

Opportunities for Vans Reducing CO₂ and Fuel Consumption

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The Van Best Practice Programme's Objectives



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“

To identify, demonstrate, embed and evaluate better practices that will increase the environmental, safety and operational performance of vans

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The Van Best Practice Programme: Research – Its Contribution



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A fundamental component of the programme is research – in order to determine the most effective routes to users and improvement opportunities

- Programme Research – 2010
- DfT Light Goods Vehicle CO₂ Emissions Study
- CfIT Report - Stage 1 of CfIT LCV Study
- DfT Van Users Segmentation Study
- And Other Research and Statistics



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- Programme Research – 2010
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- CfIT Report - Stage 1 of CfIT LCV Study
- DfT Van Users Segmentation Study
- And Other Research and Statistics
- Technology and the advance of manufacturers' specification
- Segmentation of van users by:
 - Ownership
 - Size of business
 - Industry sector
 - Mileage driven

The Impact of Technology on Van Emissions and Fuel Usage



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Van CO₂ Study

- Review of loading factors
- Tyre pressure and types
- Review of available data on van CO₂ emissions
- Practical testing of loading and drive cycles
- Development of modelling of CO₂ measurement
- **Assess potential for CO₂ emissions reduction**

Assessment of Potential for CO₂ Emissions Reduction



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Potential through 'best in class'

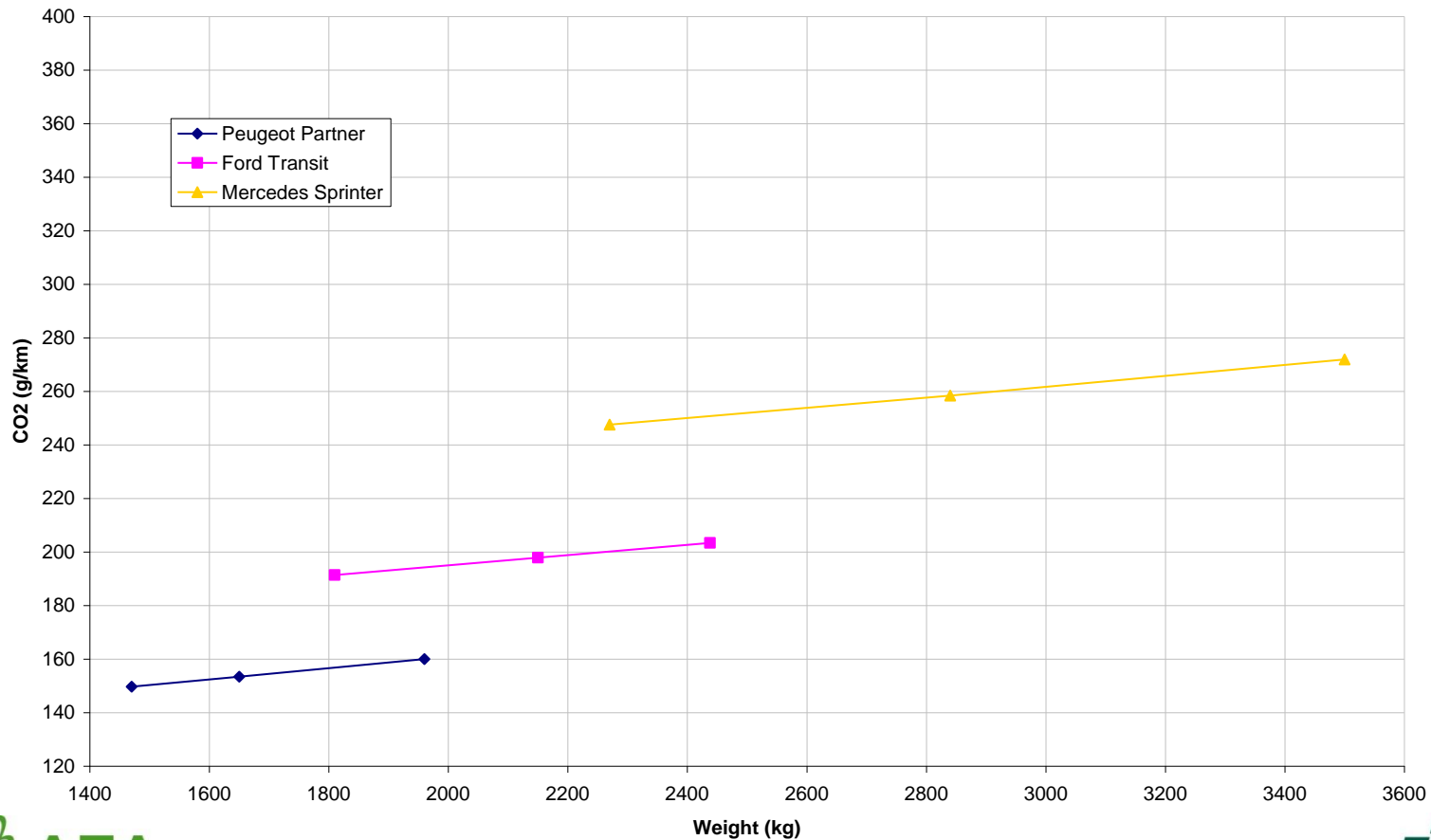
	Weighted by number of new registrations in augmented MVRIS database	
Van group	Emissions for best decile (g/km)	Emissions for whole group (g/km)
Smaller Class I	110.5	114.7 (2.3%)*
Larger Class I	135.0	139.4 **(7.1%)
Smaller Class II	141.5	150.6 (19.9%)
Larger Class II	195.8	215.5 (9.4%)
Class III	207.2	234.0 (61.2%)
	Savings if all vehicles in each class were the "best in class"	
Class I small vans	3.7%	
Class I large vans	3.2% **	
Class II small vans	6.0%	
Class II large vans	9.1%	
Class III	11.5%	
OVERALL	9.4%	

