film, the final shootout. In a budget, the year-end cost versus budget – or profit. Instead of film scenes, a budget has monthly accounts and, like the film with its plots and sub-plots, the budget has accounts and subsidiary accounts for individual activities – capital, use of funds, expenses and revenues, represented by fuel, service, tyres and so on.

A budget is rather like a movie film – a series of still shots

In the case of company cars those subsidiary accounts are further complicated by the need to split them down by different types of car – executive, management, field, service, grey car support – and then, perhaps, divide by method of provision, fuel type, maintenance, capital cost and residual values on disposal. That is for starters.

While the budget and total cost of operation are critical costs within the organisation, they need to be tied down to be monitored and managed. The budget is but the first stage of the total cost of ownership exercise. Once agreed, there is always the challenge regarding the budget's accuracy and the changes that will be required over time – such as escalating or falling fuel prices; increases or decreases in fleet size, a change in vehicle mix, or inflation.

All of those issues can impact, not only on departmental or fleet budgets, but on the overall viability of the company and, therefore, need to be very tightly managed.

While the introduction of IT into budgeting has made the updating and management of the exercise much easier, there are still many areas of contention within even the best-managed fleets.

There are still many areas of contention within even the best-managed fleets

### Issues of TCO and practical fleet management

Consider some of the issues of budgets and budgeting a business needs to encapsulate in its vehicle programmes if it is to fulfil all of its issues of due diligence.

- **Vehicle Selection;** the basis for any TCO or budget exercise will be vehicle choice, not only the number of units on the fleet, but also the type of units operated. The equation can be further complicated by provision of different types of vehicles for different grades of user, additional complications of 'user-chooserism' and selection of appropriate vehicles within different grades.

Historically, the issue of vehicle choice was less complex than it is today. The range of acceptable fleet products has expanded rapidly in recent years – not only in terms of acceptable products, but also by the number of models offered within the various brands.

No longer is a range 3-door, 4-door and estate car, it could now include soft-top, sports, SUV and 4x4 in practically every manufacturer's range. The checklist in Figure 3[2] highlights some of the key issues.

#### Figure 3[2]; Checklist; vehicle selection

- 2-door, 4-door, estate, hatchback, soft-top
- Petrol or diesel or hybrid
- Passenger/cargo carrying requirements
- Urban or rural driving
- Automatic/manual
- Other options and requirements
- Model range/price/total costs

*For illustrative purposes only – not comprehensive*

Choice within a fleet is a moot point. By restricting choice to a small number of manufacturers or models, larger fleets may attract additional support. The real question is 'is that loss of choice, given the substantial cost savings it may attract, fully justified?' Does choice need to include every model in the market or can the fleet operator manage that list and, if so, how?

The additional complications of user-chooserism

While 'value for money' is the cry of every buying shareholder and pressure group, what does it actually mean in terms of company car selection? How might that change, over time, to ensure the best possible value is always achieved?

Oh yes, maybe at some point, car users should be consulted or even given some choice. After all, they are paying a substantial tax for the privilege of driving a company car.

Relatively few organisations now restrict user choice to 'red or blue', offering a much wider variety, all with capital and operating costs that may have budget implications.

They are paying a substantial tax for the privilege of driving a company car

- **Capital Costs;** one of the great challenges of any TCO exercise is to minimise depreciation, whilst maintaining an appealing choice list. In the case of contract hire, depreciation is reflected in monthly charges and is dependent upon the vehicle cost, the cost of capital, residual value and disposal costs – all consolidated in the rental.

Figure 3[3]; Capital cost; checklist

• Premium model or standard
• What series/luxury level available
• Management hierarchy specifications
• Degree of employee choice – flexibility
• Employee contribution to capital cost
• Method of provision

