# Sustainable Distribution: A Strategy

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Foreword

(by the Rt. Hon. John Prescott MP, Deputy Prime Minister and Secretary of State for the Environment, Transport and the Regions)

An efficient and enterprising freight transport industry has been one of our historic strengths. From the explorers and merchant venturers of the 16th century to the pioneers of canal-building in the 18th century, railways in the 19th century and the development of road haulage and information communication technology in our own times, the UK has won and maintained a leading position in trade and distribution.

The Government's White Paper "A New Deal for Transport" set out the case for an integrated transport system which is safe, clean and fair. We made it clear that freight distribution has a part to play in supporting the economic growth of the country. But this should not be at the expense of the wider community and the environment. This document sets out how, working with industry, local government and the wider community, the Government intends to deliver its strategy for sustainable distribution. It reflects our integrated approach to freight transport, making the most of all modes of transport and taking into account the supply chain or logistics context of modern day freight transport.

Achieving continued economic growth while protecting the environment and delivering a better quality of life for future generations are critical success factors for every developed country in the 21st century.

Today our larger distribution companies are major players in the international market. Our freight transport industry has responded well to structural changes, meeting the demand for just-in-time delivery drawing supplies from wider markets and using sophisticated information technology. Rapid, flexible and keenly priced distribution services have become such an integral part of our daily lives that it is difficult to imagine what life would be like without them.

At the same time, we must make sure that we can live with them; not only today, but in years to come. There is a good story to tell of measures already in hand, to reduce noise and pollution from vehicles, to minimise empty running and to make better use of our railways and shipping services. You can read about some good examples in this document. But much still remains to be done. Accidents, pollution, disturbance and congestion impose substantial costs on society. They reduce our quality of life today, and will pose greater problems in future, unless we act now. In particular it is forecast that, on current trends, road traffic will increase by at least 38% over the next 20 years. The resulting increase in congestion will threaten the achievement of our environmental objectives. So, we must strike a sensible balance between road traffic and other modes of transport.

We must have a pact with the haulier and the transport operator - increasing efficient delivery whilst protecting our communities from intrusion and maximising the benefits of rail and water transport.

This is why we need a strategy for sustainable distribution. By harnessing the energies of the private and public sectors we aim over the next ten years to create a distribution system that continues to support a growing economy in the 21st century, and serves our society better. This document explains how.

John Prescott

Summary

- This document fulfils the Government's commitment in the White Paper "A New Deal for Transport" to set out a comprehensive, integrated strategy for the sustainable distribution of goods and services in the UK.
- A sustainable distribution strategy should consider more than just the transport of goods from A to B. This paper encompasses supply chain management or "logistics" as well as all modes of transport.
- The aim of a sustainable distribution strategy must be to ensure that the future development of the distribution industry does not compromise the future needs of our society, economy and environment.

The Government's objectives are to:

- improve the efficiency of distribution
- minimise congestion
- make better use of transport infrastructure
- minimise pollution and reduce greenhouse gas emissions
- manage development pressures on the landscape - both natural and man-made
- reduce noise and disturbance from freight movements
- reduce the number of accidents, injuries and cases of ill-health associated with freight movement.

Actions

To promote sustainable transport of goods we shall (4.1-4.27):

- use economic instruments such as charging and taxation to send clear signals about the wider social and environmental impacts of distribution decisions.
- review the system for setting Vehicle Excise Duty (VED) rates for lorries.
- commission research into developing quantified estimates of the impact of freight movements on the environment.
- pursue a strategy of annual increases in fuel duty of at least 6% above inflation.
- continue work to improve further access for the UK shipping industry to international markets.
- press for extension of single market principles to the ports sector within the European Union.
- work with our European partners to promote freedom of access to the European rail network for rail freight operators.
- support extension of the "Third Package" of EU aviation liberalisation measures to central and eastern European countries.

To promote integration within the freight transport industry and with our planning and roads policies we shall (5.2-5.13):

- issue revised planning guidance which will encourage more freight to be carried by rail and water.
encourage stronger protection for sites and routes which could be critical in developing freight infrastructure.

make regional planning conferences responsible for preparing regional sustainable transport strategies.

ensure that the management and development of trunk roads takes place within the context of our integrated transport policy and land use planning policies.

improve road maintenance, making it the Government's first priority.

manage demand to make the best use of the road network.

improve the integration of the road network with major transport interchanges so as to promote greater use of rail and water transport for freight.

require local authorities in England to produce local transport plans setting out their proposals for the management, maintenance and development of local road networks.

examine the use of traffic management techniques which give priority to lorries.

To promote the integration of the freight distribution infrastructure we shall (5.14-5.18):

propose a national policy framework for major freight interchanges.

develop a national airports policy, covering air freight as well as passenger services.

To ensure rail freight plays a full part in sustainable goods distribution we shall (5.19-5.29):

promote greater use of the rail network for freight through incentives such as increased availability of grants.

set up a Strategic Rail Authority to promote the improvement of both passenger and freight services.

To promote sustainable distribution by sea and inland waterways we shall (5.30-5.35):

extend the coverage of the freight facilities grant scheme to coastal and short sea shipping.

encourage waterborne traffic where this is practicable and economic.

work with British Waterways and others to identify realistic market opportunities for inland waterways.

To improve our understanding of the distribution industry we shall (5.36-5.59):

commission research into key issues in freight transport and distribution.

promote wide use of Key Performance Indicators (KPIs) and benchmarking throughout the distribution industry.

commission research into the air cargo industry to inform future Government policy.

work with industry to identify and remedy gaps in our statistical knowledge.

To improve safety in the industry we shall (6.4-6.30):

modernise the systems which collect enforcement data,

introduce new, tighter arrangements for the notification of vehicles by operators,

consult with the police and others on proposals to allow traffic to be stopped by uniformed traffic wardens and to provide police stop signs for use by enforcement agencies.
Sustainable Distribution: A Strategy

- discuss with British ports and Eurotunnel a strategy for enforcement checks at major freight interchanges,
- increase funding for enforcement activity,
- support the introduction of a vehicle detention scheme for illegally operated vehicles,
- encourage best practice within the industry for driver training, vehicle maintenance and site operations.
- ensure that illegal operators do not have access to Government construction sites.
- review the speed limits which apply to HGVs as part of our wider review of speed policy.
- introduce an experience requirement for persons supervising learner HGV drivers.
- extend the theory test for HGV licences.
- improve the marking arrangements for the HGV practical driving test.
- consult with the freight industry on a statutory scheme to regulate HGV driver training.
- encourage better provision of roadside rest facilities for lorry drivers.
- consult industry on the introduction of front under-run guards on lorries.
- consult on proposals to replace the obsolete UK drivers' hours rules with the EU rules.
- work to achieve flexible implementation of the Working Time Directive in the transport sector.

To promote an efficient, competitive road haulage industry we shall (6.31-6.43):

- allow 40 tonne, 5 axle lorries with a drive axle loading of up to 11.5 tonnes to operate in the UK on both international and domestic journeys from 1 January 1999.
- encourage industry to invest in a new, more road-friendly 41 tonne, 6 axle lorry with a drive axle loading of up to 10.5 tonnes to operate in the UK from 1 January 1999.
- ensure that the VED for these lorries is commensurate with the road damage they will cause.
- ask the Commission for Integrated Transport to consider the case of the 44 tonne, 6 axle lorry.

To reduce the noise and disturbance caused by lorries we shall (6.44-6.52):

- work with the FTA and RHA to promote the "Well Driven?" scheme.
- examine ways of improving and streamlining arrangements for local authorities to prohibit or restrict HGV movements.
- support EU proposals for low noise tyres for motor vehicles together with test procedures to set minimum adhesion levels.

To promote the sustainable distribution of goods in urban areas we shall (6.53-6.59):

- promote the development of "Quality Partnerships" between local authorities, the freight industry, business communities, residents and environmental groups.
- carry out research into the potential for freight consolidation systems to improve urban distribution.
- carry out research into the impact of out of hours running.

To help meet the Government's objectives for air quality we shall (6.60-6.79):
encourage the manufacture and purchase of cleaner, quieter, more fuel-efficient vehicles through the Cleaner Vehicles Task Force (CVTF).

promote the take-up of a VED concession worth up to £500 for goods vehicles and buses meeting the most stringent standards for exhaust emissions.

courage the use of cleaner, alternative fuels through changes to fuel duty rates and grants from the "Powershift" programme.

work with the European Commission to develop further European standards for vehicle emissions.

review further options for improving existing fleet performance as part of the study of track costs and environmental costs.

To help meet the Government's target for CO2 reductions we shall (6.80-6.83):

promote fuel efficiency through driver training and performance monitoring.

courage the transport industry to improve efficiency with the aim of achieving a less-fuel intensive, more sustainable distribution system.

publish new guidance on aerodynamic equipment for vehicles.

prepare a guide on computerised vehicle routeing and scheduling systems.

To improve environmental performance in other sectors of freight distribution we shall (6.84-6.95):

work through the International Maritime Organisation to reduce the environmental impact of shipping.

monitor and enforce the requirement for operators of ports, harbours, terminals and marinas to plan for the provision of reception facilities for ships' wastes.

support the work of the European Commission to develop noise standards for rail freight wagons.

support moves within the International Civil Aviation Organisation to tighten the standard for NOx emissions from aircraft.

press for removal of the exemption from duty of aviation fuel used on international flights to encourage fuel efficiency.

To promote best environmental practice in the distribution industry we shall (6.96-6.100):

widen the scope of the Energy Efficiency Best Practice Programme to include all sectors involved in supply chain management and all aspects of sustainable distribution; including pollution, waste reduction and recycling, safety, training, new technologies, and overall performance improvement.

launch a new journal of Sustainable Logistics to disseminate Best Practice information.

explore ways in which innovation and best practice can be recognised.

To track the success of the sustainable distribution strategy we shall (7.1-7.4):

monitor and aim to reduce the road freight transport intensity of economic growth.

publish sustainable distribution indicators on a yearly basis.
Chapter 1: Introduction

A New Deal for Transport

1.1 On 20 July 1998, the Government published "A New Deal for Transport: Better For Everyone". The White Paper is comprehensive. It sets out how the Government intends to deliver:

- an integrated transport system,
- a better public transport system,
- a better road network,
- a cleaner, healthier environment,
- better safety and personal security,
- a more inclusive society,
- better places to live,
- shared decision-making and modern local democracy and
- a sustainable approach to goods distribution.

1.3 In the White Paper the Government promised to set out a range of policies for moving goods sustainably. This document sets out how the Government, working in partnership with industry, will deliver a strategy for the efficient movement of goods, supporting a strong economy with minimum harm to the environment and people's health.

1.4 An integrated approach requires co-ordinated thinking at different levels:

- integration within and between different modes of transport - so as to improve overall efficiency and competitiveness of goods distribution for UK industry;

- integration with the environment - so that freight transport plays its part in achieving the Government's environmental objectives;

- integration with land use planning - so as to promote more sustainable distribution patterns by improving the strategic development of infrastructure for freight distribution; and

- integration with the Government's policies for education, health and wealth creation - so that freight transport contributes to a fairer, more inclusive society.

1.5 As a trading nation, this country needs an efficient, cost-effective system of goods distribution so that it can compete successfully in an international market and deliver a good standard of living at home.

1.6 Goods and services distribution today relies heavily on the use of road infrastructure and the lorry. But congestion on Britain's roads imposes rising costs upon industry. As explained in our Roads Review "A New Deal for Trunk Roads in England", merely trying to build our way out of congestion does not work. We need an integrated transport infrastructure in which road, rail, inland waterways, coastal shipping, ports and airports all play their part in delivering the goods.

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1.7 Poor local air quality caused by pollution from traffic is damaging people's health. Road accidents cost lives and damage the economy. The Government is committed to improving the health of the nation. Road freight distribution is a major contributor to CO2 emissions and air pollution. This Government is committed to reducing greenhouse gas emissions to 12.5% below 1990 levels by the period 2008 to 2012 under the Kyoto agreement and is aiming for a 20% cut in CO2 emissions by 2010. Standards across industry must rise and must be continually challenged by comparison with benchmarks and indicators of sustainability so as to promote further improvements in performance.

**The Scope of the Sustainable Distribution Strategy**

1.8 Merger of the Departments of the Environment and Transport into DETR has brought together responsibilities for developing freight transport policy, along with responsibilities for dealing with its wider environmental and social impacts. This strategy document is the first comprehensive statement on freight transport issues to be produced by the new Department. Its strong linkage with the wider sustainable development agenda exemplifies the rationale for the merger.

1.9 Consistent with the Government's integrated approach to transport policy, this document also brings together - again for the first time - the process of policy formulation across all the freight transport modes, under the new 'banner' of sustainable distribution. Moreover, it seeks to reflect the importance of the entire supply chain, from raw materials to finished products and waste for disposal or recycling - an important aspect which has not received due attention in the past. It sets out a programme of constructive measures to sustain economic growth, while reducing accidents, pollution, noise and congestion.

1.10 This new approach is intended to bring a clearer and more consistent vision of the Government's role and objectives in this important field. It aims to promote better understanding and closer co-operation in pursuit of common objectives, both within the public sector and between the public and private sectors.

1.11 The scope of this sustainable distribution strategy extends across the whole of the United Kingdom, but important aspects of it can only be defined within a more local geographical and economic context. The Scottish Office, Welsh Office and DoE (Northern Ireland) will ensure effective targeting of policies and initiatives tailored to their areas. (The White Paper is complemented by a separate transport White Paper for Scotland4 and policy statements for Wales5 and Northern Ireland6.) The new Scottish Parliament, the Welsh Assembly and the Northern Ireland Assembly will ensure greater accountability and democratic control over decision-making.

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Chapter 2: The Role of Distribution and Logistics

2.1 Efficient distribution of goods and services has been one of the defining parameters of economic development since the beginnings of civilisation. Distribution is critical to security of supply, for the basic essentials of life such as food, drink and shelter, as much as for luxury products. It determines market diversity and consumer choice, and thus drives competitiveness, jobs and prosperity.

2.2 The problems associated with distribution have an equally long history. In ancient Rome, congestion, noise, one way streets, access restrictions and toll bridges were a part of everyday life by the time of Julius Caesar.

2.3 For most people today, as in the past, road traffic is the most visible aspect of distribution. However, distribution spans much more than freight transport services, although transport is a critical part of it. The economic "supply chain" extends from the delivery of supplies to manufacturing plants, through the management of materials within the plant and stocks produced by it, delivery to warehouses and distribution centres, sorting, handling and packaging - and final distribution to the point of consumption. Many different activities, skills and transactions link together to provide the quality and diversity of goods and services that we have grown accustomed to and nowadays take for granted. Yet as we can see in less developed countries, the lack of an efficient, modern distribution system can profoundly restrict people's living standards and opportunities.

2.4 The term "logistics" is commonly used today to describe the process of designing and managing the supply chain in the wider sense. Logistics can involve the movement of people as well as goods, and information as well as materials. It is the process which ensures that the resources needed for work and production are positioned in the right places, at the right times, in the quantity and quality required and at the right price. The increasing requirements on companies to minimise waste production and increase recycling of any waste produced has led to the development of a new form of logistics known as 'reverse logistics'. Logistics is critical to our economic success whether in manufacturing or services, in the private or public sectors.

2.5 Logistics is an important sector of the economy in its own right. It is estimated that the core activities comprised in logistics (insofar as they can be distinguished from general commercial and industrial activities) account for nearly 4% of gross output, valued at around £55 billion a year.7 There are over 1 million jobs in commercial transport and warehousing activities, accounting for around 3.5% of total employment. The freight transport element of logistics typically accounts for between 5% and 10% of business costs, although this proportion can be considerably higher in some heavy industrial sectors.

Global trade and the economic performance of the industrialised nations (excluding World Wars)

7 Calculated by The Office for National Statistics.
2.6 But the principal economic importance of logistics is as a contributor to economic growth. This contribution is manifest in two main ways.

2.7 First, efficient logistics extends market reach, by giving manufacturers access to a wider range of raw materials and supplies from different sources, and consumers access to a wider range of manufactured goods or services, both domestic and international. This is of great importance to the UK, with its vibrant trading economy. 20% of our GDP derives from international trade in goods. However, logistics in its widest sense also includes the distribution of information and services. Adding these increases the value of trade to our economy to around 30%.

**Logistics costs by country**

2.8 Second, efficient logistics reduces waste, both in production and in the deployment of capital. In this area our economy has evolved substantially in recent years, as UK industry has successfully adapted to exploit economies of scope and scale and to spread the advantages of "just in time" practices widely throughout the manufacturing and retailing sectors. In retailing, for example, EPOS (electronic point of sale systems) and EDI (electronic data interchange) have enabled stocks and order placement to be managed on a real-time basis, with rapid and precisely controlled replenishment of items sold.