Assessment of Potential for CO₂ Emissions Reduction



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Effect of Loading



Segmentation of the Van Sector



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- A split between privately owned 48% and company owned 52%
- Segmentation of van users by:
 - Ownership
 - Size of business
 - Industry sector
 - Mileage driven
- Large increase of micro-businesses (<10 employees) of 32% between 1998 and 2008
- More likely to make used van purchase and be secondary in the new technology stream – **Therefore behaviour change required**



The Guides



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Transport

Efficient Vans

- Undertaking an efficiency review
- The process
- Suggestions for improvement
- Useful forms

Appendix 1: Vehicle Maintenance and Condition Report

Servicing/repairs during month			
Date	Odometer reading	Brief details/cost	Name of garage

Bodywork condition
(list details of any damage and mark position on diagram)

Any other comments

Driver's signature: _____ Date: _____
 Manager's signature: _____ Date: _____

Appendix 1: Vehicle Maintenance and Condition Report

Appendix 2: Driver's Daily Vehicle Checklist and Fault Report

Checks to be conducted before use of the vehicle

Date: _____ Vehicle registration: _____
 Driver: _____ Odometer reading: _____
 Vehicle make/type: _____

Marking Key:
 ✓ Satisfactory/available ✗ Critical fault
 - Defective/missing N/A Not applicable

External vehicle condition

Item	Mark	Comments
Condition of vehicle bodywork, windscreen, windows, lights		
Condition of windscreen wiper blades		
Clearance of windscreen, windows, mirrors, lights, number plate		
Security of load, trailer, roof rack		
Condition of tyres, tyre pressures, tyre wear		
Availability of spare wheel, jack and tools		
Under-vehicle inspection: leaks, loose parts, foreign material		

Fluids

Item	Mark	Comments
Engine oil level		
Coolant level		
Windscreen wash level		
Brake/clutch fluid		
Power steering fluid		
Condition of battery, acid level, fittings and connections		
Oil or other fluid leaks		

Appendix 2: Driver's Daily Vehicle Checklist and Fault Report



Improving Your Efficiency

This section gives details of how to go about improving the efficiency of your van operations.

4.1 Understand/Establish Your Baseline

This section guides managers through the process of understanding the van fleet as it is. A checklist, ready to use directly, is given in Figure 4.1.2.

Figure 4.1: Understanding your van, key questions



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The Guides



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Fuel Management Pack

- Practical guidance on implementation
- Activity sheets
- Follow on sheets

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Action Sheet 1

Management: Initiating the Change

Introduction
Let's consider the following scenario: If an average small van costs £3,000 per year to fill up and there are 20 vans on the fleet, that is a total annual fuel bill of £60,000. How much would you want to manage and reduce this?

The start point of a fuel management programme has to be the basic decision to manage the critical component of cost more effectively.

In order for fuel efficiency to become a routine part of the van users' everyday activity, it needs to be supported throughout the business. Without this, initiatives are likely to fail. If fuel efficiency is not seen to be part of the company's routine way of doing business, changes will need to be made.

Sequence
Initiating the change is a priority activity that has to be undertaken in order to improve fuel efficiency within a van operation. The Basic Steps, as shown overhead, must be completed before moving on to the next Action Sheet.

Responsible Person
In order for fuel efficiency to be initiated, the business manager needs to be convinced of the benefits to the company. The decision to embark on fuel efficiency could come from a variety of people within any management structure. Whoever decides that fuel efficiency needs to be taken seriously and to change procedures to ensure that action is taken, must have senior management support before starting.

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Management: Initiating the Change Basic Steps	Date Completed
1 Agreeing a fuel efficiency policy Agree a fuel efficiency policy, including any goals and objectives. This will involve changing fuel needs to be thought through, such as the requirement to measure fuel usage accurately.	
2 Gaining commitment Fuel efficiency requires commitment throughout the business, so ensure that everyone is involved on the implementation of fuel efficiency measures. Win people over by obtaining the message in an encouraging style.	
3 Justifying improvements It may be necessary to partly implement fuel management improvements, especially if expenditure is required. In the first instance, recording mileage and measuring fuel usage will require time and effort.	
4 Selecting a Fuel Champion Select a person in the business to lead the change; this person is normally referred to as the 'Fuel Champion' (see Action Sheet 2). Without an appointed person to lead and manage fuel efficiency, it is less likely to succeed.	
5 Publishing internally Publishes fuel management internally within the business to all levels of management and the workforce and ensure that the benefits are clear.	