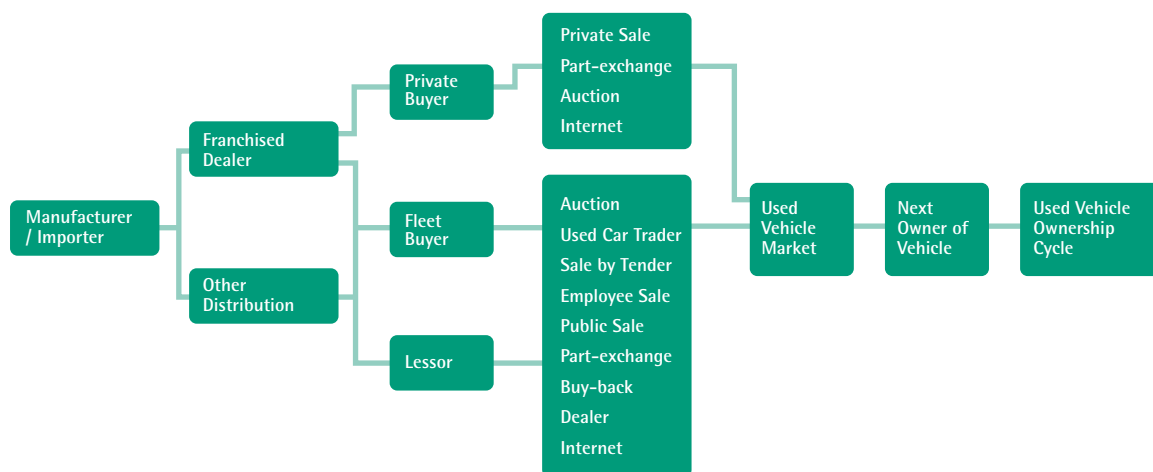
For illustrative purposes only – not comprehensive

The picture, too, can be simplified by acquiring vehicles through some form of leasing or contract hire arrangement, which can also add a further dimension to the picture.

- **Residual Values;** while it is accepted that residual values may vary between vehicle brands, there are many other issues that can influence the ultimate residual value of the vehicle.

In the case of contract hire, the issues of used car disposal are taken over by the leasing company. The paradigm in Figure 3[4] indicates the range of different methods of used car disposal that might need to be considered if the fleet operator were to undertake the task itself.

Figure 3[4]; Alternative routes to market; used vehicles



Source; BCA Rethinking Used Business Car Disposal Strategy

An increasingly important element of the TCO equation is the method by which the used vehicle is taken to market at the end of its prime life. Figure 3[4] outlines the main alternative routes to market for used vehicles.

Of course, the disposal picture goes far deeper than alternative routes to market – hidden or not accounted costs on disposal can be significant. Figure 3[5] presents a salutary lesson in the range of disposal costs that might be encountered.

**Figure 3[5]; Hidden costs of disposal**

• Movement to disposal site	• Preparation
• Ongoing depreciation	• Unexpired RFT
• Interest charges	• Auction fees
• Damage	• Commission
• Insurance	• Condition on sale

*For illustrative purposes only – not comprehensive*

One analyst has likened the real hidden costs of company car disposal to being 'like the hidden costs in selling a house'.

Disposal costs are covered in the TCO, in the case of contract hire; those costs are built into the overall rental costs. In the case of a contract hire deal, there may be a 'ratchet' incorporated, so any return above a base figure will be either paid in full or shared with the fleet operator.

Suffice to say, a contract hire arrangement leaves the vehicle user far less open to end of life shocks, provided the vehicle has been maintained and treated properly within agreed parameters.

- **Operating Costs;** are theoretically not too difficult to manage. Engine management systems and dashboard service indicators can tell the driver when servicing is due.

Hourly labour rates vary across the country. The difference in hourly labour costs could be as much as a third.

From a TCO basis, operating costs may vary significantly between identical cars on a fleet being driven by drivers of a similar job function and similar annual mileage. One driver may have just two accelerator positions 'off' and 'flat down', while another may have discovered the delights of intervening levels of throttle. What could that do to TCO – not just in terms of longer-term service requirements but also in terms of fuel consumption?

The role of True Cost of Operation begins to emerge.

- **Tyre Costs;** from a TCO point of view, tyre costs can be significant and difficult to manage. 'My tyre is bald, do I need to have just that one replaced?' is a message no fleet executive likes to hear. What is the definition of 'bald'? Why has only one tyre gone 'bald' – or should a couple be replaced? Equally, why has one or two gone bald? Is it through inadequate checking of tyre pressures, problems of alignment, the wrong sort of tyre for the task, or what?

From a company viewpoint, it is difficult to make any objective judgement. Driver safety comes first and an accident caused by a sub-standard tyre that had been refused replacement would not put out the right message to customers.