2.9 In some sectors, manufacturing plants have consolidated into facilities of national and international scale. At the same time, industry has progressively restructured to focus on the efficient management of 'core functions', out-sourcing and multi-sourcing raw materials, components and subsidiary processes to suppliers who specialise in these fields.

2.10 Waste has been reduced by more responsive and 'leaner' production technologies and, in particular, by more effective management of stockholdings at every point in the supply chain.
Manufacturers and retailers no longer hold large stocks of raw materials, components or finished products 'just in case', but instead rely upon their suppliers' ability to meet the needs of their production lines consistently, reliably, and "just in time".

**Wholesale and retail turnover and stocks: £ billion**

2.11 Improvements in logistics have reduced physical wastage in cases where stocks are perishable (such as foodstuffs). More widely, they have facilitated substantial reductions in working capital tied up in stocks throughout the economy. When stockholdings are reduced, money and other assets such as labour, land and buildings can be redeployed into other, more productive uses. During the past ten years, the ratio of manufacturing stocks to output has fallen by over 20%, representing a saving of some £17 billion at today's prices. Additionally, wholesalers and retailers have realised a saving of £11 billion.

**Number of weeks of stock (by country)**

2.12 The evidence suggests that the UK is now amongst the world leaders in efficient management of the supply chain, representing an important competitive advantage for UK companies.

**The Transport Impacts of Logistics**

2.13 Although transport is only one of a number of supply chain activities, the freight transport system (embracing road, rail, sea, waterway and air services) has played a critical part in facilitating these wider structural changes and efficiency gains in our economy. Indeed, it is only by
understanding how the entire supply chain has evolved that one can understand the changes that have taken place in freight transport over the past decade.

2.14 Over the past ten years:

- the value of our economic output has risen by over 20%, dominated by growth in the services sector;
- HGV traffic on roads in Great Britain has increased by 38%, measured by the number of tonne km transported, although the total number of heavy lorries registered in Britain has remained broadly static (with a significant shift in fleet composition towards larger, articulated vehicles);8
- van traffic (measured in vehicle km) in Great Britain has increased by 40%. Vans are used for service provision and personal transport, as well as for goods transport;
- rail freight traffic (also measured in tonne km.) which had fallen by about 20% over the period 1982 to 1995, has now recovered to within 3% of 1982 levels;
- UK shipping and ports services have experienced 55% growth in containerised traffic and 44% in lorry or unaccompanied trailer traffic, while bulk traffic rose by 7%; and
- notwithstanding its much higher cost, UK air cargo traffic has doubled in tonnage terms and grown by 70% in real value.

Changes in economic output

![Chart showing changes in economic output](image)

Changes in goods traffic

8 A more in-depth statistical analysis of freight transport in Great Britain can be found in "Focus on Freight", DETR (1998), publ. The Stationery Office. ISBN 0 11 552054 6
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Freight moved by mode of transport

UK air cargo by aircraft type

Unitised traffic at UK ports 1988-1996
2.15 Given the changes in our economy and the trend towards production of lighter, higher value goods, a static or declining trend in bulk goods transport is to be expected. However the substantial overall growth in road transport (concentrated in non-bulk sectors) may appear puzzling - until one takes into account the wider supply chain context described earlier. Important factors which have led businesses to invest in more distribution and to move consignments over longer distances include:

- increasing scale and specialisation of manufacturing plants, which require more inter-plant transport and in some cases can be further from supply sources and markets;
- production of more complex, higher value products which require more components and/or more sophisticated processes, often entailing additional transport (e.g. processed and pre-prepared foods);
- wider national and international sourcing and market distribution, which has enabled producers to develop new products, cut costs and sell at competitive prices to more geographically dispersed consumers;
- the strong growth of the service sector of the economy, which has promoted growth in van traffic; and
- demands for more frequent deliveries, as stockholdings have been reduced throughout the supply chain.

Use of Electronic Data Interchange systems in Europe

2.16 Notwithstanding the impact of "just in time", average lorry payloads have not declined over the years (in fact there has been a modest increase, attributable to changes in the vehicle fleet composition
which have favoured larger vehicles). The statistical data\(^9\) shows that transport operators have responded efficiently to the increased demands placed upon them by customers, and in many sectors, industry has benefited from reductions in the unit cost of transport as a result. Factors contributing to this gain in efficiency include:

- increases in vehicle carrying capacity (mainly through increases in gross weight limits);
- development of the main, strategic road network and other infrastructure improvements, notably the Channel Tunnel;
- enhancements in the capacity and efficiency of major freight transport interchange facilities, such as ports, airports and intermodal rail terminals;
- strong growth in unitised traffic (containers and pallets), which has reduced handling times and costs;
- the development of regional, national and global 'hub and spoke' distribution networks, which allow shipments of smaller consignments to be consolidated into full loads, both for long-haul journeys ("trunking") and for collection and delivery at either end of the journey;
- improved working practices and labour productivity; and
- the introduction of more sophisticated and efficient technologies for vehicles, goods handling equipment, packaging and IT support systems, such as EDI which allow better stock management and shorter lead times for ordering.

Chapter 3: Towards "Sustainable Distribution"

3.1 Sustainability is a theme that runs throughout the Government's policies. The introduction to our document "Sustainable Development: Opportunities for Change" states that:

"sustainable development means a new and integrated way of thinking about choices right across Government and throughout society, so that we can all share in the highest quality of life now, without passing on a poorer world to our children."

3.2 Sustainable distribution is concerned with achieving specific outcomes, which are set out in Table 1. The concept of sustainability expressly recognises that all these outcomes are interdependent. Failure to address the problems of disturbance, noise, safety or pollution, for example, would eventually threaten our continued economic growth. Equally, failure to sustain economic growth would threaten our ability to achieve improvements in prosperity, health and life expectancy. It would make it more difficult to afford the investment in the new technologies and working practices that will be needed to tackle pollution and climate change.

How We Measure Up

Efficiency

3.3 The market for distribution services is one of the most open and competitive to be found anywhere in our economy, with generally low barriers to entry, especially in road distribution services. The market incentives to eliminate waste, minimise costs and satisfy customers are strong, and will continue to generate quality and efficiency gains in future.

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3.4 That said, there is still substantial scope for further improvement. For example, the ratio of empty running of lorries remains significant, at around 30%, and has been broadly static for the last 10 years. The incidence of light running, where vehicles are not loaded to their full capacity, is greater still. Eliminating all empty or light running is simply not practicable. There are a number of activities (such as chemicals or petroleum deliveries, or delivery of concrete to building sites) where it is not feasible to secure return loads. But there still appear to be many opportunities for reducing empty or light running, whether through better information systems, promoting collaboration between operators or introducing improved vehicle or packaging technologies.\textsuperscript{11}

3.5 It will be an important aim of the sustainable distribution strategy to help industry to identify and pursue further efficiency gains. Not only does this directly support the objective of sustainable economic growth; it promotes the Government's environmental and social agendas as well. Vehicles running empty or partially loaded add to noise, pollution, congestion, health problems and accident risks - costly to industry and society at large.

\textit{Environment}

3.6 The development of our distribution system has a substantial environmental impact. Although there are no more lorries on our roads than there were 10 years ago, they are larger (on average), and travel considerably further. Van traffic has also increased substantially.

\textbf{Road traffic by vehicle type in 1997 (total=449 billion vehicle kilometres)}

3.7 The National Road Traffic Forecast 1997 points to continued strong growth in traffic. Between 1996 and 2006, in the absence of any policy change, lorry traffic is forecast to grow by 16% and van traffic by 29%, rising to 25% and 44% (respectively) above present levels by 2011. Substantial improvements in fuel economy and emissions performance have been achieved in the latest generations of vehicles, which will continue to reduce pollution for a number of years to come as older vehicles are scrapped. However, despite these improvements, the forecast growth in road traffic, if left unchecked, would threaten the achievement of the Government's environmental objectives. Transport, and distribution in particular, has a significant impact on the environment. It is a major source of air pollution, greenhouse gas emissions and noise pollution. In recent decades transport emissions have grown to match or exceed other sources of many of the most important pollutants. Particularly in urban areas, they have become the dominant source of air pollution emissions.

\textbf{Percentage contributions of vehicle types to emissions of oxides of nitrogen (NOx) in 1997 (total 877.72 ktonnes)}

3.8 At the same time, transport is the fastest growing source of the greenhouse gas emissions which contribute to climate change. Road transport is responsible for around 20% of the UK’s emissions of carbon dioxide, the main greenhouse gas, and road freight distribution is one of the fastest growing sources, now accounting for 7.4MtC (million tonnes carbon) out of a total of 33.4MtC in 1995.

3.9 The forecast growth in traffic will also increase congestion problems, which cannot sustainably be resolved by unrestrained paving over of further large areas of the countryside; still less by indefinite expansion of road capacity in established towns and cities.

3.10 Meanwhile, alternative choices which could help to address these problems remain under-exploited. In the context of distribution, freight trains can be substantially more fuel-efficient than lorries, and ships more efficient still, assuming full utilisation. While there will always be many distribution tasks for which road transport is the only viable option, more freight could be moved by other modes, with less damage to the environment. There are encouraging signs that industry is beginning to explore the potential offered by inter-modal transport, yet there is still spare capacity on many rail corridors and at ports, while congestion on the road network continues to increase.

3.11 Market forces cannot always resolve these problems on their own. Some Government intervention is required, through dissemination of information, standard-setting and enforcement, and in helping to promote new operating practices and technologies.

3.12 For example, at Kyoto in December 1997, developed countries reached an agreement on legally binding targets for reducing greenhouse gas emissions. The UK has a legally binding target to reduce emissions to 12.5% below 1990 levels by 2008 - 2012. The Government also has a domestic goal of
reducing carbon dioxide emissions to 20% below 1990 levels by 2010. We are currently consulting on the options for meeting our climate change targets\(^\text{12}\).

3.13 The objectives of the Government's sustainable distribution strategy will include:

- minimising congestion;
- making best use of the transport infrastructure;
- managing development pressures on the landscape - both natural and man-made;
- minimising pollution and greenhouse gas emissions.

**Quality of Life**

3.14 The same factors that threaten to undermine our longer-term environmental objectives also pose substantial social challenges. Local air pollution can be a significant health hazard, for example to people who suffer from respiratory ailments. Noise and disturbance from lorries and other vehicles is already a serious problem for too many of our citizens, and not only in urban areas.

3.15 Traffic safety is also a vital issue. Britain has achieved one of the best road safety records in the world\(^\text{13}\). There has been a steady reduction in the most serious accidents. In 1988, 900 people died in road accidents involving lorries. By 1997 this had fallen by 41%, to 535, notwithstanding the 14% increase in HGV traffic over the same period. But it is still equivalent to 10 people killed in accidents involving lorries every week.

**Accidents involving HGVs: Fatal and serious casualties**

![Graph showing accidents involving HGVs]

3.16 We rightly demand high standards of training for HGV drivers and mandatory speed governors now limit lorry speeds. Nevertheless, surveys continue to show unacceptable disregard of legal speed limits, particularly in urban areas. Roadside checks on vehicles also reveal that a minority of operators continue to breach basic legal requirements in respect of vehicle maintenance, loading and restrictions on drivers' working hours. A small minority operate illegally, evading the licensing system altogether.

3.17 The scope for encouraging people of all ages to walk or cycle instead of relying on the car is constrained by the widespread feeling that our city streets and country lanes have become hazardous places, where a momentary distraction can end in tragedy. Clearly this perception is not solely caused by lorry traffic, but large and heavy vehicles contribute significantly to it.


3.18 Lorries and vans are an essential economic lifeline, whether in the centre of cities or in outlying areas of the countryside. But these benefits should not be achieved at the expense of disturbance, fear and ill-health. Every serious road accident is a personal and family tragedy, for which nothing can adequately compensate. Striving to reduce the harm that people suffer - particularly from road traffic - is a crucial objective of the sustainable distribution strategy.

3.19 The Sustainable Distribution strategy will aim to:

- reduce the impacts on communities from noise and disturbance caused by freight movements
- reduce the number of accidents, injuries and cases of ill-health associated with freight movements.

3.20 The Government's strategy for a sustainable system of distribution for the UK is:

- to promote a "Sustainable Market". The market must function effectively, openly and fairly - not only here in the UK but at a global scale.
- to promote integration of the freight transport infrastructure by means of "Strategic Planning".
- to ensure the freight transport industry achieves the Government's social and environmental objectives, by "Raising Standards".

3.21 This strategy is built upon a series of measures designed to change behaviour and constructively influence the manner in which goods, services and information are distributed. It will also improve our understanding of how distribution works so as to enhance and inform the future development of policies.

3.22 By working together, Government, industry and the wider public sector can promote more sustainable technologies and operating practices and better strategic decision-making, which together can enhance our economic competitiveness and prosperity, while delivering a better environment and quality of life for ourselves and our children.
Chapter 4: A Sustainable Market

Summary of proposals
We shall:

- work towards fair and transparent charging of transport to reflect both its internal and external costs
- commission further research into developing quantified estimates of the impact of freight movements on the environment
- work to remove the remaining restrictions on access to international markets for the UK shipping industry
- press for extension of single market principles to the ports sector within the European Union
- work with our European partners to promote freedom of access to the European rail network for rail freight operators

4.1 A fair, open and sustainable market is fundamental to the Government's strategy. Rapid and efficient distribution to markets around the world enables our manufacturers to exploit the best sources of supply and sell to consumer markets whose scale is beyond anything dreamt of fifty years ago. It opens our domestic markets to an ever-increasing range of competing products from other countries.

4.2 This can pose difficult and sometimes insurmountable competitive challenges to any company that does not continually strive to improve quality, effectiveness and efficiency. However, in the long term, the development and expansion of world trade on fair terms can contribute positively to a more sustainable world. Open markets and efficient distribution offer hope for rising prosperity and better standards of nutrition, health and education, not only for our own citizens, but for the vast numbers of people in other parts of the world whose lives are today blighted by abject poverty, disease and despair. Fair markets are essential to ensure that decisions are made on a rational basis, with due regard to their wider social and environmental consequences.

Liberalisation and Completion of the Single Market

4.3 Through leadership in the development and enlargement of the single market, the Government is working to cement the principles of free trade and distribution throughout the European Union and beyond.

Road Haulage

4.4 The liberalisation of domestic road haulage operations by non-resident operators (known as cabotage) from July 1998 effectively completed the single market in road haulage within the EU. While this is unlikely to result in any substantial increase in competition from foreign hauliers operating here, it does provide increased opportunities for UK-based hauliers who operate on the continent to expand their activities. (Experience of cabotage under permits showed UK hauliers to be far more active in other countries than foreign hauliers here.) At the same time it will enable operators engaged in international transport to reduce empty running, which in turn should be beneficial in terms of reduced congestion and environmental impact.

4.5 The recent draft agreement between the EU and Switzerland, which will allow 40 tonne vehicles to transit that country (at present the weight limit is 28 tonnes), will increase the efficiency of road freight operations through Switzerland. At the same time the availability of alternative routes for vehicles crossing the Alps will reduce pressure on existing passes in the environmentally sensitive Alpine region. An essential complement to the agreement is the undertaking by the Swiss to construct
two new north-south rail tunnels under the Alps with capacity to carry much trans-Alpine freight traffic, which will bring environmental benefits in the longer term.

**Air Services**

4.6 The UK has strongly supported the introduction of the "Third Package" of aviation liberalisation measures, which came into force on 1 January 1993 and established the single market for air services, including cargo. The Third Package provides for unrestricted access to intra-Community routes for EU carriers and a "free pricing regime" which allows airlines to set their own cargo tariffs. This agreement was extended to the European Economic Area (EEA) in 1994, and so covers Norway, Iceland and Liechtenstein, as well as the 15 EU member states.

4.7 Negotiations have now begun to extend the Third Package to ten central and eastern European countries: Poland, Hungary, the Czech Republic, the Slovak Republic, Bulgaria, Romania, Latvia, Lithuania, Estonia and Slovenia. An agreement has been concluded to liberalise air transport relations between the EU and Switzerland.

**Single Market for air services**

[Map of Europe showing EU and EEA countries]

**Key:** EU countries - yellow, EEA countries - red, new countries - blue

**Railways**

4.8 Relatively little has yet been done to bring Single Market principles to bear on the railways. The Commission's 1996 White Paper "A Strategy for Revitalising the Community's Railways"\(^\text{14}\) is the first serious attempt to persuade Member States to address the long-running problems associated with traditional national railway structures. It puts forward ideas for reform designed to deliver customer-focused, market oriented services operating on a properly transparent, commercial footing, with separate accounting for infrastructure and provision for access to rail networks by other operators. Building on these ideas, the Commission has brought forward specific proposals for infrastructure charging and capacity allocation, and is expected to do so shortly for state aids and interoperability. Adoption of such measures throughout the Community is essential to the Commission's goal of sustainable mobility, as it is to the achievement of sustainable distribution on a European scale.