Management: Initiating the Change Advanced Steps	Date Completed
1 Considering additional resources Consider any additional resources required to continue improvements in fuel efficiency. This may include literature or other approved fuel and/or vehicle performance measuring equipment.	
2 Considering performance review Continue to periodically review performance, setting new targets once original ones have been met. This should be undertaken at least annually and should always be realistic. As the benefits of fuel efficiency grow, the review will become part of business practice and could include many people within the business.	

Action Sheet 1

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Follow-on Sheet: The Driver

Introduction
The Fuel Champion must emphasise the importance of establishing baseline data to drivers as without this, the starting point from which improvement has to be made, will never be known. The baseline is created from all activities carried out as per Action Sheet 1.

In order for fuel efficiency measures to be effective, the business must engage van drivers, whether they drive professionally or drive a van to support another trade. Driver behaviour is a key factor in fuel efficiency, so they must be motivated and supported for the initiative to be successful.

Sequence
This is a priority action that is required to be undertaken at the start of any fuel efficiency measure.

Responsible Person
The activity is the responsibility of the Fuel Champion.

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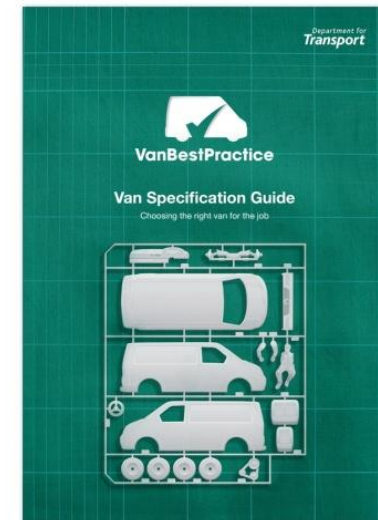
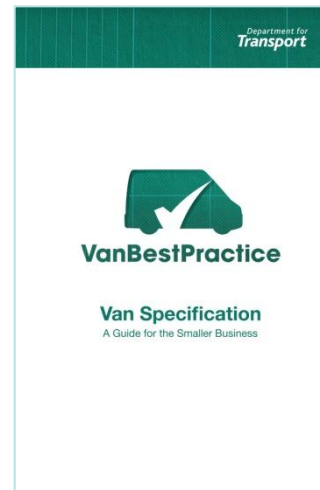
The Vehicle	Date Completed
1 Van specification It is important to 'right size' the vans to each particular task to ensure the most appropriate and, therefore, efficient van is selected. If similar tasks are being carried out by different vans, this should be investigated to highlight if one or more types are better suited, with a view of making changes to vehicle specification or allocation. Further information on van specification can be found in the Van Best Practice 'Van Specification' guide.	
2 Driver care and attention Drivers should carry out routine checks on vans to ensure they continue to be roadworthy and any vehicle issues are highlighted early. Some companies have ensured these happen by conducting on-spot checks, asking employees to confirm their compliance when carrying monthly expenses, or making the failure to carry them out a disciplinary matter. The Van Best Practice programme has developed a range of tip cards called 'Driver Essentials' which may be useful.	
3 Linking fuel efficiency with maintenance Keeping vans properly maintained and roadworthy is an important aspect of management because of the costs involved and the road safety implications. There is also an important environmental aspect to this - a well-maintained van will generally use less fuel and produce lower emissions than one that is not properly maintained. It is therefore important to include the investigation of poor performing vans as part of the fuel efficiency monitoring process.	
4 Contributing knowledge As part of the Fuel Champion's responsibility for monitoring all staff in fuel efficiency (see Action Sheet 2), maintenance staff should be asked to contribute their knowledge on van fuel efficiency.	
5 Whole life costs The best way to understand and control van expenditure is through the process known as whole life costs. This provides the most accurate way to predict the overall costs of the vans to the business. In general, the major elements are depreciation, fuel, running costs, maintenance, insurance and vehicle resale value. When renewing vans it is important to understand the whole life costs rather than the cash price or monthly lease.	

Follow-on Sheet: The Vehicle



Fuel Saving Potential Through:

- Influencing driver behaviour
- Making the right purchase through correct van selection



Safe and Fuel Efficient Driving (SAFED) for Vans



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SAFE AND FUEL
EFFICIENT DRIVING



...an environmental and safety revolution that is sweeping the fleet market.



SAFED (Safe and Fuel Efficient Driving) is a one-day, off-the-job driver training course focused on safe and fuel-efficient techniques

- Over 300 qualified trainers
- In excess of 11,000 drivers trained so far
- 16% on-the-day average mpg improvement
- Potential annual savings of £5M fuel spend and 13,000 tonnes of CO₂
- 33% reduction in gear changes
- 60% reduction in driver faults
- Fleet Van Awards 2008 winner





There are opportunities to reduce van CO₂ emissions and fuel use by a combination of technological advances being made by manufacturers and disseminated through new van purchase and - especially pertinent to the smaller business - through behaviour change and the practical application of basic management of vehicles and appropriate van selection.