Tyre costs are a special issue in that, once fitted to the vehicle, they should have a predictable life and changing tyres shortly before vehicle replacement can give unplanned hikes in overall costs.

The real hidden costs of disposal of a company car

The role of True Cost of Operation begins to emerge

However, in the case of contract hire agreements, tyres are replaced when required so there should be no safety issues as they are part of the total contract.

Equally important, managing tyre costs can be difficult. Who has responsibility for checking pressures and quality and how and when should it be carried out? It has been claimed that many a salesperson is more worried about finger nails than tyre pressures.

In the case of a fleet management programme, the cost of tyre replacement may be passed totally to a contractor who then has to be able to change tyres almost at the drop of a hat. Safety is king.

Managing tyre costs can be difficult

- **Fuel Costs;** are one of the most difficult costs of all to manage on the fleet. Different vehicles have different fuel consumption patterns – petrol or diesel –then automatic or manual gearboxes. Equally, fuel consumption characteristics vary according to rural or urban driving, motorway or wide-open roads.

Drivers, too, have a big impact on fuel consumption depending on the symbiotic relationships, or otherwise, of their right foot, the accelerator and the brake.

A final and important issue with fuel cost and total consumption is the purchasing patterns of drivers. Do they buy fuel at supermarkets, on motorways or rural petrol stations? Equally, do drivers make special journeys 'to fill up on Saturday?' A four mile round trip 50 times a year is two hundred miles – at 25mpg equals £40 or more.

Fuel management is an issue that requires real-time management in terms of acquisition, cost-effective purchasing, consumption and location of purchase.

True Cost of Operation principles enable the fleet manager to drill down through average consumption to identify how individual units are performing.

- **The CO<sub>2</sub> Footprint;** from a corporate social responsibility and green image viewpoint, the CO<sub>2</sub> footprint is high on the agenda. Such a green, or otherwise, footprint can be calculated from fuel consumption. However, it is the management of fuel consumption, through tight monitoring of fuel use that will enable a business to reduce its overall carbon footprint. And, that requires constant monitoring.

Managed fuel consumption and a favourable carbon footprint have a positive impact on road safety, while individual vehicle figures give an insight into the driver's behaviour.

- **Accidents and Road Safety;** certainly play a part in TCO, in that accident costs have to be recouped either from the company's own insurers against the risk carried by the company or from a third party.

Perhaps the concern is that this is an indirect cost and occurs on a random basis. However, if a fleet is managed and monitored carefully, extraordinary costs will start to form a pattern. As a result, such costs can be monitored across the fleet and by individual units. If necessary, any guilty driver who has erred from the straight and narrow can be provided with remedial training and risk management skills and managed back into line.

From a green image viewpoint, the CO<sub>2</sub> footprint is high on the agenda

Any guilty driver can be provided with remedial training

The foregoing notes have highlighted some of the bigger cost elements in the field of TCO. Other cost elements could be included in the exercise but those discussed should provide an overview of the basis of True Cost of Operation.

There are, however, some critical issues still missing associated with benchmarking, monitoring and management of TCO.

### TCO; management parameters;

Earlier in this chapter, the importance of benchmarks was mentioned; in terms of total cost of operation and our newer definition of True Cost of Operation (TCO) that can be very important for total fleet management.

Get True Costs of Operation wrong or make the average too generous, and there will be no challenge or incentive to be frugal; equally, make the costs too tight and nobody will believe them – and so ignore them.

A range of measurement issues need to be taken into the equation when determining the real TCO of the fleet. Consider the following;

- **Drivers;** while individual drivers have their own styles these need to be measured against the benchmarks.
- **Vehicles;** what units and what hierarchical structure is being used for the fleet – and is this appropriate, given the level and motivation of employees and the competitive position of the vehicle?