\(^{14}\) A Strategy for Revitalising the Community's Railways. European Commission. COM(96) 421 final, 1996
4.9 The Government is working with our European partners to promote further freedom of access, particularly for rail freight operators. In November 1997 the Government secured important commitments to facilitate development of rail freight from Eurotunnel and the French Government, as part of the price for agreeing to an extension of Eurotunnel's concession. This deal includes an agreement by the French Government to establish railfreight corridors, giving freight a higher priority on the French network.

4.10 The 'rail freight freeway' concept is an interim measure, pending EU legislative action to liberalise market access for all types of rail freight services. A freeway from the UK to Hungary is in prospect and both Railtrack and EWS International have been involved in developing plans. The proposal has benefited from Government support for feasibility study funding under the Community's PACT (Pilot Actions on Combined Transport) programme.

**Ports and Shipping**

4.11 The European Commission has published a Green Paper on Ports and Maritime Infrastructure, together with a parallel proposal to adapt the guidelines on Trans European Networks (TENs) to include some 300 European ports, giving priority to measures to encourage short-sea shipping and combined transport using rail.

4.12 The measures proposed by the Commission would improve transparency in port accounting practices, particularly with respect to public subsidies. Secondly the Commission has proposed developing a framework which, over time, would promote a high degree of cost recovery in port charges, a principle which would extend to the costs of coastal navigation aids. The Commission has also suggested that a regulatory framework could be developed to encourage liberalisation of the market for port services.

4.13 The Government strongly supports the extension of single market principles to the ports sector and is pressing for early progress. Full cost recovery principles are well established in the UK and the fact that many continental ports enjoy substantial subsidies from national or regional Governments undoubtedly distorts competition. It can also promote wasteful over-provision of capacity in the industry, which causes environmental as well as economic damage. One objective of the Commission's proposals will be to minimise such environmental damage.

4.14 The UK has also worked to secure open markets for international shipping services, and has a long tradition of allowing free access to foreign vessels engaging in UK domestic services (cabotage). Despite a large measure of success over recent years in securing improved access to markets, restrictions remain in various parts of the world. The Government will continue to seek to remove such restrictions, both multilaterally and through bilateral negotiations with the other countries concerned.

**Fair Pricing**

4.15 A sustainable market is more than just an open market. In a sustainable market decisions are taken in cognisance of their wider impact, and decision-makers act responsibly with respect to society as a whole, both today and over the longer term. In order for this to happen it is important that the market should properly inform decision-makers as to the wider costs which they are incurring in taking their decisions - and not only those costs which bear directly upon themselves. This issue was explored in the previous Government's transport Green Paper in 1996 and by the European Commission in a Green Paper "Towards Fair and Efficient Pricing in Transport", published in

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December 1995\textsuperscript{16}. The Commission has now published a White Paper, developing this agenda for transport infrastructure charging.\textsuperscript{17}

4.16 A substantial element of distribution costs is typically "internal" to the buying transaction and therefore taken into account as a matter of course through the operation of the market. Thus the purchaser or operator of road haulage services must consider all the labour, fuel, vehicle depreciation and maintenance costs (including taxes) which make up to the bill for getting goods from A to B.

4.17 However in reality the costs do not end there. In the process of getting from A to B a vehicle consumes road space, which itself has a cost. It contributes to wear and tear which will eventually necessitate expenditure on maintenance of road surfaces and structures, and to congestion incurred by other road users. Collectively road traffic is a substantial cause of deaths and injuries, which impose heavy costs on society at large, through the NHS and in terms of lost output, grief and suffering. Some of these costs do reflect back on the operator or purchaser of transport services in due course, for example through insurance premiums and through taxation to fund public expenditure on road building and maintenance. But they are not reflected completely, nor are they always directly apparent.

4.18 Then there are still wider "external" costs. These include the impact of vehicle emissions on local air quality, public health and climate change. Nearly everyone, every day, is affected in some way by noise and congestion on our crowded roads and city streets, including car, van and lorry drivers themselves. Typically these costs are not directly apparent to the transport purchaser or operator, at least in the short term.

4.19 The Government can promote fair and transparent pricing through taxation. This Government has adopted a strategy of annual increases in fuel duty of at least 6% on average above inflation, and is committed to move towards a fairer treatment of petrol and diesel, when calculated on an energy or carbon-content basis. These are significant steps towards reflecting the wider costs of road transport in the prices that users pay.

4.20 The Government recognises the haulage industry's concern that the fuel duty escalator makes fuel in the UK more expensive than in other EU countries. However, the fuel duty escalator is the best way known to encourage fuel efficiency, for which there remains plenty of scope. It is also only one factor in haulage costs, albeit an important one; UK hauliers do benefit from more favourable company taxation and social costs than in many other EU countries.

4.21 The Government can also offer financial incentives. To reflect concerns over air quality, the 1998 Budget increased the differential between ordinary diesel and ultra-low sulphur diesel to 2 pence per litre, and the Government announced a commitment to increase this again, to 3 pence per litre, at the next Budget. The Government has also introduced a VED concession, worth up to £500, for HGVs and buses meeting very stringent emission standards.

4.22 The White Paper proposals in respect of road user charging\textsuperscript{18} provide another mechanism for adjusting prices, giving local authorities new opportunities to manage demand for road space and the wider impacts of traffic congestion\textsuperscript{19}.

4.23 However, while it is easy to say that pricing should be "fair" in the widest sense, it is more difficult to pin down what "fair" really means. We know, for example, what the total cost of building


\textsuperscript{17} Fair payment for infrastructure use: A phased approach to a common transport infrastructure charging framework in the EU. COM (98) 446 final. 22 July 1998.


\textsuperscript{19} "Breaking the Logjam", 98 ILT 0488 DETR December 1998
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and maintaining roads is, but it is not a simple matter to attribute elements of that cost to broad categories of vehicles, still less to individual vehicles. Quantification of some of the wider "externalities" (such as the costs of noise or pollution) is yet more difficult. Different approaches to estimation (e.g. "willingness to pay" vs. "mitigation cost") can produce substantially different figures.

4.24 Nevertheless, progress can be made towards taking proper account of these costs through the tax system. As part of the last Budget, the Government announced a wide-ranging review of the system of setting Vehicle Excise Duty (VED) rates for lorries, to reflect the environmental damage which they cause. To assist with this review, the Government has commissioned further research, with the aim of developing cost estimates which command greater confidence both in the industry and in the wider community. Better information should help to promote informed policy development at EU, as well as national, level.

4.25 Another important mechanism for promoting fair markets is regulation, which directly 'internalises' external costs by requiring industry to meet particular standards. This Government supports the European Commission's Auto-Oils programme which seeks to bring about improvements in air quality through progressive reductions in vehicle emissions and improvements in fuel quality. Regulation has also played a strong part in improving the safety of vehicles through design, through driving standards requirements and through the requirements laid down for vehicle operation.

4.26 A third mechanism is partnership, in which industry meets a particular standard or changes behaviour voluntarily so that both industry and society can benefit. Chapter 6 of this document sets out a range of proposals for developing more effective working partnerships between industry and Government at local, regional and national levels.

4.27 A sustainable market with fair price signals is the right foundation on which to base a strategy for sustainable distribution. The next two chapters of this document describe in detail the range of measures which the Government will pursue with industry and other public bodies, building on that foundation.
Chapter 5: Strategic Planning

5.1 Central and local Government share a crucial strategic role in helping to determine, through the planning system and by direct investment, the future development of our transport infrastructure. This chapter explains how the Government will revise planning policy and procedures and selectively invest in infrastructure so as to support the objective of sustainable distribution. It also reports Railtrack’s investment plans for the British railway network, and progress with the EU TENs (Trans-European Networks) programme.

Land Use Planning for Sustainable Distribution

Summary of proposals

We shall:

- issue a revised planning guidance which will:
  - encourage more freight to be carried by rail and water, and
  - encourage stronger protection of sites and routes which could be critical in developing freight infrastructure
- give responsibility to regional planning conferences to prepare regional sustainable transport strategies

5.2 Land-use planning can have a significant impact on distribution, not only through the provision of major transport infrastructure such as roads, rail, ports and airports, but also more widely through policies and decisions on patterns of development, for example on the location and design of housing, shops, offices and industry.

- The Government's proposals for changes to land-use planning policy and procedures in England to support the wider integrated transport policy are set out in the White Paper\(^{20}\). The Government intends to issue a revised edition of Planning Policy Guidance 13 for England, setting out planning policy guidance on transport. It will:
  - encourage more freight to be carried by rail and water. Local authorities in preparing development plans will be expected to consider, and where appropriate protect, opportunities for rail connections to existing manufacturing, distribution and warehousing sites adjacent or close to the rail network; to allocate sites for suitable new developments which can be served by rail; and to consider opportunities for new developments which are served by waterways;
  - encourage local authorities through their development plans to give better protection to those sites and routes (both existing and potential) which could be critical in developing infrastructure to widen transport choices, such as interchange facilities allowing road to rail transfer or for water transport. Alternative uses related to sustainable transport should be considered first for sites now surplus to transport requirements. More generally, before giving permission to new developments, local authorities should consider carefully the effect on sustainable transport objectives.
- In Scotland, draft National Planning Policy Guidelines on Transport and Planning will be finalised in 1999.

The Government has published draft guidance (PPG 11) on the new arrangements for Regional Planning Guidance (RPG). This will give responsibility to regional planning bodies (fora for local planning authorities) to prepare draft regional transport strategies, as part of draft RPG, in liaison with regional stakeholders, including Government Offices, the Highways Agency, the new Strategic Rail Authority, Railtrack, rail, bus and other transport operators and the RDAs. These bodies will be encouraged to ensure that these strategies:

- set out regional priorities for transport investment and management to support RPG, including the role of trunk roads. This will, inter alia, involve local authorities and their regional partners in the planning of both the management and improvement of trunk roads;
- consider the scope for promoting the carriage of freight by rail and water;
- provide a strategic steer on the regional role of ports, encouraging beneficial use of surplus capacity; and
- examine the scope for development of regional air freight centres where environmentally acceptable, in order to meet local demand and to optimise the contribution of regional airports to the regeneration and competitiveness of their regions, while helping to reduce the need for long road journeys to south-east airports and the pressures for further development at those airports.

5.3 In preparing draft regional transport strategies it is important that the principles set out in this sustainable distribution strategy are respected. RPG should then be able to enhance significantly the capability of our planning system to promote more sustainable distribution patterns in the longer term, through development plans and local transport plans.

5.4 In Scotland the Government is taking similar measures to address the potential transport problems that can arise from land use planning decisions. Consultative drafts of a National Planning Policy Guideline and a Planning Advice Note on Transport and Planning have been published in association with the Scottish Integrated Transport Policy White Paper. These set out (respectively) policy and good practice advice on the integration of land use planning in Scotland. Together they give guidance on how land use planning decisions can be taken in ways which are consistent with transport policy objectives. Although the land use patterns in much of Scotland differ from those in other parts of the UK, the Scottish policy is based upon the same principles as PPG13 and seeks to ensure that planning decisions do not jeopardise the achievement of sustainable transport outcomes.

5.5 In Wales, the National Assembly will take the lead in establishing the planning framework as it relates to transport. While in Northern Ireland, the Draft Regional Strategic Framework, published in December 1998, will help achieve integration of the transport system and the development of the region's land uses.

The Role of the National Road Network

**Summary of proposals**

We shall:

- ensure that the management and development of trunk roads takes place within the context of our integrated transport policy and land use planning policies
- improve road maintenance, making it the Government's first priority
- manage demand to make the best use of the existing road network
- improve the integration of the road network with major transport interchanges so as to promote greater use of rail and water transport for freight
- require local authorities in England to produce local transport plans setting out their
5.7 For many years the trunk road and motorway network has played a dominant role in the distribution of goods and services in Great Britain. Over the ten years from 1987 to 1997 the proportion of freight transported by road (measured in tonne-km) has risen from 58% to 67%. In 1997, this generated some 19 billion HGV vehicle kilometres on trunk roads and motorways, amounting to 58% of all HGV movements on a network which accounts for 4% by length of all the roads in Britain.

5.8 Congestion is increasingly common on the trunk road and motorway network, and this problem is forecast to get worse. There are three broad options for tackling it:

- making better use of the existing infrastructure;
- managing demand; and
- providing new infrastructure.

5.9 The outcome of the strategic Roads Reviews in England\(^\text{21}\) and Wales\(^\text{22}\), and in Scotland, defines the Government's approach to investment in trunk roads and motorways. This is based upon the five criteria of integration, economy, environmental impact, accessibility and safety. The Government believes that an efficient strategic road network remains essential to the economic well-being of the country. It has announced a Targeted Programme of Improvements of 37 schemes on trunk roads and motorways which will definitely be taken forward within seven years together with a further seven schemes which are to be progressed through preparatory stages, and can proceed as quickly as possible if they are approved. On 10 December 1998 the Government announced start dates for 24 of these schemes together with further details of progress on the remaining 13 schemes. It also set out a provisional programme of studies to address the most urgent problems on the network.

5.10 However there is a limit to the scope for new road construction or improvement of the existing network. The Government will give top priority to improving trunk road maintenance. It will make the best use of the network as it stands and promote measures to manage demand. The Highways Agency has in its "toolkit" a range of techniques to make better use of the network as part of an integrated transport system and has in hand a series of pilot studies designed to appraise these techniques. These include greater use of crawler lanes on hills for lorries, establishing priority measures for public transport and goods traffic and encouraging car drivers to use trains by strategic use of road signs, promoting park-and-ride facilities and encouraging green company travel plans. The introduction of crawler lanes on a number of Scottish single-carriageway roads under the Route Action Plans developed by the Scottish Office National Roads Directorate has already proved highly effective.

5.11 There is also scope for promoting greater use of alternative modes for freight transport, for example by integrating the road network with major transport interchanges such as rail intermodal terminals, and providing better signing. The Highways Agency and Railtrack are undertaking a joint assessment which is intended to identify traffic flows large enough to support development of new intermodal freight facilities, with the aim of diverting a proportion of traffic from road to rail. The Scottish Office and Scottish Enterprise have supported the new Euro Central Terminal at Mossend, linking the main Edinburgh to Glasgow trunk road to the rail network for long distance freight distribution. In Wales, the Welsh Office together with the Welsh Development Agency, the City and


\(^{22}\) "Driving Wales Forward: A Strategic Review of the Welsh Trunk Roads Programme", Welsh Office, July 1998
County of Cardiff and private sector partners is supporting the establishment at Wentloog, in Cardiff, of a £15m European rail freight terminal.

5.12 Where trunk roads are likely to remain heavily congested, the Government will consider giving greater priority to certain types of traffic, in order to minimise the economic and environmental consequences of congestion. Subject to rigorous appraisal of the advantages and disadvantages, there may be parts of the core trunk road and motorway network where lorries, buses and coaches should have priority over cars and where use of those routes for short car journeys should be discouraged. Each case will need to be considered carefully on its merits within the overall integrated transport policy. The Government will appraise the options using an appraisal framework based on the five criteria described in "A New Deal for Trunk Roads in England".

5.13 Some of the more important local authority roads also carry significant flows of freight traffic and access to most points of origin and destination involves the use of local roads for at least part of the journey. As set out in the White Paper23 and the Welsh Transport Policy Statement24, local authorities in England and Wales will be required to produce local transport plans which will include their proposals for managing, maintaining and developing their local road networks. Local authorities will be expected to take full account of the needs of freight traffic in preparing their local transport plans. In Scotland similar arrangements will apply, while in Northern Ireland, a Regional Transport Plan will be produced.

A Strategy for Major Freight Interchanges

Summary of proposals

Our national policy framework for major freight interchanges will
- promote their contribution to national and regional competitiveness
- improve their operational and environmental performance
- encourage the full use of existing interchange facilities
- promote best environmental standards for new developments

We shall develop a national airports policy, covering air freight as well as passenger services

5.14 The need to make the most of the transport infrastructure we already have and to ensure that it functions efficiently and effectively applies with equal force to the major interchanges where freight is transhipped from one mode of transport to another - rail intermodal terminals, ports and airports.

5.15 The performance of these 'hubs' in our distribution networks is vital both to promoting greater use of inland intermodal freight, with rail providing the 'trunk haul' elements, and in maintaining efficient trading links with our immediate neighbours in Europe and across the world. Individually, ports, airports and intermodal terminals represent major investments and have substantial environmental and wider implications; implications which can make it particularly difficult to find acceptable new sites for development and which necessitate careful, long-term planning. This must develop from a local and regional consensus, within a national framework.