At a more mundane level, there are in-house issues to consider too;

- **Administration costs;** few organisations are able to keep a clear track of admin costs associated with vehicles; those costs may be split between a number of people or departments and there is rarely resources or motivation to consolidate the multitude of costs accurately. It is quite possible for some significant costs to slip through the net and so damage integrity and consistency of costs.
- **Sources and quality of data;** how are the costs for the fleet gathered and against what are they measured? The tendency is for certain costs, which vary from one fleet to another, to be omitted from the calculations. Equally, it is all too easy for costs to be mis-allocated or to use out-of-date information, benchmarks and data for comparisons and creating databases.
- **Age of data;** while the current emphasis may well be on the cost of fuel, it is all too easy to use historic information for benchmarks and often create unfavourable profiles. While the UK currently does not officially have a high rate of inflation, costs that are a couple of years old could be 5-6% below real costs, and significantly lower if one is considering fuel costs.
- **Cost transparency;** administratively, there is always a risk of costs being misallocated. It is important that, in looking at TCO, companies take account of transparency requirements in the business and external application of data.

Other issues may be highlighted but are beyond the scope of the current report. The key issue is to ensure corporate and economic hygienes are pursued and monitored.

### Monitoring and managing the total cost of ownership

The foregoing pages have suggested, at a very high level, that the TCO of a fleet is complex and determined by a broad spread of issues, some of which are under the control of the company, while others are not.

To manage that range of issues is a challenge for a normal company however large or small their fleet.

The key is to have very high-quality, basic cost data and have current comparable data to benchmark that data against by vehicle group. Also, to undertake comparisons on a regular basis, to understand the difference whether the costs by group are too high or too low – then be able to manage any excesses out of the fleet.

The tendency is for certain costs to be omitted from the calculations

The key is to have very high-quality, basic cost data

That is a formidable task that few organisations have been able to achieve entirely themselves without external support and assistance.

### **Some initial conclusions**

This chapter has highlighted some of the issues of Total Cost of Ownership that fleet operators have to handle and the way the whole subject has become more and more complicated over the past few years.

The challenge for businesses is to ensure they are running, and continue to operate, a cost-effective fleet operation, have those costs benchmarked, monitored, and establish programmes to reduce and monitor costs that can generate a measurable cost reduction for their organisation.

## Chapter 4

# Arval TCO Fleet Management Model

This chapter outlines the Arval/Buckingham model for business car True Cost of Ownership management. The model has been developed independently over a period of six months by the Centre for Automotive Management at The University of Buckingham.

The model is robust and has been tested against a wide range of applications and fleet operators. From time to time, new comparisons will be released by Arval to ensure they are up to date. Equally, the economic model will be updated to reflect changes in government policy towards cars, particularly in the form of VED, personal and corporate taxes and allowances and, of course, significant movement in petrol and diesel costs.

The critical issue with the economic model is that it is current and dynamic and can be regularly updated to reflect changes in the various cost and tax elements.

The development and implementation of such an economic model is considered timely, in that the business car economy is subject to rapid change.

The critical issue is that current and dynamic can be regularly updated

### Parameters of the Arval/Buckingham economic model

The Arval/Buckingham TCO model targets 'three currencies' within a fleet's measurable costs and attributes which impact on the total fleet and its operation.

The three issues are;

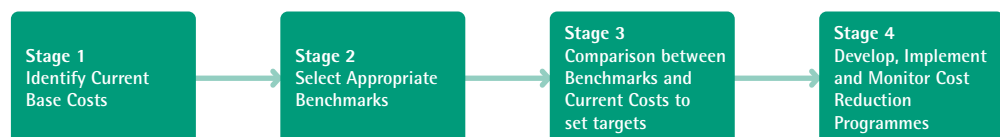
- Total cost of operation; the prime measure is to be able to identify costs by groups of vehicles and benchmark them against tightly-managed, similar-sized fleets.
- Measure CO<sub>2</sub> emissions of the fleet and, through simple calculation, determine the carbon footprint and its reduction.
- Create a safety index within the fleet that measures the degree of safety against the average for the larger sample, and identify which drivers are most at risk and might require retraining.

The measurement of these three parameters offers both economic benefits in terms of lower overall cost opportunities, and reduced overall CO<sub>2</sub> footprint of the business' car fleet.

### Arval/Buckingham TCO model

The Arval/Buckingham TCO model has four stages; while this may seem simplistic, it does disguise a complex analytical economic model. The essence of this is shown in Figure 4[1].