5.16 The Government has a crucial role to play in achieving a fair balance between conflicting interests. Excessive development can threaten the delicate natural environment of shorelines and tidal


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estuaries, or expose large numbers of people to noise disturbance. An unduly restrictive policy, on the other hand, could result in unnecessary traffic generation elsewhere. It could also lead to development and jobs migrating to neighbouring countries such as France, Belgium or the Netherlands, with more long-distance haulage by road and increased costs and journey times for our exporters and importers.

Specialised warehousing at ports

Port of Sheerness on Medway

The Port of Sheerness has naturally deep water enabling ships to berth at any state of tide. The integrated storage and handling facilities allow goods to be transferred from ship to store by the quayside where they are held for onward distribution to retail outlets.

Investments have taken Sheerness a step nearer its goal of becoming a major European fruit hub port with increases in trade from the traditionally strong Mediterranean and Southern Hemisphere bases. The Port of Sheerness handled 408,000 tonnes of fresh produce in 1997.

5.17 Therefore our economy needs a clear, national policy framework within which the future development of our major freight interchanges can be planned and considered. The framework which the Government proposes has four key objectives:

- **to promote the contribution of our major freight interchanges to national and regional competitiveness**, by pursuing policies of fair competition in the UK and throughout Europe; by giving due weight to the need for efficient transhipment between the different transport modes; and by providing efficient access to and from major interchanges - not only by road, but also by rail and, where appropriate, by coastal shipping or waterways;

- **to improve the operational and environmental performance of existing interchange facilities**, by promoting greater use of less damaging modes for onward distribution, and through regulation, monitoring and enforcement to control noise and pollution and safeguard habitats;

- **to encourage full and efficient utilisation of existing interchange facilities in preference to expansion in cases where suitable spare capacity exists or can be created**, for example by improving access or by encouraging regeneration of under-used sites, to minimise new land take; and

- **where new facilities or expansion involving new land take are required, the criteria for appraising transport projects will be rigorously applied.** These criteria are set out in "A New Deal for Trunk Roads in England"\(^{25}\) and their application to ports will be discussed in a forthcoming ports policy paper.

Intermodal railfreight terminals

Daventry International Railfreight Terminal

The Daventry International Rail Freight Terminal (DRIFT) sits alongside the M1, J18 and has direct access to the West Coast Main Line. This new railfreight terminal, developed with private funding, provides opportunities for fast, integrated road and rail distribution, linking most of the UK's industrial conurbations within a day's return journey. The terminal operator is Tibbett and Britten.

### Features

- access to a main line railway
- close proximity to a motorway junction
- land suitable for development with space for expansion
- facilities to permit simple transfer of loads between rail wagons and lorries

Source: Daventry International Rail Freight Terminal 'The best of both worlds'

5.18 As indicated in the White Paper "A New Deal for Transport"\(^{26}\), the Government intends as an early priority to develop a UK national airports policy, covering air freight as well as passenger services. This will reflect the overall policy framework described above.

### Promoting Intermodal Integration

5.19 Better utilisation of railway, ports and shipping services has a vital role to play in building a sustainable distribution system. When intensively used, railways can offer a substantially more energy-efficient means of distribution, while ships can be more efficient still. Moving more freight by rail and (in some cases) coastal shipping or waterways can help to reduce congestion on the road network, and these modes also have better safety records than road transport.

#### Rail freight

**English, Welsh and Scottish Railway**

Iggesund Paperboard Ltd contract EWS to transport timber from the Scottish Highlands back to the corporation's Workington mill. Timber loading facilities exist on the Wick/Thurso, Kyle of Lochalsh, Oban and Fort William lines.

### Developing the Rail Network

#### Summary of proposals

We shall:

- promote greater use of the rail network for freight through incentives such as increased availability of grants
- set up a Strategic Rail Authority to promote the improvement of both passenger and freight services

5.20 The Government wants to see more freight being moved by rail and is working with the rail freight industry in a joint effort to achieve this, both within Britain and on the continent. After many years of declining traffic, the new freight operators are winning traffic back to rail, and they have ambitious targets for growth. English, Welsh and Scottish Railway (EWS) aim to triple traffic in 10 years and Freightliner aims to increase the volume of containers carried by 50% over five years. The Government endorses these targets. Latest figures show that rail freight traffic in the first half of the financial year 1998/99 increased by 16%.

5.21 EWS has invested over £500m in 250 new locomotives, up to 2,500 new wagons and new information technology. Freightliner is re-engineering all its class 47 locomotives to class 57 standards.

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<th>Rail freight</th>
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<tr>
<td>EWS Investment in New Locomotives</td>
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<td>The first EWS Class 66 locomotive arrived from General Motors' factory in Canada last summer. Equipped with a 3,300hp 12-cylinder engine, the Class 66 will have a starting tractive effort of about 90,000lb and a continuous tractive effort of 57,000lb.</td>
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5.22 The rail freight operators' optimism is shared by others. Three new intermodal terminals have opened to serve the international rail freight market - at Tilbury, Hams Hall and Daventry. Railfreight links to ports are also being improved, for example through Railtrack's commitment to invest some £8m in the Ipswich-Felixstowe link. Railtrack is also exploring more radical initiatives. It has announced a £1.45 million scheme to upgrade the West Coast Mainline from Daventry to Scotland to accommodate 9ft 6in containers. Other routes and initiatives are being considered.

<table>
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<th>Freight grants for rail and inland waterways</th>
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<td>One of the Government's primary objectives is to encourage the use of alternative forms of transport to ease congestion on the road network and protect the local environment. To help alleviate the high cost associated with switching freight transport to rail or inland waterways the Freight Facilities Grant and the Track Access Grant schemes have been established to contribute towards capital expenditure and/or rail access charges. Almost 250 projects have benefited from grants since 1975 to a value of over £185M.</td>
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Huntsmen Chemical Company received a £400,000 freight facilities grant towards unloading facilities at Partington on the Manchester Ship Canal. RMC benefited from a £3 million grant to support movement of aggregates from the Dove's Hole Quarry in the Peak District to Stourton, Leeds.

Benefits
- Encouragement for other forms of transport to ease road congestion
- Protection of the environment
- Lorry journeys per year reduced by 3 million

5.23 Where extra costs associated with rail freight make it non-viable financially but there are significant wider benefits if the traffic goes by rail, Government grants are available in Great Britain to help meet the cost of investment in terminals, handling equipment and wagons (Freight Facilities Grants), or to help defray track access charges (Track Access Grants). The Government has increased the rail freight grant budget to ten times the level of a few years ago. Expenditure on freight grants was doubled in 1997/98 compared to the previous year - to £30 million. The budget was further increased to £40 million in 1998/99. The Deputy Prime Minister made clear in launching the White Paper that further funding for grants will be made available over the next 3 years, if there is demand. Publicity surrounding the schemes has also been increased and red tape cut to improve take-up of the grant. In 1998/99 provision for Freight Facilities Grant in Scotland increased to £4.6 million, double that of the previous year. From 1999/2000 - 2001/2002 provision has been further increased to £6.1 million for each of the 3 years. Unlike in previous years, unspent funds will now be carried over into the next year's budget.
'Pocket' wagon for 9'6" containers

Freightliner Ltd

Freightliner have introduced 77 new 'pocket' wagons to their operation of which 40 were purchased with the assistance of a Freight Facilities Grant of £634,000.

Benefits

- Larger containers can be rail-hauled within the existing loading gauge
- Heavier containers are readily used by road vehicles for connections to railheads

5.24 The new Strategic Rail Authority will provide a strategic vision for the operation and development of the whole railway network. It will promote the interests of both passenger and freight operations. It will ensure that freight interests are given proper consideration in the operation and planning of the network. It will take over from DETR the administration of the rail freight grant scheme in England. The Scottish Executive will be responsible for administering freight facilities and track access grants in Scotland and the National Assembly for Wales will administer freight facilities grant in Wales.

5.25 Railtrack also has a vital role to play in the promotion of freight services. In 1997 it embarked upon a campaign to promote increased use of the rail network for freight and launched a "Ten Point Plan" for freight which set out immediate objectives for the development of the rail network, so that train operators could take advantage of the growing opportunities to transfer freight from road to rail. Railtrack has supported this Plan by introducing a Code of Practice, a Freight Connections Guide and a Route Directory. Railtrack is also supporting the EU initiative to develop "freight freeways" for rail to and from the rest of Europe.

Major overhaul of rail facilities with Freight Facilities Grant

Buxton Lime Industries Ltd

Buxton Lime Industries upgraded their operating facilities at Tunstead and Hindlow with the help of a Freight Facilities Grant of £2.6M.

Benefits

- Avoidance of heavy haul road transport through Buxton town centre
- Reduced road traffic noise and emissions

5.26 Railtrack's 1998 Network Management Statement outlines how it believes that the freight market may develop, based on a range of forecasts. Railtrack is currently undertaking feasibility studies on several proposed schemes, including gauge enhancement projects. This Government welcomed the Rail Regulator's examination of Railtrack's statement; in particular Railtrack's commitments to improvements in day-to-day performance of services, its plans for dealing with bottlenecks and to renew and develop the network and its plans to meet the requirements of freight.

Port of Felixstowe ship to rail and road Multimodal terminal

The Felixstowe Dock and Railway Company (FDRC)

FDRC are increasing their rail operations by extending and improving the rail container handling facilities by means of a Government Freight Facilities Grant of £1.8M.

Benefits
Sustainable Distribution: A Strategy

- Reduced road traffic
- Improved ship/rail intermodality
- Reduced road tonnage
- Reduced road traffic emissions

**RAILTRACK infrastructure investment: Ipswich-Felixstowe**

- Resignalling Waterfield to Felixstowe
  - Fibre optic cables and modern signals will allow higher line speeds for reduced journey times

- Increase in length of Derby Road Loop
  - Allows freight trains to pass each other
  - Consecutive trains pushed in same direction

- Modernised level crossings
  - Safety benefits and more efficient operation

- Reliability and capacity improvements
  - Freight paths increased from 32 to 48 per day
  - 1 freight, 1 passenger train per hour in each direction

**Port of Felixstowe Rail Connections**

Railtrack have announced an £8M scheme for resignalling and track modifications on the Felixstowe branch line. This included lengthening a passing loop to increase freight trains from 32 to 48 a day
Trans-European Networks

5.27 In order to promote the single market and the free movement of people and goods, the European Union has identified Strategic Trans-European Networks connecting key road and rail links across the Member States. In 1996, the Council of Ministers adopted Community guidelines covering the objectives, priorities and broad lines of measures envisaged for the development of the trans-European transport network - a requirement of the Treaty on European Union. These guidelines identify projects of common interest, the implementation of which is intended to contribute to the development of the network throughout the Community. For railways, this comprised both high speed and conventional networks. Agreement of this network was on the basis of Co-Decision with the European Parliament and consultation with the Committee of the Regions.

5.28 Funding for TENs projects is limited, but the UK has secured funding for work on a number of rail projects, including studies relating to the Channel Tunnel Rail Link, the upgrading of the West Coast Main Line and upgrading of the line from Bristol to Penzance. The UK will continue to apply for funding for appropriate projects.

5.29 The European Commission is required to submit a report to the European Parliament and the Council, by 1 July 1999, on whether the guidelines should be amended. The Government welcomes this review and is participating actively, emphasising the importance of adopting a multimodal approach, ensuring that funding is directed at proposals which further both UK and European transport objectives and in particular, promoting greater use of the railways for passengers and freight.

Trans-European network for rail combined transport
Trans-european road network
Shipping and Waterways

Summary of proposals
We shall:

- extend the coverage of the freight facilities grant scheme to coastal and short sea shipping
- encourage waterborne traffic where this is practicable and economic
- work with British Waterways and others to identify realistic market opportunities for inland waterways

5.30 Britain has a glorious maritime history, and merchant shipping remains an extremely important sector. 95% of our trade by tonnage (and over three-quarters by value) is carried by sea, while coastal shipping accounts for 7% of the UK’s domestic freight tonnage, or around a quarter of domestic freight moved (in tonne km). The domestic traffic is mainly petroleum products and aggregates. Although the UK registered merchant fleet has declined steeply since the 1970s, along with the
numbers of British seafarers, the UK owned shipping industry is nevertheless one of the top five service sector exporters for the UK, with a positive net balance of payments exceeding £1 billion a year.

5.31 Traffic on our inland waterways has been in decline for many years, and waterways now account for less than 1% of domestic freight moved. Much of the inland waterway network is unsuitable for carrying significant volumes of freight, but commercial traffic still provides an important source of income for British Waterways and there may be scope for increasing volumes on some of the larger inland waterways. There may also be scope to introduce improved handling technologies for cargo transfer. The Government will work with British Waterways and others to seek to identify realistic market opportunities. The forthcoming waterways policy paper will provide a fuller commentary on freight and inland waterways.

Total UK waterborne traffic on inland waterways within the UK

(Inland waterways include canals, navigable rivers and estuaries)

5.32 The Government is keen to encourage greater use of waterborne transport where this is practicable and economic. Research has indicated that there may be scope to divert up to 3.5% of the UK's road traffic to water, split roughly equally between ships re-routing to ports nearer the origin and destination of their loads, and the potential for bulk and unit loads to shift to 'coastal highways'. As stated in the White Paper\textsuperscript{27} and in the Shipping Paper\textsuperscript{28} one aim of the Government's strategic policy for shipping is to promote shipping as an efficient and environmentally friendly means of carrying freight.

Transporting coal by inland waterway

British Waterways

Coal for Ferrybridge power station has been carried along the Aire and calder Navigation for 30 years over distances of 6 and 13km. Loads of over 500 tonnes are transported by 'push-tow', using three barges each carrying 170 tonnes joined together and propelled by a tug. Unloading is carried out by special equipment which lifts and tips each barge, a cycle which takes 10 minutes. In 1997, 2 million tonnes of coal was


\textsuperscript{28} "British Shipping: Charting a new course" ISBN 1 85112 144 7 16 December 1998
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transported in this manner.

Benefits

- Reduced need for road freight mileage
- Greater fuel efficiency per tonne-mile
- CO₂ savings

Information provided by British Waterways

Transporting sand on the River Thames

JJ Prior (Transport) Ltd

JJ Prior will be able to continue to move 60,000 tonnes of sand each year with the help of a Freight Facilities Grant of £168,000 towards the cost of purchasing and refitting the 390 tonne MV Holm Sound, since renamed the Peter Prior.

Benefits

- Existing water-borne freight traffic retained
- 5,000 extra lorry journeys per year avoided

5.33 As part of a wider initiative on the UK shipping industry, the Government established a Shipping Working Group in late 1997 to identify measures to reverse the decline in the UK merchant fleet and UK seafarers, including ways in which to foster greater use of short sea and coastal shipping around the UK and beyond to the rest of Europe. The proposals set out earlier in this document for changes to the planning framework in relation to sites with freight potential and further work on quantifying the external costs of transport are fully consistent with the proposals of the Working Group. Our strategy for reviving the shipping industry was published last December and drew on the Working Group's proposals.

5.34 The Government has also decided that the long-established grant scheme for new railway and inland waterway freight facilities should be extended to cover coastal and short sea shipping, in line with another key recommendation of the Working Group. Consideration is also being given to making further changes in the way the scheme works in order to encourage more applications for inland waterways projects. These changes will be subject to public consultation, and the Government will seek an early opportunity to amend the current legislation as appropriate.

5.35 Efficient intermodal transfer facilities are of critical importance to the success of shipping and waterways services. The best UK ports have an excellent record of performance, particularly bearing in mind the extensive state subsidies paid by some of our European partners for port facilities, dredging and navigation aids, which the European Commission has expressed concern about in its recent Green Paper (see Chapter 4). In some cases there is scope for further development as integrated distribution hubs, enhancing the basic intermodal transfer activities with storage, processing and manufacturing facilities on the same site.

Understanding the Context

Summary of proposals

More needs to be done in order to improve our knowledge and understanding of freight transport and distribution
We shall:

- commission research into key issues in freight transport and distribution on issues such as:
  - the impact of new logistics practices on transport infrastructure and land use planning
  - the potential of integration within the distribution industry to achieve further efficiency savings, reduce freight intensity and reduce impacts on the environment and society
- promote wider use of Key Performance Indicators (KPIs) and benchmarking throughout the transport industry
- work with industry to identify and remedy gaps in our statistical knowledge

5.36 Understanding trends in logistics poses many practical challenges. Distribution is a massive sector of our economy in itself and it interacts with every other part of the economy. Nothing that is produced can be sold without distribution in some form. Patterns of distribution and their consequences for transport are determined by countless individual decisions taken by enterprises in every economic sector, every day of the year. The issues which inform those decisions vary from one sector to another, from one area of the country to another and over time.

5.37 DETR is assembling, from existing sources and new surveys if required, data on freight and passenger traffic flows in those corridors where pressing problems exist, as identified in "A New Deal for Trunk Roads in England". This will enable Regional Planning Conferences to establish long term and sustainable solutions which best meet the needs of all transport users. SACTRA (the Standing Advisory Committee on Trunk Road Assessment) has been looking at a broad level at the links between transport (including freight transport) and the economy, and at the impact of traffic restraint measures on the economy. But more needs to be done in order to improve our knowledge and understanding of freight transport and distribution issues. The Government intends to commission research in a number of specific areas, of which some examples are given below.

**Getting the Facts**

5.38 An important aspect of the Government's responsibilities is the collection of statistics, through continuing or periodic surveys covering all the freight transport modes. The Government is well placed to ensure the combination of comprehensive coverage, objectivity, respect for confidentiality and statistical rigour on which the value of published statistics depends.

5.39 The Government's statistical enquiries can place a financial burden upon industry but lack of information, or wrong information, can equally cost money when incorrect business decisions, government policies or regulations result. It is thus in industry's interest as much as the Government's that our statistics should be accurate, comprehensive, consistent and up to date.

5.40 In many areas, this is the case. However, within transport statistics, there are inconsistencies between the information collected on different modes. For some modes there is quite detailed origin and destination information, but not for others (such as air cargo). There are also gaps. DETR has launched an improved survey of van traffic - an increasingly important contributor to total traffic, especially in cities, with the strong growth of the service sector. Better information about urban distribution in general would help to underpin policy developments such as those discussed later under "Quality Partnerships for Urban Distribution". Interlining, where consignments arrive on one flight and depart on another, is a significant factor in the development of some of our major airports, particularly Heathrow. Little is known about trends in this area because, while the shipments are included in the total freight movements in and out, they are not separately identified as interline movements.
5.41 Working with industry and outside experts, the Government will take the initiative to identify and remedy gaps and inconsistencies in our statistics which limit understanding and threaten to constrain the development of effective policies.

Understanding Trends in Logistics

5.42 Chapter 2 described some of the key trends in the economy which have determined the development of our distribution and transport networks over the past ten to twenty years.

5.43 However, we need to have a picture of what the future could be like: What sort of impact would changes in the cost of transport, or in average journey times or in reliability have on future decision-making? Will other factors (such as production scale economies, land, labour and inventory costs) continue to dominate? Are there foreseeable changes in industry structure or in technology which are likely to shape the future of logistics? What do they imply in terms of demands upon transport infrastructure and services? By means of research we intend to improve our understanding of the factors which influence both changes in and the impacts of distribution.

Integrated Logistics Centre for Rover at Oxford

Rover Group (Oxford)

Rover teamed with Exel Logistics and STVA to develop a logistics system which combines rail, supplier collection, load consolidation and JIT delivery of 750,000 parts per annum to the assembly line together with reusable packing control system. A Freight Facilities Grant of £315,000 was obtained from the DETR for the development of the railhead at Oxford.

Benefits

- Use of reusable packaging for parts delivery eliminates waste
- Use of shared vehicles and timed pick-up slots by suppliers reduces total number of lorries en route and saves 2 million litres of diesel per year and 5.6 million kilometres which is equivalent to 5,400 tonnes of carbon dioxide emissions
- The Integrated Logistics Centre reduces local and on site deliveries by 300 vehicles a day
- Shipment of finished vehicles to mainland Europe via the Channel Tunnel will save 3.5 million km of UK and European road travel and 7 million litres of diesel, equivalent to a reduction of over 7,500 hgv movements over the next 5 years
- Rover Group can reach Italy in 3 days through the Channel Tunnel with a single handling, one-touch operation

Integrating Distribution

5.44 Integration is a central theme of the White Paper "A New Deal for Transport: Better For Everyone". It is a crucial issue, not only between modes, for the successful operation and development of shipping, rail and air cargo services, but also within road transport.

5.45 The road transport industry has responded effectively and efficiently to increasingly complex and demanding distribution requirements, including the introduction of "just in time" systems. Greater integration of transport services, covering a wider range of activities and requirements has in many

cases helped to counterbalance trends which otherwise might have led to a significant worsening of vehicle utilisation. There has, nevertheless, been substantial growth in lorry traffic - but without these integration measures, it would have been much greater.

5.46 Greater integration has been achieved partly through the development of national, 'hub and spoke' distribution networks, which facilitate consolidation of mixed loads from a diverse range of sources for rapid, nationwide delivery. The largest transport operators and distributors have developed their own networks, but there are also cases where smaller, regional operators have 'clubbed together' to realise similar scale and scope economies.

5.47 There has also been a trend in some sectors towards vertical integration of transport systems, such that the whole of a particular supply chain from manufacture through to retailing is served by a common or largely common transport operation. 'Supplier collection' schemes in the food retailing sector have achieved substantial improvements in vehicle utilisation.

5.48 The last decade has also seen the rapid growth of global integrators such as DHL and Federal Express. These companies offer a complete door to door, timed delivery service and tend to concentrate on the small express parcel market. Growth in the integrated sector has outstripped overall growth in air freight.

5.49 Computerised vehicle routeing and scheduling software (CVRS) can help operators to improve efficiency in several ways:

- by avoiding congested roads
- by enabling realistic schedules to be set, reducing pressure on drivers
- by helping to match vehicles to loads and so maximise vehicle fill
- by assisting operators to implement advanced logistical systems, including load consolidation and supplier collections.

DETR is working with the Freight Transport Association to produce guidance on CVRS later this year.

5.50 Efficiency improvements of the kind described are critical to making the best of our existing transport infrastructure and achieving a more sustainable distribution system. Empty or light running of vehicles not only represents a financial loss to industry but increases demand for road space, energy consumption and pollution. Failure to integrate road transport services effectively with rail limits the potential of the railways to supplement the capacity of our road network and enhance energy efficiency.

**Hub and spoke network for 'next day' pallet delivery**

**Palletline plc**

Palletline's 'hub and spoke' operation utilises approximately 100 large commercial vehicles each night, ensuring full load movements both ways. This prevents costly empty running and cuts down depot-to-depot running of smaller vehicles.

**Collect Norwich - deliver next day to Llandudno**
Sustainable Distribution: A Strategy

Hub and spoke operating principle

Benefits

- Improved vehicle utilisation
- Less empty running
- Annual fuel savings against depot-to-depot running
- Reduction in traffic day time volume, thus less congestion

Energy efficiency from integrated logistics management

Tesco plc
Tesco have developed an integrated distribution system using their own vehicles to collect from suppliers as well as using suppliers' vehicles to meet their secondary distribution requirements. New packing technologies and trailer configurations were also developed to enable vehicles designed to carry pallets to carry store cages, and temperature-controlled trailers to operate in both single and multi-compartment configuration.

**Traditional regional distribution centre**

![Diagram of traditional regional distribution centre]

**Operation of supplier collection scheme**

![Diagram of operation of supplier collection scheme]

**Efficient routing and scheduling**

**Safeway Stores**

Safeway are optimising their use of used packaging. Computerised Vehicle Routing and Scheduling (CVRS) is used to provide dynamic scheduling and tracking of transport operations and assists in the implementation of efficient distribution systems

**Benefits**
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- 8.3 million lorry miles avoided annually
- Fuel savings of 2.7 million litres
- CO₂ savings 6,700 tonnes

Information provided by Safeway and FTA Environmental Best Practice Guide

Interstackable Boxes

Corrugated open boxes for produce

Maximising the use of space in trailers is important for reducing the number of vehicle trips. There are 1.3 billion corrugated produce boxes used across Europe each year. The next step is implementing essential features that enable boxes from different suppliers and different suppliers and different sources to interstack neatly one on the other. This will involve suppliers, retailers and corrugated manufacturers co-operating. Industry associations are helping this process.

Benefits

- Better space utilisation of vehicles
- Better handling in retail distribution and stores

Improved loads in double-deck and high-cube vehicles

Government statistics reveal that the average loading of 32.5 tonne articulated vehicles is at 49% of the maximum site. Double-decking these vehicles would raise average load factors and could reduce the distance travelled by up to 525M km, equivalent to around 5% of all articulated lorry traffic.

Types of double-deck semi-trailers

![Diagram of different types of double-deck semi-trailers](image)
Benefits

- CO₂ emissions could be cut by 510,000 tonnes
- Nitrogen oxide could be cut by 11,000 tonnes
- Reduced black smoke/noise/vibration/accidents

Heriot-Watt University - Christian Salvesen Logistics Research Paper No.1 by Alan McKinnon and James Campbell, 1997

Key Performance Indicators (KPIs) to improve logistics efficiency

In an initiative supported by the DETR Energy Efficiency Best Practice Programme, the Cold Storage Distribution Federation, with Heriot-Watt University has developed a set of "Key Performance Indicators" (KPIs) to provide a benchmark against which individual companies can measure their transport performance, with financial and environmental benefits. These were launched in June 1998 following a fleet survey in October 1997.

The KPIs relate to five indicators of vehicle utilisation:

- time utilisation
- vehicle fill
- empty running
- deviation from schedule
- fuel consumption

Day in the life of temperature control trailer

Benefits

- Encourages partnerships along the supply chain to improve vehicle utilisation
- Helps to identify opportunities between companies to reduce empty running
- Improved vehicle utilisation and fuel efficiency benefits the environment

There is potential for the KPI methodology to be applied in other freight sectors, and for the improvements in vehicle utilisation to help tackle congestion and reduce vehicle emissions. A larger fleet survey was carried out in October 1998, the results of which will be available later this year.
Information from DETR Energy Efficiency Best Practice Programme, CSDF and Heriot-Watt University

5.51 Working with industry, the Government will examine the scope for realising further efficiency gains in our distribution system. For example:

- what is the scope for extending further the efficiency gains already realised by some companies through progressive vertical integration of transport services, with customers and suppliers collaborating in joint distribution networks?

- is there scope for improving technology in ways which would enhance efficiency either within or across modes? (Examples might include increasing use of double-deck trailers or wagons for cargoes where loading space utilisation is constrained by floorspace and further developments in packaging or handling technology, such as shared containers and utilised load handling systems.)

- could further improvements in efficiency be realised through horizontal integration (i.e. two or more consignors co-operating with each other to optimise vehicle utilisation, whether through greater sharing of information or collaboration in operating joint transport services)? If so, are there constraints in terms of market dynamics and competition issues that would have to be addressed? If further horizontal integration would be beneficial, what could the Government do to encourage it?

- considerable improvements in efficiency could be gained from greater co-operation between manufacturers, retailers and wholesalers and logistics providers. Such co-operation has been inhibited in the past by a lack of information on the efficiency of operations across the supply chain. This makes it difficult to identify areas for improvement, and to ensure that benefits from efficiency gains are fairly distributed. To help overcome this problem, the Cold Storage and Distribution Federation and Heriot-Watt University, with DETR support, have developed a set of Key Performance Indicators (KPIs) - a set of objective measures of vehicle utilisation covering five aspects: time utilisation, vehicle fill, empty running, time reliability and fuel consumption. A major audit of CSDF members has been carried out using the KPIs, to provide baseline measures of vehicle utilisation, to enable firms to benchmark utilisation and to identify the most promising opportunities for improvements. A similar approach can potentially be extended to road transport operations in other sectors, and indeed to other modes of transport. The Government sponsored a further, larger audit in October 1998 and will work with industry to promote wider agreement and use of KPIs and benchmarking.

**Home Shopping**

5.52 Home shopping has been talked about as a revolution waiting to happen for a number of years, and there have been significant home shopping initiatives in various retail sectors. These can take different forms. True "home shopping" is where the consumer places an order and pays for it remotely, either by telephone, fax or through the Internet, and the goods are subsequently delivered to the consumer's home. Another variant is "home delivery", where the consumer travels to the shop to select and pay for the goods and they are delivered later by the retailer.

5.53 The extent to which home shopping will catch on remains unclear. But there are some social pressures (e.g. increasing numbers of cash-rich, time-poor households) and technological developments (e.g. the Internet and interactive television) which could well lead to substantial expansion. This could have beneficial social implications, by providing a wider range of choice at lower prices to those who are housebound or do not have access to a car. When linked to a telephone service or the internet, home shopping could prove beneficial to those living in rural areas, by providing access to the wide range of goods at competitive prices taken for granted by city dwellers. Delivery services operated to park & ride facilities could help to encourage greater take-up of such services.
5.54 The limited evidence available to date suggests that home shopping (or variants of it) might also be beneficial in transport terms, helping to reduce the total amount of traffic by replacing several car trips with one van trip. However this is not clear, and it is possible to envisage scenarios in which it might be unhelpful. There would also be planning implications. If it became widespread, home shopping could, in the longer term, imply changes in retailers' locational decisions and in the types of premises which they require. The Government intends to commission further research to assess the longer-term implications of home shopping for planning and transport services. This will draw on the knowledge and experience of the Retail and Distribution Foresight Panel. There are potential links to urban distribution issues, discussed in Chapter 6.

**The Growth of Air Cargo Services**

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<td>We have:</td>
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<td>- commissioned research into the air cargo industry to inform future Government policy</td>
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5.55 Global as well as domestic economic trends imply continued pressure for the development of rapid, worldwide distribution chains. Between 1987 and 1997 cargo handled at UK airports more than doubled, from 930,000 tonnes to 1.90 million tonnes. Currently, overall growth is running at 7.5% a year, ahead of growth in air passenger traffic. While the tonnage figure remains insignificant compared with the total tonnage of goods distributed, the dominance of high value goods in the air cargo sector means that air services carry about a fifth of all UK trade by value. Heathrow and Gatwick still dominate the market, but there has been strong growth at other airports, such as Stansted (with its FedEx dedicated air freight operation), East Midlands and Prestwick. Air transport is used extensively in the Highlands and Islands of Scotland for the distribution of mail, newspapers and other time-sensitive goods. Almost 6,000 tonnes of freight are carried each year to/from the 10 airports operated by Highlands and Islands Airports Ltd which maintains the fabric of the remoter communities by sustaining vital, social and economic links.

5.56 The White Paper "A New Deal for Transport" said that the Government will encourage the growth of regional airports to meet local demand for air transport where consistent with sustainable development principles. The aim is to maximise the contribution which they make to local and regional economies; to relieve pressure on congested airports in the south east of England; and to reduce the need for long surface journeys (particularly by road) to south east airports. DETR is at present undertaking a series of studies into future demand for air transport - passenger and cargo - to and from the regions, and the implications of a range of demand/capacity scenarios for the development of regional airports. The intention is that these studies should be the starting point for debate at a local level about how economic, social and environmental objectives for the airports and aviation sector can best be balanced in the interests of the region and the nation.

5.57 Large investments in air cargo services and supporting facilities are currently being made and planned by the private sector. The economic benefits which these investments can bring are considerable, but the environmental and wider impacts can also be significant. There are issues of development and intensification of use at or around existing airports and at new sites. These developments can in turn generate significant additional road traffic, adding to local congestion problems. Air transport is also the most fuel-intensive form of distribution.

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<td>East Midlands Airport Ltd</td>
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The vast majority of the 127,000 tonnes of cargo handled at EMA in 1997 was flown in or out by overnight integrators. Parcels are carried in special containers which can be
loaded easily using a "scissor" lift and are moved within the aircraft by the means of "roller beds" incorporated in the floor.

Benefits

- Fast delivery
- Night operations reducing day time traffic
- Specialised containers for easy handling

5.58 There are limitations on the use of cargo aircraft at some UK airports. Traffic distribution rules prevent dedicated freighter aircraft ("freighters") from landing or taking off at Heathrow or Gatwick during hours of declared peak congestion. Some freighters are older, noisier aircraft which have been removed from passenger service, and these cannot operate at night from the many UK airports, including Heathrow, Gatwick and Stansted, which do not permit night-time operation of the noisiest aircraft. Mail and parcels carriers in particular often need to fly at night in order to meet the requirement for next morning deliveries, but they often use smaller and quieter aircraft.

Air cargo services

Heavy lift-Volga Dnepr

Heavy lift-Volga Dnepr is the joint venture company formed by Heavy Lift Cargo Airlines and Volga Dnepr, a Russian joint Stock enterprise. The Antonov AN 124 has a maximum payload of 120 tonnes and is one of a seven-strong AN 124 fleet flown by Russian crews now operating worldwide charters from London Stansted Airport.

5.59 Air cargo operations can bring benefits in terms of jobs and of the speedy movement of high value goods. Services are growing rapidly, and increasing in economic significance. This means pressure for additional development at existing and new sites. The Government believes that the sector merits closer study. In consultation with industry, it has commissioned research with four key objectives:

- to assess the current state of development of the sector and improve the Department's understanding of its economic, social and environmental implications, including its relationship with other modes of freight transport such as road haulage;
- to provide a better basis for forecasts of future growth and the implications of growth and change in the demand for services, in particular developments in the market which may impact upon the Government's role;
- to provide pointers as to how the Government may be able cost-effectively to encourage sustainable development of the sector, to benefit the UK economy as a whole and regional development and regeneration in particular; and
- to support the development of the new national airports policy, as set out in the Government's White Paper "A New Deal for Transport: Better For Everyone"30, which will set a framework within which the industry can plan for the future with greater certainty.