Figure 4[1]; Arval/Buckingham TCO model



*For illustrative purposes only*

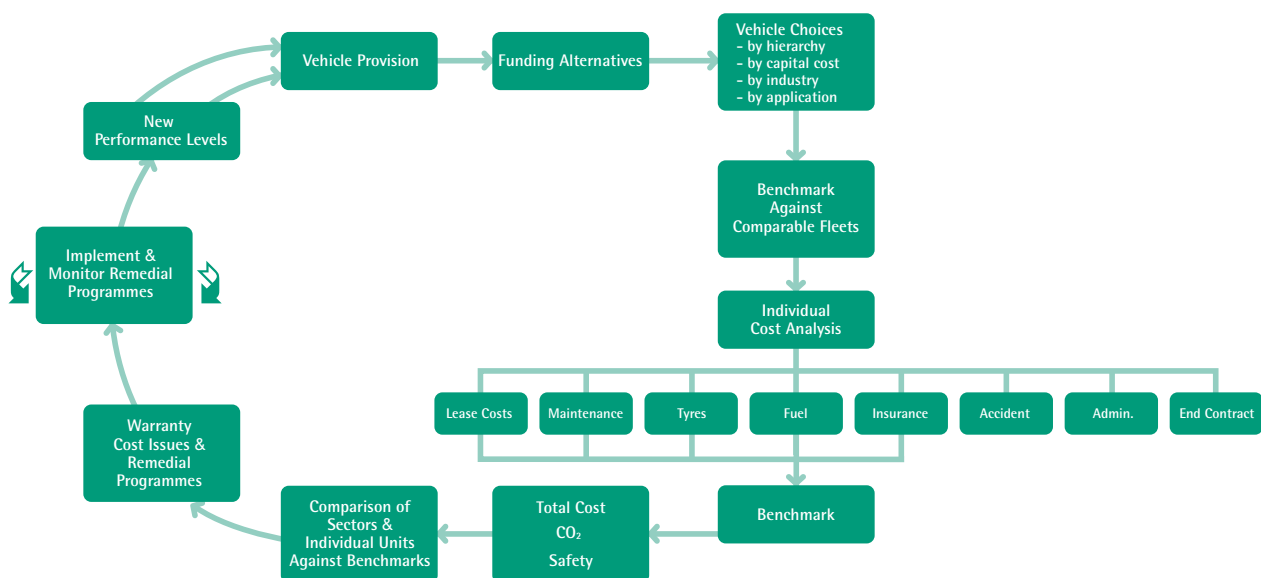
- **Stage 1; Determination of Base Costs;** the first stage of the True Cost of Operation exercise requires the establishment of the base costs of individual vehicles within the variances of units being examined.  
  
These costs are determined against strict Arval definitions so the analysis will compare like with like in the stages of the exercise when cost monitoring and management are introduced into the equation.
- **Stage 2; Select Appropriate Benchmarks;** as there are a number of areas to benchmark against, individual companies will be assessed against industry-type fleet usage and operating conditions.
- **Stage 3; Compare Current Costs with Benchmark Costs;** to identify on a group and individual unit basis, the variations between current operating costs and Arval benchmark costs. Arval recommend and agree achievable targets.
- **Stage 4; Develop, Implement and Monitor Cost Reduction Programme;** there will be differences between current costs and Arval benchmark figures. This stage of the exercise will identify and implement proven programmes and appropriate monitoring to help manage cost levels down to benchmark levels. Such programmes may be implemented to manage costs against targets over time or in a single stage, depending on the particular cost group and magnitude.

While this may sound simple, the critical USP of the exercise is the pragmatic high-quality data availability and analysis behind the model and the strict application of the tried and tested cost reduction programmes.

The critical USP is the pragmatic high-quality data

The model may be explained in a little more detail by the flowchart in Figure 4[2].

Figure 4[2]; Arval/Buckingham TCO Model



*For illustrative purposes only*

The key to the model is the ability to benchmark each group of costs against comparative groups of vehicles and, equally important, to highlight, implement and monitor remedial actions to pull those costs or risks back into line with industry best-practice – and to continue to monitor them to stay in line.

Arval would at this stage work with client fleet users to determine a realistic and manageable programme to bring the higher costs back in line with achievable or agreed benchmarks.

Thus, the Arval model is to target one or two specific cost groups and manage those down, over time, turning to work on other groups thereafter. Cost reduction is not normally a core competence in many companies and Arval's expertise can be invaluable. Equally important, any target cost saving initiatives should not intrude on core business activities.