Chapter 6: Raising Standards

6.1 The work described in earlier chapters will progressively feed through into specific, practical measures for achieving sustainable distribution. But there are many measures that can and should be adopted immediately. Indeed, important steps have already been taken (or are in the pipeline) that will have a substantial impact in helping to reduce congestion, noise, pollution and accidents.

6.2 Above all, achieving sustainable distribution will require a progressive raising of standards throughout industry. Many leading companies are already addressing these wider issues effectively, operating to standards well above the statutory minimum. Regrettably, the evidence shows that a minority continue to adopt a short-term, minimum cost approach to the job in hand, which sometimes does not even meet the existing statutory requirements. The Government will work with the leaders in industry, with local authorities and with their regional partners to raise the standards of the best still further, while addressing more effectively the problems caused by those who break the rules.

6.3 This chapter sets out the practical measures that are already in hand and will be pursued in order to deliver the higher standards that people want, and have every right to expect.

Enhancing Safety: Better Enforcement

Summary of proposals

Law breakers on the road risk lives and add to pollution

To enhance safety we shall:

- reduce the incidence of deliberate law breaking, improve the effectiveness of enforcement and raise standards in the road freight industry by;
  - modernising the systems which collect enforcement data on operators
  - introducing better arrangements for the notification of vehicles by operators
  - consulting on proposals to allow traffic to be stopped by uniformed traffic wardens and for police stop signs to be used by enforcement agencies
  - discussing with British ports and Eurotunnel a strategy for enforcement checks at major freight interchanges
  - increasing funding for enforcement activity
  - giving enforcement officers more effective powers to deal with illegal operators through a vehicle detention scheme
  - encouraging and reinforcing best practice within the industry for driver training, vehicle maintenance and site operations
  - ensuring that illegal operators do not have access to Government construction sites

6.4 Observing the minimum statutory requirements in force today must not be regarded by anyone as a matter of discretion. Proper licensing, meticulous and systematic equipment maintenance, well trained personnel, good working conditions and responsible driver behaviour are fundamental conditions that every operator must measure up to.

6.5 The latest random survey of HGVs, carried out in Britain by the Vehicle Inspectorate (VI) in January 1999, revealed that some 25.4% had significant faults which would warrant prohibition of the use of the vehicle if repairs were not carried out. 12% of lorries checked had faults sufficiently serious
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to justify immediate prohibition. The importance of frequent scheduled maintenance and checking was highlighted in a separate study, carried out in January - March 1997, into the incidence of commercial vehicle wheel loss. This showed that poor maintenance was a factor in many of the reported cases.

6.6 The need for more effective enforcement of the statutory requirements is clear. It is, moreover, a major theme in the responses to the Government's consultation exercise. Better enforcement is supported by the overwhelming majority of individuals, as well as by responsible operators and the main industry trade unions and associations. Their members share the concerns of the wider public and recognise that deliberate failure to observe the rules is a major barrier to the achievement of a fair market. The industry has reaffirmed in response to the consultation exercise for the White Paper that road fleet operators would be willing to pay higher licence fees if that enabled the Government to provide additional resources for enforcement.

6.7 The Government intends to respond to these concerns in five main ways; through accessibility of information, effective deployment of personnel, improving the enforcement funding regime, more effective powers for enforcement officers and encouragement of best practice in the industry.

**Effective enforcement**

6.8 First, the Government intends to modernise the systems which collect enforcement data in order to bring all the relevant information together, and make it available when required in a readily useable format to enforcement officers, regardless of which organisation they happen to work for, whether they are at their offices or out on the road.

6.9 Effective enforcement relies to a great extent upon good, reliable information. At present, information about vehicle status and condition and operator behaviour is captured in a variety of systems, by different organisations.

- The Driver and Vehicle Licensing Agency maintains the register of vehicles and records of drivers licensed to drive large goods vehicles.
- Vehicle Inspectorate testers and examiners record information about vehicle condition, overloading and tachograph records, through annual testing, visits to operators' premises and roadside checks.
- The Police also undertake roadside checks of vehicles, and both they and VI have powers to prohibit unroadworthy and overloaded vehicles.

The Traffic Commissioners have wide powers to deal with unsafe operators. They have close links with all the enforcement agencies and can act on evidence of poor maintenance standards notified to them. They can revoke an operator's licence or place restrictions on its use (e.g. by reducing the number of vehicles which can be operated) if the operator's vehicles are badly maintained or if the operator is guilty of operating unroadworthy vehicles and other offences.

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**Road and vehicle safety**

**Vehicle Inspectorate**

The Vehicle Inspectorate carry out annual road-worthyness checks at special test stations designed for heavy goods vehicles, buses and coaches. In addition, checks are also made on whether drivers meet the licensing and other requirements, such as the maximum weight requirements and limits on drivers' hours.

**Benefits**

- Improved road safety
Reduced overloaded vehicles
Reduced accidents (costs)
Reduced road maintenances

The Department of Transport - Road Safety Report

6.10 The Vehicle Inspectorate has already made a start on this project. There will for the first time be a direct link between the data held by the Traffic Area Network (TAN) on operator licences and the VI database, so that the 'O' licence data will be instantly accessible to VI. VI personnel checking vehicles at the roadside will have portable computers which will give them access both to the 'O' licence data and to VI's own data on prohibitions, convictions and vehicle test results. This will enable VI examiners to check immediately at the roadside the status and previous history of a vehicle and its operator, promoting more efficient and better targeted enforcement.

6.11 At the next stage, direct links between the Magistrates Courts, the Traffic Area Network and VI are planned, so that details of convictions for overloading, drivers' hours offences and other relevant offences will be relayed immediately and directly to VI and the TAN. This will assist both VI personnel and the Traffic Commissioners when deciding on disciplinary procedures. The Government has also recently issued a consultation paper on new arrangements for the notification by operators of the vehicles which they are running. This would replace the current arrangements whereby operators do not have to notify that they have taken a new vehicle onto their licence until 4 weeks afterwards, and will help to eliminate fraud. It will always be possible to ascertain at the roadside whether a vehicle is being legally operated by an operator with the appropriate licence. Members of the public would also be able to check via a 'hotline' who is the operator of a particular vehicle.

Effective deployment of personnel

6.12 Second, enforcement personnel must be effectively deployed and co-ordinated. It is also important to anticipate changes within the industry which may impact upon enforcement requirements.

6.13 As described in the White Paper "A New Deal for Transport: Better For Everyone"31, the Government is taking steps to make best use of available enforcement staff. Subject to appropriate safeguards, it may not always be necessary to employ the police to stop traffic so that other specialists can check for proper observance of the regulations. The Government will consult the police associations and others on proposals to;

- allow traffic to be stopped by uniformed traffic wardens under the control of the police; and
- provide a police enforcement sign which, once put in place by a police officer, can be used by agencies such as the Vehicle Inspectorate to stop lorries at checkpoints.

These new arrangements would apply throughout Great Britain.

6.14 The policy of the Vehicle Inspectorate is to improve the effectiveness of its enforcement action by targeting the more serious offences and defects which would have the greatest impact on road safety. One area where the Vehicle Inspectorate is looking to make such improvements is in its effectiveness at enforcing load restrictions. Overloaded vehicles cause greater wear and tear on road surfaces and bridges than correctly loaded vehicles. Overloading also gives hauliers an unfair competitive advantage, since they are able to undercut prices charged by their law-abiding competitors. VI are planning a review of the existing network of weighbridge and inspection sites to identify where changes are needed to upgrade existing facilities or where new facilities are needed.

6.15 The Government will discuss with British ports and Eurotunnel a strategy for enforcement checks at the main freight interchanges with the aims of ensuring:

- a fair, consistent and proportionate level of enforcement activity across all ports and major freight interchanges; which
- strikes the right balance between the need to ensure free and open trade in accordance with European Union legislation and the need to ensure enforcement of UK regulations by maximising Vehicle Inspectorate effectiveness in targeting overloaded vehicles.

6.16 New technologies in the form of weighpads and weigh-in-motion sensors (WIMS) are currently being assessed by the Vehicle Inspectorate for enforcement effectiveness. Weighpads have the potential to widen enforcement coverage beyond the present network of fixed sites, whilst WIMS may allow tighter targeting of offenders in transit, thus minimising delays for law-abiding operators.

**A new enforcement funding regime**

6.17 Third, the Government has put in place a new funding regime for enforcement. This means that enforcement will be funded directly from licence fees. Increased enforcement can therefore be funded from higher charges. The 'right' level of enforcement is and will remain a matter of judgement, though statistical information can help to quantify pressures, inform priorities and measure success. The level of enforcement must be adequate to deter operators who might be tempted to break the law, and to ensure high standards of public safety. But the costs should not become disproportionate. Enforcement work should be carried out efficiently and effectively, with informed targeting and optimised delivery mechanisms.

**More effective powers for enforcement officers**

6.18 Fourth, enforcement officers will be given more effective powers to deal with illegal operators. Vehicles which are not properly licensed in accordance with legal requirements must not be allowed on our roads. The Government consulted last year on proposals for the detention of illegally operated HGVs and there was widespread support for this scheme. The new approach will be based upon the scheme introduced last year for the wheelclamping and detention of vehicles which do not have a valid tax disc. Detention will provide better protection for the public, by removing vehicles from use immediately. It should also be a much more effective deterrent for any operator minded to break the rules. An impounding scheme will require primary legislation.

**Encouragement of best practice in the industry**

6.19 Fifth, the Government will encourage and reinforce best practice within the industry. The approach will be to recognise those who consistently perform to well above the minimum statutory requirements in the fields of training, vehicle maintenance, site operations and other policies relevant to the development of sustainable distribution. The Government will work with industry to develop and codify descriptions and examples of best practice, which can then be widely communicated throughout the industry to encourage emulation.

6.20 This is not just a question of operator behaviour. Where companies contract for distribution services with 'third party' operators, there is much that they can do to promote good practice and deter rule-breaking. The public sector too has a vital role to play. Both Central and Local Government are substantial contractors for haulage services, in delivering to construction sites and dealing with household and industrial waste, for example. As a first step, the Government is putting its own house in order. The Vehicle Inspectorate is now working with the Highways Agency, The Welsh Office and The Scottish Office to ensure that illegal operators do not have access to Government road construction sites. Details of projects are now notified to the Vehicle Inspectorate, so that checks can be made on lorries using those sites. The Highways Agency is also introducing conditions that contractors' and sub-contractors' lorries must carry documentation identifying the licence under which they are operating. The Government will encourage major private sector contractors employing HGV operators to take similar measures to ensure that they too only use legally operated lorries.
6.21 By pursuing this approach, in parallel with increasing resources for enforcement and improving access to data, the Government will aim to reduce the incidence of deliberate law-breaking and raise average standards in the industry to well above the minima laid down in statute.

**Enhancing Safety: Enforcing Speed Limits; Review of Speed Policy**

*Summary of proposals*

Driving too fast contributes to deaths and injuries on our roads

We shall:

- review the management of HGV speeds as part of our wider review of speed policy

6.22 According to the 1997 Vehicle Speeds Survey, fewer than 10% of HGVs on motorways were speeding. But well over half of HGVs were observed exceeding the 30mph speed limit in urban areas, and around a fifth were travelling at speeds in excess of 35mph.

6.23 It is not acceptable for commercial vehicle drivers (any more than for other road users) to ignore speed limits which are intended to be the maximum safe speeds at which vehicles should travel, in good weather and visibility conditions, along city streets. Indeed, speeding in commercial vehicles is particularly irresponsible, given their greater weight and the longer braking distances that they may require.

6.24 The Government is initiating a review of speed policy, as announced in the White Paper "A New Deal for Transport: Better For Everyone"\(^{32}\), which will also consider the environmental, social and economic impacts of speed management. The review will examine all aspects of speed policy, including the setting of speed limits on different road types, how to gain compliance and also the speed limits which apply specifically to classes of vehicle, including HGVs.

**Enhancing Safety: Safer vehicles**

We shall:

- consult industry on the introduction of front under-run guards for lorries

6.25 The Government's planned safety improvements include the compulsory fitting of front under-run guards to HGVs. The disparity in chassis height between HGVs and cars can negate the energy-absorbing characteristics designed into car structures and thus expose the occupants to a greater risk of injury. Fitting front under-run guards to HGVs will help to ensure that the vehicle structure absorbs some of the force of a collision. It is estimated that fitting such a device to all HGVs could save of the order of 70 lives a year. We are discussing this proposal with industry.

**Enhancing safety**

**20 mph Speed Limits**

20 mph zones were introduced initially in 1991 to residential areas as a method of addressing the poor child pedestrian safety record in the UK. There are now more than three hundred 20 mph zones in operation throughout Great Britain and they have

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proved to be highly effective in reducing speeds, accidents and casualties, particularly amongst pedestrians and cyclists. The Government has set out proposals in the White Paper to make it easier for authorities to exercise these powers.

**Benefits**

- A review conducted by the Transport Research Laboratory (TRL) showed that child pedestrian and child cyclist accidents fell by 70% and 48% respectively after the schemes were installed.
- An overall reduction of 67% for all child accidents (Source TRL)
- A 29% reduction in accidents for all cyclists Source TRL)
- Effectiveness of 20 mph zones is largely due to the self enforcement effect of traffic calming features

**Enhancing Safety: Safer Drivers**

**Summary of proposals**

We shall:

- introduce an experience requirement for persons supervising learner HGV drivers
- extend the driving theory test for HGV licences
- improve the marking arrangements for the HGV practical driving test
- consult with the freight industry on a statutory scheme to regulate HGV driver training
- encourage better provision of roadside rest facilities for lorry drivers on motorways and trunk roads
- consult on proposals to replace the UK drivers' hours rules with the EU rules
- work to achieve flexible implementation of the Working Time Directive in the transport sector

6.26 The Government has decided to improve standards of HGV driver training and testing to promote driving practices that are safe, economically efficient and environmentally conscious. As a first stage, a minimum three year experience requirement is being introduced in April for any person who supervises a learner HGV driver. As a transitional provision, the accompanying person will have had to have held a full licence to drive a large vehicle for at least three years, one of which must be for the same type of HGV being driven. In two years' time, the accompanying person will be required to have held for a minimum three years a full licence for the same type of HGV being driven. Also from April, the driving theory test for learner HGV drivers is having new topics added, including hazard awareness, fuel economy, noise and exhaust pollution. The question bank is being increased from just over 300 to over 600 items. Each test paper will have 35, rather than 25, questions, with a pass mark of 30 correct answers rather than 21. Further, from May, HGV practical test candidates who commit more than 15 less-serious driving faults will fail the test, so the test result will reflect weaknesses across a range of competencies. The threshold of 15 faults may be lowered in the light of experience. As a second stage, the Government wishes to introduce a statutory scheme for regulating HGV driver training; both the standards of instruction and the syllabus taught. It is intended to develop the key components of the scheme, together with the freight industry, by building on the current voluntary scheme managed by the Driving Standards Agency.

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6.27 Effective enforcement of drivers' hours rules, which affect most HGV and bus drivers, is an important safety measure. There are currently two different sets of drivers' hours rules in the UK - European Union regulations, which affect most HGV and about half of bus and coach operations, and national legislation, which applies slightly different rules to certain other HGV, bus and coach operations. The Government will consult on proposals to repeal the UK rules on drivers' hours, which are enforced largely through written records, in favour of the EU rules, which are enforced through the tachograph.

6.28 The European Commission has published proposals to extend the coverage of the Working Time Directive to the transport sector. These will be subject to further consideration by Member States. The Government supports the principle that professional drivers should have reasonable working conditions, including limits on their overall working time, but any legislation in this area will need to be carefully thought through.

6.29 The Government also supports the Commission's proposals to adopt digital technology in tachographs, provided that strict security requirements can be met.

6.30 Alert drivers make safer drivers. As announced in the White Paper\(^3\), later this year the Government will publish advice for developers and local planning authorities on improving roadside facilities for lorry drivers. Motorway service areas already provide short-stay parking and many offer overnight parking and showers. The Government will update advice later this year to encourage local authorities to identify locations on other trunk roads where roadside facilities are inadequate and to favour proposals that make proper provision for the needs of lorry drivers over those that do not. Better signing of facilities also has a part to play.

### Summary of proposals

We shall:

- allow 40 tonne, 5 axle lorries with a drive axle loading of up to 11.5 tonnes to operate in the UK on both international and domestic journeys from 1 January 1999;

- encourage industry to invest in 6 axle lorries with road friendly suspension and a drive axle loading of up to 10.5 tonnes which can operate at 41 tonnes in the UK from 1 January 1999

- set VED rates to discourage strongly the use of these lorries in view of the road damage they cause

- ask the Commission for Integrated Transport to consider the case of the 44 tonne, 6 axle vehicle

6.31 Since road haulage will continue to play a key role in future distribution systems, it is important to ensure not only that operators and drivers behave as society would expect, but that they have the best equipment to do their jobs, safely and efficiently. Efficiency matters, not only from the standpoint of competitiveness, but because more efficient vehicle fleet utilisation means lower energy consumption and less pollution, for any given volume and pattern of distribution.

6.32 From 1 January 1999, we were obliged by EU law to accept on our roads lorries with a gross weight of up to 40 tonnes. These 40 tonne lorries may have five axles and a drive axle weight of 11.5 tonnes. EU law also permits the 11.5 tonne drive axle weight limit for lower weight vehicles although,

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in practice, only vehicles over 17 tonnes can take advantage of it. EU law also permits the following increases in gross vehicle weights:

- 2 axle lorries from 17 to 18 tonnes;
- 4 axle articulated vehicles and drawbar-trailer combinations from 35 to 36 tonnes, and;
- 4 axle articulated vehicles meeting more stringent technical requirements from 35 to 38 tonnes.

6.33 The relevant EU Directive relates only to lorries used on international journeys. However it would be very difficult in practice to distinguish between lorries on domestic and international journeys. There would be no visual difference and many journeys now include both domestic and international 'legs', which would make it difficult to define and enforce different regulatory regimes. A single regime is much clearer for operators, vehicle manufacturers and enforcement authorities alike. It also avoids creating an unlevel playing field where vehicles on international movements would have a payload advantage over domestic movements. Accordingly, the Government concluded that the various EU limits up to 40 tonnes gross weight, together with the 11.5 tonne drive axle weight limit should apply from 1 January 1999 to all lorries on UK roads. None of these changes alter the size of vehicles, but in many cases they allow more load per vehicle to be carried - thus improving the efficiency and competitiveness of UK hauliers.

6.34 The Highways Agency's bridge strengthening programme (costing a total of £283 million) carried out over the last few years will ensure that bridges and other structures carrying motorways and trunk roads, and other important routes over trunk roads, are capable of carrying the heaviest lorries permitted from 1 January 1999. On local roads, local authorities are concentrating on strengthening bridges on strategic routes and where necessary bridges on local roads will have weight restrictions, as some do today.

6.35 However, the level of wear and tear imposed on roads and bridges increases rapidly with higher maximum axle loadings. A 40 tonne, 5 axle lorry with an 11.5 tonne axle weight causes about a third more wear than the heaviest lorries previously permitted for general use. Road maintenance is a substantial burden on the taxpayer and it is important we do all we can to minimise the damage caused by the heaviest vehicles. That means that it is in the wider public interest that the use of vehicles with lower axle loadings should be encouraged as far as practicable.

6.36 The Chancellor has already announced a review of the system for setting VED rates for lorries to ensure that the environmental damage they cause is reflected in their VED rates. This review takes into account both the wider environmental impacts of lorries and their physical effects on the road infrastructure. The Chancellor has announced his intention to set VED rates which discourage strongly the use of lorries with an 11.5 tonne drive axle weight, in view of the additional road damage that they cause. The review is therefore considering the VED rates for these new lorry weights. The rates will be announced in the 1999 budget. Interim rates came into effect on 1 January 1999.

6.37 Increasing VED differentials will provide some incentive for UK industry to invest in six axle lorries, but this is unlikely to be sufficient in itself. The Government concluded that the best solution was to give lorry operators an additional incentive to invest in six axle, rather than five axle, vehicles by permitting 41 tonne lorries, with six axles, for general use within the UK from 1 January 1999. Subject to the review of VED, these lorries are likely to attract a more favourable VED rate than 40 tonne, five axle types, reflecting their lower axle loading and reduced road wear. The 41 tonne gross weight compensates for the 1 tonne additional deadweight of the extra axle, so the net payload is equal to the EU standard lorry. These lorries meet the same requirements as 38 and 40 tonne lorries for braking, noise and pollution.

6.38 Since 1994, lorries of up to 44 tonnes gross weight, with six axles (and a maximum drive axle loading of 10.5 tonnes) have been permitted for combined road/rail transport. The net payload of these lorries is 3 tonnes greater than that of the EU 40 tonne, five axle lorry. Once again, the 44 tonne, six axle lorry is no larger than our existing, 38 tonne lorry; meets the same minimum braking standards; is no noisier and imposes no more wear and tear on road surfaces.
6.39 Industry has been pressing for a number of years for the introduction of 44 tonne, six axle lorries generally. Their introduction would make road haulage more efficient in some sectors (particularly for the movement of bulk products, such as petroleum and other liquids, chemicals, metals and aggregates) because each lorry can be more fully laden, requiring fewer journeys for the same distribution tasks. Although a 44 tonne lorry would burn slightly more fuel, there is a strong argument that because of its larger payload there would be a reduction in the total number of lorries required and in total fuel burnt per tonne km, resulting in less pollution overall. Similarly, there would, overall, be less noise, congestion and nuisance, greater safety and less damage to roads and bridges.

6.40 However, the Government is concerned about the impact of allowing 44 tonne lorries on the development of the rail freight businesses. One of the key objectives of the New Deal for Transport set out in the White Paper is to encourage rail freight as a way of reducing pollution and congestion. While there are many distribution tasks, such as deliveries of petrol to filling stations that are not capable of being undertaken by rail, the movement of bulk products and containers forms a large proportion of existing rail freight traffic. A 44 tonne lorry weight limit could make it more difficult for rail freight to compete with road haulage for some jobs, particularly where rail does not currently offer big competitive advantages over road, and where there are no planning or other restrictions which require rail movement.

6.41 We estimate that if 44 tonne lorries were available now, between 3,000 and 5,000 lorries would be taken off our roads. However, these estimates are very sensitive to assumptions made about the impact on rail freight and the new lorry mileage that would result from any rail traffic lost to road. Under worst case assumptions, the net saving might be as low as 2,000. This would be equivalent to a reduction of less than 2% in total heavy lorry traffic.

6.42 The Government is bringing forward a number of measures to promote rail freight, and to support the efforts which the freight train operators are now making to turn the tide of 40 years' decline. But it will take time for the full benefits to be realised and the Government believes that it is important to give industry a realistic and increasingly attractive alternative to road haulage. An immediate move to 44 tonne lorries could prejudice that objective.

6.43 The White Paper announced the formation of a Commission for Integrated Transport. The Government will ask the Commission to consider the introduction of the 44 tonne, 6 axle lorries for general use from the year 2003. It will be asked to take into account the results of the review of lorry VED rates and evidence from interested parties, including the rail freight operators and industry generally. The Commission will also be asked to consider whether there are measures that could be adopted to mitigate the potential impact on rail freight, including phasing of the introduction of 44 tonne lorries to allow more time for rail operators to expand their markets; and whether there is scope for limiting any extension to 44 tonnes to lorries with the highest standards of emissions. It will also take into account the effects of the fuel duty escalator.

Quieter Lorries

Summary of proposals

We shall:

- support EU proposals for low-noise tyres for motor vehicles together with test procedures to set minimum adhesion levels

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6.44 Vehicle noise can be a significant source of disturbance, whether on city streets or in the countryside. Much can be done to alleviate noise at source, for example through quieter vehicle technology and less noisy road surfaces. The noise performance of the vehicle fleet has improved substantially in recent years, with ever stricter noise limits for new vehicles forcing quieter engines. This has resulted in a halving of perceived noise levels from individual vehicles compared with the early part of the decade. Further noise reductions of up to 5dB(A) were applied to HGVs from 1996, and air brake noise was limited for the first time. HGVs have kept pace with the general trend in vehicle noise reductions and the improvements deriving from new standards are becoming more apparent as older vehicles are replaced. Alternative fuels, promoted by the Government through the Powershift programme, also have potential to reduce noise emissions from heavy vehicles.

6.45 As a consequence of these achievements, noise from the contact between the road surface and the tyre is becoming increasingly predominant as the primary vehicle noise source, especially at higher speeds on inter-urban roads. Both tyre construction and road surfacing quality are factors in the amount of noise generated, and DETR has embarked upon a research programme to investigate the issues involved.

6.46 The European Commission submitted a proposal for a new Directive which specifies for the first time the noise levels to be met by motor vehicle and trailer tyres. The Government fully supports the Commission's aim of reducing tyre noise, but considers that a tyre adhesion standard should be introduced in parallel with noise limits in order to ensure that safety is not compromised. The Government has tabled an outline test procedure and adhesion level proposals to the EU Council Working Group which is considering the proposed Directive.

6.47 Although attention has focused in recent years primarily on standards for new vehicles, noise problems can of course develop while vehicles are in service. The Government is now considering whether any further measures can be taken to minimise unnecessary in-service vehicle noise. One problem being addressed is the intrusive noise which can sometimes be caused by the bodies of lorries rattling when driven over uneven road surfaces. Control of such will require a combined approach from manufacturers, operators and highway authorities, as the latter have responsibility for ensuring that roads are maintained to a good standard, and that defects such as potholes, which can generate noise, are repaired.

### Vehicle noise limits

![Graph showing vehicle noise limits](image)

6.48 Following a programme of research led by DETR, a voluntary Guide to Best Practice on how to minimise noise from body rattle has been drawn up in consultation with various industry groups. The industry is currently being consulted on the conclusions of the guide.
Body Rattle
An advisory group, under the direction of DETR, was set up to investigate the sources and magnitude of body noise and to develop a guide to best practice for controlling noise nuisance from commercial vehicles. The group, comprising representatives from vehicle and body manufacturers, operators' associations and operating engineers, identified the following main sources of noise:

- suspension noise generated by metal-to-metal impacts;
- impact noise associated with the movement of tipper bodies;
- rattles caused by poorly fitting doors and locking mechanisms;
- impact noise caused by movement of lifting gear mechanisms, hydraulic rams etc;
- rattles caused by loose fittings and fastenings;
- rattles produced by unsecured chains, equipment etc; and
- vibration of body panels.

Keeping Lorries off Lanes

Summary of proposals
We shall:

- work with the FTA and RHA to promote the "Well Driven?" scheme
- examine ways of improving and streamlining arrangements for local authorities to prohibit or restrict HGV movements

6.49 A survey by the Council for the Protection of Rural England\(^{37}\) confirmed that there remains substantial concern in rural communities about the problem of rat-running by large lorries. Rural roads were not designed to accommodate such vehicles, which can damage road surfaces, disturb the tranquillity of the countryside and intimidate vulnerable groups, such as pedestrians and cyclists.

6.50 The responses to the White Paper consultation exercise confirm that people are concerned about the impact of large lorries on their communities. The Government's position is simple: lorries should not travel on unsuitable roads unless they have to use them for collection or delivery. There is an established network of 'primary routes', comprising all green-signed roads, which includes major local authority roads as well as all trunk roads and motorways. The motorway network in particular was built to facilitate the flow of longer-distance traffic and that is where HGVs belong, unless they are gaining access to premises. The Scottish Office and Convention of Scottish Local Authorities have recently published guidance on "Rural roads hierarchy and lorry routeing"\(^{38}\) showing the economic benefits of managing the network and controlling lorry routes.

Primary route network

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6.51 The Freight Transport Association and Road Haulage Association have already taken steps to encourage responsible driver behaviour through the ”Well Driven?” scheme, which displays a hotline telephone number on the vehicle to enable other drivers to give feedback if the driver has behaved inconsiderately, or indeed, has been particularly helpful. The operator is required, as a condition of the scheme, to send a written reply to every caller. This scheme also enables people to complain if they see lorries travelling on minor roads without good reason. The FTA and RHA are currently piloting an extension of the scheme to vans. The Government intends to work with the Associations to promote membership in and constructive use of the scheme.

6.52 Under the Road Traffic Regulation Act 1984, Local Authorities already have powers to prohibit or restrict heavy commercial vehicle movements in designated areas or on specified roads. In Greater London, 19 boroughs currently operate a night time lorry ban. However, restrictions applying to trunk roads require the Secretary of State's consent. Outside Greater London, Local Authorities may not restrict lorry movements for more than 8 hours in any day without the Secretary of State's consent, if doing so would prevent access to premises. The Government will look at ways of improving and streamlining these arrangements. These powers provide local authorities with an important tool by which the peace and safety of local communities can be protected. In London, in return for an exemption to the night time lorry ban, lorries have to follow agreed routes whic
Sustainable Distribution: A Strategy

Quality Partnerships for Urban Distribution

Summary of proposals
We shall:
- promote the development of "Quality Partnerships" between local authorities, the freight industry, business communities, residents and environmental groups
- carry out research into the potential for freight consolidation systems to improve urban distribution
- carry out research into the impact of out of hours running

6.53 Efficient access for goods and services has always been a key factor in supporting the vitality of urban areas. This must, however, be reconciled with the need to make our cities pleasant places in which to live and work, and attractive to visitors. The growth of road traffic, with the attendant problems of noise, congestion, pollution and accidents has made this an increasingly challenging task.

6.54 There is no practical alternative to the lorry and van for urban collections and deliveries - at least in the medium term. But it does not follow that a bad situation is bound to get worse. Some of the measures described elsewhere in this section, including improvements to vehicle standards, will deliver improvements in urban areas, as elsewhere. Much more can be achieved by carefully designed and targeted local initiatives such as traffic management schemes, priority routeing and the like. The Government is supporting the "Clear Zones" initiative, aimed at developing technology to enhance city centre environments. One aspect of the initiative is to improve deliveries and collections of goods within major centres, while reducing problems of congestion and pollution. Measures which limit access to the city centre but provide loading/unloading facilities for goods are amongst the techniques being evaluated.

Low Emission Zones
There has been growing interest in low emission zones, which restrict access to polluted areas to low emission vehicles, as one possible measure for achieving better air quality in cities. Stockholm and Athens (for example) have introduced restrictions on access to more polluting vehicles. The Government has been encouraging the use of greener vehicles in European cities through the "ALTER" (Alternative Traffic in Towns) project. This initiative is intended to bring together local government across Europe to promote the use of low emission vehicles and fuels. Participants will declare that from a given future date, they will allow access to all or designated parts of their areas only to vehicles which meet strict emissions standards. The objective is both to improve air quality in the restricted areas and to establish a critical mass of demand for greener vehicles as a stimulus to manufacturing industry.

Agenda 21
In 1992 the Earth Summit adopted a global plan for action, known as Agenda 21, to address the critical issues of how to develop a healthy global economy and society without social exclusion of the poorest nations and without environmental degradation. The UK was one of the first countries in the world to prepare a national Sustainable Development Strategy, published in 1994, and the Government's consultation document
"Opportunities for Change" is part of the preparations for publishing a new strategy in 1999.

Local Authorities are also required to draw up local Agenda 21 strategies for their communities. The City of Coventry, for example, has established an Agenda 21 Transport Working Group. As part of their review of access and movement policies for the Coventry Development Plan, business, the transport industry, environmental groups and members of the public were brought together to identify opportunities to improve the sustainability of freight transport within Coventry. The ideas developed in this forum have been fed into the main local Agenda 21 initiative and planning policies, in preparation for the final strategy.

6.55 In the light of concerns about the impact of congestion, pollution and other problems in cities, a question deserving further consideration is the extent to which lorry traffic could be shifted away from the peak hours. This could help to ensure efficient access for vital goods and services, at the same time as playing a very constructive part in helping to reduce traffic-related problems. Clearly it would not be acceptable if it meant increased disturbance for local residents, so there is a need for local authorities to work with industry and central Government to examine the potential for reducing lorry noise, including the disturbance caused by loading, unloading and handling. Wider implications, such as safety and working hours for drivers and for staff at premises where goods are collected and delivered, also need to be considered. The case for research in this area is supported by the Retail and Distribution Foresight Panel, and the Government intends to act on this.

6.56 The Government also believes that there would be value in developing a dialogue on urban distribution issues, based on the Quality Partnerships approach, involving local authorities, the business community, residents, environmental groups and industry. A precedent has already been set (see box 'Urban Distribution').

6.57 In order to co-ordinate all the different efforts, local authorities are now required to prepare new local transport plans which will set out proposals for implementing quality partnerships, traffic management and Local Agenda 21 strategies. The Government has issued draft guidance on the preparation of local transport plans. We will look for evidence that authorities have taken appropriate steps to assess the impact of proposed policies and programmes on local and wider distribution systems and practices, with regard to their economic, social and environmental outcomes. Whether directly or through trade and professional bodies, the Government is keen that local authorities should consult widely and involve industry at an early stage in the development of their plans.