### Three currencies models

The three currencies models incorporated in the total exercise mean that the True Cost of Operation with regard to total cost; CO<sub>2</sub> emissions and an accident index can be extracted indirectly from the model.

Such measurements are important to a company as they enable its management to measure specific aspects of fleet effectiveness and, where necessary, seek improvements in individual or groups of vehicles.

The three measures might be summarised as follows;

Individual cost elements can be tracked down

- **Total Cost of Operation;** the most usual measure; provides true cost of operation for the individual groups of units and benchmarks against the wider universe of well-managed units of that type within the Arval database. As a result, individual cost elements can be tracked down to individual units.

Arval have a range of management programmes and monitoring systems to help control costs effectively. Such capability can be brought to bear on groups of units in the fleet.

- **CO<sub>2</sub> emissions;** are a critical measure for the future as rules regarding emissions become tighter and are doubtless charged for. The CO<sub>2</sub> measure allows management to monitor vehicle emissions and narrow that down to groups of vehicles and fuel type. Once more, the system has the capability of determining CO<sub>2</sub> emissions by groups and individual vehicles. Arval has developed programmes to enable emissions to be managed downwards. The currency has the added benefit that it can also determine the cost of fuel consumed and help reduce it through a prudent purchase policy.

Fleet executives may tear out their corporate hair at the rate of incidents

- **Safety Index;** the third measure benchmarks the fleet and groups of units against safety. Fleet executives may tear out their corporate hair at the rate of incidents in their operation. In reality, such incidents are normally spread over time, so large numbers are needed to benchmark and draw meaningful conclusions. However, a measure of the rate of damage and incidents can be a powerful tool in road safety and provide an ongoing monitor for the fleet. Given that Arval has the ability to compare accidents across a very large number of units; it is also possible to gauge the seriousness of incidents.

The three currencies approach to fleet management offers companies the ability to get a firm fix on their fleet operation, control costs and build up safety on the fleet.

### Programme implementation

Implementation of the Arval/Buckingham TCO model starts with a detailed analysis of the relevant cost groups and, from that, a target improvement objective can be determined.

The first stage of implementation would be to discuss programmes with the fleet manager or executive with responsibility for the fleet. Remedial programmes based on the model would be discussed with the appropriate executives, implemented through them and supported by Arval cost monitoring. Relevant information and requests would be provided over the Internet and results fed back so they can see improvements achieved through specific cost reduction programmes.

While the full cycle would generally start with vehicle acquisition, there is every reason for fleets to implement programmes part way through their life-cycles and to seek operational improvements within the existing fleet. The time to make improvements and the degree achieved will vary from fleet to fleet and will, of course, be determined by the magnitude of total costs and the current effectiveness of fleet control.

**Implications and conclusions**

The Arval/Buckingham TCO model offers fleet operators an invaluable management tool for cost management and reduction that can penetrate groups of units within the business and also drill down to individual vehicles.

It is a revolutionary approach to fleet and cost management. It not only measures and offers the opportunity to target individual groups of costs, but can also provide fleet management with measures – currencies – of CO<sub>2</sub> emissions and a safety index.

A revolutionary approach to fleet and cost management

## Chapter 5

### Implications and Conclusions

The foregoing chapters have outlined what might be regarded as irrefutable evidence that the costs of providing and managing company cars are going to rise significantly in the future. Equally important, the economy appears to be moving towards a period of very slow economic growth, if not recession.

The challenge is to reduce the total cost of business car ownership

The challenge is to reduce the total cost of business car ownership, not just to ensure that best value for money is being achieved for the company, but also that the total costs of operation are being minimised.

A 'benchmark-based discipline' has been set out whereby individual groups of tightly-defined costs can be identified for specific groups of vehicles and operations and compared with benchmark cost levels for large numbers of similar units.

The important issue is that Arval already has relevant, tested and monitored programmes in place to enable fleet costs to be brought in line with the benchmark levels.

#### The challenge

In the case of operational cost management programmes Arval undertakes monitoring of the programmes; the challenge for the company is to 'sell such a project internally'.

Selling the system may require an internal exercise that is generally best launched at the highest level of the business and openly supported by the board. An internal launch, endorsed by the Managing Director, may target one group of costs to start with. Once these are under control and approaching benchmark levels, the next group of costs can be targeted.

It is important not to interfere with running the remainder of the business

It is so important that any TCO management programme does not interfere with the running the remainder of the business, but is seen as a natural development of tighter management, particularly in a period of recession.

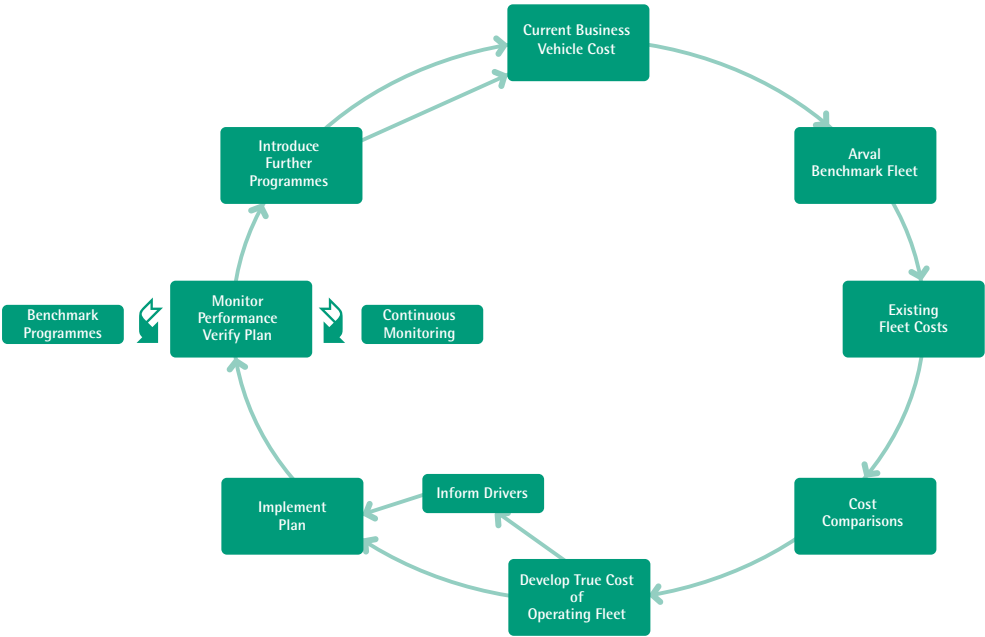
Figure 5[1] overleaf sets out a simple 'virtuous circle' for developing and implementing the Arval TCO model.

Such a model needs to be kept alive and company car drivers given feedback on how the programme and their own vehicles are progressing.

The real challenge is to keep the programme in front of users of the various groups of business cars. The programme needs refreshing and the emphasis fine tuned on a regular basis.

There also needs to be regular feedback for drivers, in the relevant vehicle groups, so they can see how costs are becoming more tightly managed –and how their own performance stands up against the model.

Figure 5[1]; TCO virtuous circle model



For illustrative purposes only

**Future development**

The Arval/Buckingham TCO model may be thought by some readers as perhaps a little sophisticated for their current needs. Perhaps the key phrase is 'current needs'. The company car, like it or not, has become politicised and is unlikely to escape from that straightjacket any time in the foreseeable future.

The result of politicisation may well be insecurity and once again becoming used as a lever of economic, fiscal or business pressure – whether through simple fiscal issues or through more subtle environmental management or congestion charging.

If any of these routes are pursued, the Arval/Buckingham TCO model could form the basis for an analysis of options open to companies and the costs associated with any draconian changes.

More importantly, the Arval operating data on which benchmarking is sourced, is continually updated, so decisions based on the model reflect the 'best available' information.

**Some final conclusions**

The Arval/Buckingham TCO business car management model has been developed to offer fleet operators the opportunity to analyse total operating costs more tightly than has been historically possible.

The model also offers the opportunity to target single groups of costs and use Arval-developed programmes to drive down and control these through best practice – to reduce the carbon footprint of the business and enhance the road safety potential of its company car fleet.

Measured against a period of increasing total cost of ownership it has to be an exercise every serious-minded finance director and fleet executive ignores at their peril.

An exercise every serious-minded finance director and fleet executive ignores at their peril

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 KPMG Professor of Automotive Management  
 The University of Buckingham

July 2008







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