6.58 There may also be scope for exploring more radical ideas. It has been suggested, for example, that the environmental and wider impacts of urban distribution could be reduced through dedicated "City Logistics" systems, in which goods destined for premises in city centres are diverted into common transhipment facilities and local/city centre distribution is carried out using specialised vehicles, which may be smaller, quieter and less polluting. Schemes of this kind have been brought into operation in other countries, for example in Germany, Holland, Denmark and Switzerland.

6.59 The continental experience would not necessarily translate directly to the UK, as industry structure and other relevant conditions differ from one country to another. Moreover, it is not clear that ambitious City Logistics projects have delivered the benefits that their sponsoring bodies intended. Physical transhipment is costly; regulated systems can be inefficient and smaller lorries are not necessarily better, if there are more of them on the roads. Systems which encourage greater consolidation of deliveries within urban areas may have more to offer. Pilot research has already been


commissioned by the Retail and Distribution Foresight Panel, under the umbrella of the Department of Trade and Industry's Foresight programme. DETR is represented on the Panel and involved in this work, which has initially focused upon the prospects for improving co-ordination of collections and deliveries in cities and enhancing resource utilisation through better information systems; in effect a 'virtual City Logistics' concept. The Government will consider further research on specific aspects with a view to establishing the case for one or more 'pilot' projects, in order to develop trial systems and verify concepts under live operational conditions.

### Urban distribution

**Freight Transport Association (FTA) Industry/Local Government Partnership**

The partnership embraced local government, industry and local representatives of the Civic Trust, Transport 2000, Friends of the Earth and the Pedestrians Association. The report describes the key aspects of the project covering current urban transport usage, traffic and rail for urban deliveries and the role of Urban District Councils. It also identified a range of best practice measures and principles for action by local government and industry.

**Benefits**

- Key issues established across the partnership
- A focus of interest groups on best practice
- An example for future Urban planning

'Delivering the goods' a report of a FTA industry/local government partnership initiative

### Tackling Local Air Pollution

**Summary of proposals**

We shall:

- encourage the manufacture, purchase and marketing of cleaner, quieter, more fuel-efficient vehicles through the Cleaner Vehicles Task Force (CVTF)
- examine, through the CVTF, ways of improving the performance of the existing vehicle fleet
- promote the take-up of a VED concession worth up to £500 for goods vehicles and buses meeting the most stringent standards for exhaust emissions
- encourage the use of cleaner, alternative fuels through changes to fuel duty rates and grants from the "Powershift" programme
- work with the European Commission to develop further European standards for vehicle emissions
- review further options for improving existing fleet performance as part of the study of track costs and environmental costs
6.60 The Government's policies for tackling air pollution are set out in detail in the National Air Quality Strategy\textsuperscript{41} which was endorsed in July 1997. At the same time the Government launched an immediate review of the Strategy, to look for ways to deliver improvements in air quality more effectively and more rapidly. This review was completed in December 1998 and proposals for amending the strategy were published for consultation in January 1999\textsuperscript{42}. The Strategy sets objectives for eight pollutants of concern. Transport sources make an especially significant contribution to four of these - carbon monoxide, lead, nitrogen dioxide and fine particulates (PM\textsubscript{10}). For some pollutants HGVs and vans are responsible for over 50\% of emissions from road transport sources. One way of addressing this problem is to control emissions from individual vehicles.

\textit{Lower Emissions from Newer HGVs and Vans}

6.61 Increasingly stringent controls on pollution emitted by both heavy and light goods vehicles have been introduced over the past two decades. These have been implemented through regulations specifying standards to be met by new vehicles and standards for fuel quality. The standards are principally relevant to improving local air quality, rather than to tackling climate change, which is more closely correlated with total fuel consumption - a topic discussed later in this chapter.

**HGVs**

\section*{Emission Standards for HGVs}

In respect of new diesel-powered lorries over 3.5 tonnes GVW, limits on emissions of carbon monoxide (CO), hydrocarbons (HC) and oxides of nitrogen (NO\textsubscript{x}) were introduced into UK law in April 1991. The prescribed standards for CO and NO\textsubscript{x} were set at 20\% below the level then generally being met by the fleet with standards for hydrocarbons at 30\% below. Manufacturers had to fit emission control equipment to meet these standards.

Even more significant tightening of emissions limits was introduced from October 1993 ("Euro I") with permitted levels of CO, HC and NO\textsubscript{x} reduced by 60\%, 50\% and 45\%, respectively. A limit for particulate emissions (PM) was established for the first time. A further tightening of standards ("Euro II") occurred in October 1996, when the particulate limit was cut by over half and further important reductions in NO\textsubscript{x} were also required. Industry responded to these challenges by increasing the use of turbocharged, charge-cooled, electronically controlled systems, which generally obviated the need for after-treatment devices, such as particulate traps.

6.62 To ensure that heavy diesels are maintained on the road to a good standard and do not produce excessive emissions, a metered smoke check was introduced into the annual road worthiness test in 1992, and tightened by 10\% in 1995. An intensified roadside enforcement campaign, checking that vehicles actually in use meet these standards, has been carried out in recent years. Over 34,000 lorries had been checked by December 1997, with an average of 31\% served with prohibition notices. A smoky vehicle hotline has been set up for members of the public to report to VI sightings of buses or lorries which are emitting excessive smoke. In 1997/98 there were 11,000 reports to VI, who follow up each report with the operator concerned.

6.63 Progressive tightening of emission standards, together with improvements in fuel quality, is leading to a significant reduction in pollution from heavy diesels as the existing HGV fleet is


\textsuperscript{42} "Review of the United Kingdom National Air Quality Strategy, A Consultation Document." January 1999. Available from DETR Free Literature, PO Box 236, Wetterby S3 7NB.
renewed. By 2005, emissions of particulates will have been cut by two thirds and NO$_x$ by half compared with 1995 levels.

6.64 In order to mitigate the impact of traffic growth, Member States have agreed a "common position" in the EU Environment Council for further reduction in emissions limits, from 1 October 2001 (Euro III) of the order of 30% as recommended in the Auto-Oil study. Further tightening from October 2006 (Euro IV) has also been agreed with reductions of 30% on carbon monoxide and hydrocarbon limits accompanied by cuts of 80% in particulate limits which are likely to be achieved by the fitment of particulate traps. A further 60% staged cut in NO$_x$ limits by 2008 is also envisaged (Euro IV+). The agreement also provides for a new testing procedure for advanced diesel and gas engines which better reflects on-road driving conditions. Under the agreement measures to sustain emission performance in service are to be considered by the Commission with a view to introduction from 2005. Subject to agreement by the European Parliament the directive is expected to be adopted during the first half of 1999. The effect of this is shown in the comparative graphs on pages 84 and 86.

**Total UK road transport emissions of NOx: effect of progressive introduction of Euro II, Euro III and Euro IV standards**

**Total UK road transport emissions of PM10: effect of progressive introduction of Euro II, Euro III and Euro IV standards**

**Emission limit levels for new HGVs**
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*Limits given in grammes per kilowatt hour (g/kW/h) - a measurement related to engine power.

** 0.25g/kWh until 30/9/97 and 0.13 g/kWh from 1/10/01 to 30/09/06 for certain small engines in this range.


Reductions in the permitted sulphur content of diesel fuel - from 3,000 ppm to 2,000 ppm in 1994 and then to 500 ppm in 1996 - facilitated these changes, in themselves resulting in a reduction of 13% in particulate emissions from heavy diesel vehicles. There will be further reductions in the sulphur content of diesel in 2000 and 2005.

6.65 The Environment Council agreement also includes a further set of stringent emission standards for very low emission vehicles, which are referred to as Enhanced Environmental Vehicles (EEVs). Manufacturers who so wish will be able, on a voluntary basis, to certify their vehicles as EEVs in the same way as they demonstrate their attainment of mandatory emissions standards. It is hoped that the creation of European-wide EEV standards will encourage the development of alternatively-fuelled vehicles and establish a clear definition of very low emission vehicles which could be used as part of traffic management measures.

6.66 As a result of these measures, a decline in emissions from heavy goods vehicles is predicted throughout most of the current traffic forecasting period, with a very slight upturn by 2020, in response to continued traffic growth. (These predictions do not take account of the potential impact of Transport White Paper policy measures.) As the graphs on pages 84 and 86 show, total particulate emissions levels are forecast to be one third of 1995 levels in 2010, while NOx emissions would be about one quarter of 1995 levels. During this period, as Euro III and Euro IV standards are introduced, the HGV contribution to particulate emissions is predicted to fall to one eighth of 1995 levels and NOx levels by one third. National policy measures will make a significant contribution to achieving the health based national Air Quality Strategy Objectives but may still not be enough in some urban areas. The Government has therefore established a system of Local Air Quality Management, which requires local authorities to assess air quality in their areas. Where local authorities find that national measures are not sufficient to meet the objectives of the National Air Quality Strategy, they must declare an Air Quality Management Area (AQMA). For each AQMA an action plan must be devised. As most AQMAs are likely to be in busy urban areas, where traffic is a major source of air pollution, most action plans are likely to focus on local transport measures, such as low emission zones.

6.67 Stringent vehicle emission limits have also been introduced for vans. In respect of new vehicles, controls were established in the early 1980s, but the most stringent measures have been applied in more recent years. The lightest petrol engined vans must now meet standards similar to those applying to passenger cars, requiring the fitment of catalytic converters. Larger vans have to meet standards of comparable stringency. Vehicles with diesel engines have generally achieved the limits through engine modifications although some models are now fitted with two-way catalysts. The latest, Euro II, limits were introduced in two stages; applying to new vans under 1.25 tonnes from October 1997 and to vans between 1.25 and 3.25 tonnes from October 1998. These represent reductions of between 30%-80%, depending on the size of the van and the pollutant, on previous emissions.
6.68 As a result of existing control measures, most types of emission from light vans are forecast to decline. However particulate emissions from vans are forecast to increase significantly over the next few years (see graph page 84). This is the result of an expected shift in the composition of the van fleet away from petrol to diesel powered vehicles.

Comparative UK road transport emissions of NOx

![Graph showing comparative UK road transport emissions of NOx]

Comparative UK road transport emissions of PM_{10}

![Graph showing comparative UK road transport emissions of PM_{10}]

6.69 In order to mitigate the impact of traffic growth and ensure that the reduction in emissions is sustained, the European Union agreed Euro III limits which will apply to new vans sold from 1 January 2002. The agreement also provides for a further - Euro IV- stage of emission reductions in 2007. Excluding the effects of certain changes in the emissions test procedure, the reductions from 2002 will tighten the limits for NOx and particulates by 30% to 40% for petrol-engined vans and 20% to 65% for diesel-engined vans. Further reductions of approximately 50% will take effect from 2007. The estimated impact of these measures is shown in the comparative graphs on page 86.

6.70 Taking future raising of standards into account, the forecast decline in emissions of CO, NOx and PM_{10} from light vans will be sustained despite forecast traffic growth and the trend towards a largely diesel fleet.

6.71 As with heavy lorries, to ensure that emissions performance is maintained in service, a metered check was introduced into the annual MOT test in 1991 for petrol engined vans and in 1992 for diesel engined vans. The standards to be met were tightened by 23% and 10%, respectively, in 1995. A roadside campaign has been mounted in recent years to check that vehicles on the roads meet these
standards. By December 1997 just over 40,000 vans had been checked, with an average of just under 7% being served with prohibition notices.

Fuel Quality

6.72 To complement and facilitate more stringent emission limits for vehicles, the most recent European proposals were accompanied by a Directive on fuel quality. This will introduce new fuel specifications for petrol and diesel from 1 January 2000 with a further tightening in 2005. Of particular importance is the reduction in the sulphur content of motor fuels which will facilitate the introduction of advanced emission reduction technologies. These improvements in fuel quality will result in important emission reductions across the vehicle fleet - especially for particulates.

6.73 Further to improve local air quality, the Government is committed to changing fuel duty rates to encourage the production and use of cleaner ultra-low sulphur diesels. The differential between standard diesel and Ultra Low Sulphur Diesel (ULSD) was increased to 2 pence per litre in the last Budget and the Government intends to raise this to 3 pence per litre at the next Budget. The use of cleaner diesel will result in significant reductions in particulate emissions (over 30% for light vans43) and is generally needed for the introduction of emissions reduction technologies, such as oxidation catalysts and particulate traps. The Government is committed to at least maintaining the July 1997 duty differential between road fuel gases and diesel for the rest of this Parliament, in order to encourage the use of road fuel gases and so improve local air quality.

6.74 The Energy Saving Trust's Powershift programme, funded by DETR, aims to establish a sustainable market for cleaner, alternatively fuelled vehicles, including electric, liquid petroleum gas and natural gas-powered vehicles. Powershift brings together organisations from both the public and private sectors that want to buy clean, alternatively fuelled vehicles, to reduce the additional production costs associated with these vehicles. It has also recently introduced the Powershift Register which lists approved vehicles suppliers and converters in order to guarantee technical standards, safety and emissions benefits. Since its inception in 1996, Powershift has primarily focused on stimulating the market for gas-powered vehicles. This is expected to continue in future years but the programme will also explore more fully the potential environmental and energy efficiency benefits offered by other emerging technologies, such as electric-hybrid and fuel cell technology.

Road haulage fuelled by natural gas

Safeway Stores

Safeway has used support from the Energy Saving Trust's Powershift programme to put 10 gas powered lorries into service. They are fuelled by Compressed Natural Gas (CNG), using a refuelling station installed at their Welwyn Garden City depot by Mobil CNG. The vehicles can run 300 miles between refuels and are being used for deliveries to stores in and around London.

Benefits

- Reduced emissions of harmful particulates and visible smoke
- Reductions in emissions of carbon monoxide (CO) and oxides of nitrogen (NOx)
- Reduced engine noise compared with diesel

Diesel vehicles fitted with particulate traps can meet very stringent emission

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43 "Cleaner Air: The role for Cleaner Fuels” published by The NSCA’s Cleaner Fuels Forum, February 1998.
Reduction Emissions from the Existing Vehicle Fleet

6.75 As the lorry and van fleet is progressively renewed, the new vehicle standards described above will improve air quality for citizens throughout the European Community and beyond. They are amongst the toughest standards for new lorries and vans anywhere in the world, and will make a significant contribution to the aim of reducing harmful emissions on a global scale. But there is no room for complacency, particularly as growth in total demand for distribution in the longer term may begin to erode the benefits of improving standards for individual vehicles.

6.76 The Government has established the Cleaner Vehicles Task force to look at ways of encouraging the manufacture, purchase and marketing of cleaner, quieter and more fuel efficient vehicles. A wide range of interests are represented, including the freight industry. The task force is due to publish its first report in the spring on ways of reducing the environmental impact of new vehicles and improving emissions from vehicles in use. This will include detailed recommendations covering the environmental labelling of vehicles, greener fleet management, alternative fuels and low emission zones.

6.77 An issue of substantial practical importance in the short term, on which the CVTF has already begun to focus, is how we can improve the performance of the existing vehicle fleet, to achieve lower pollution levels more quickly than would otherwise follow from the rate at which older vehicles are scrapped and replaced by the latest types. Leading operators already follow policies of frequent fleet renewal, replacing their HGV tractor units typically on a five or six year cycle. But these older vehicles and tractor units do not simply disappear. They are sold on to other operators and can continue operating for substantial further periods. A particular problem is that they can end up being run by operators who may be tempted to adopt inferior maintenance practices in order to cut costs, thereby worsening the emissions performance still further.

6.78 The Government introduced a scheme for a Vehicle Excise Duty concession of up to £500 for goods vehicles and buses meeting stringent standards for particulate emissions, aimed at improving local air quality. The concession is available for vehicles which meet particulate emissions standards based on new and projected Euro standards (as described above) and the Government hopes to see a strong response to the scheme. This goes hand in hand with the commitment to a more favourable rate of duty on ultra-low sulphur diesel.

6.79 The Government also proposes to review options for further measures to improve existing fleet performance in the context of the study of track costs and environmental costs referred to in para. 4.24.

Recycling engine coolant

Ryder plc

Ryder implemented coolant recycling by using mobile recycling units at a cost of
£2,500 each.

**Benefits**
- Environmental hazards from contaminated coolant avoided
- Disposal cost savings worth £47,000
- Improved coolant condition and better identification of faults

**Reducing particulate emissions and contamination in a warehouse**

**Whitbread Beer Company**

Whitbread have equipped 77 fork lift trucks with particulate traps at a cost of £1,600 each. A regenerating facility for the traps together with air sampling and dust analysis completed the operation at an annual cost of £90,000.

**Benefits**
- Improved working environment for staff
- Health hazard from diesel emissions reduced

**Combating Climate Change**

**Summary of proposals**

In order to contribute to our targets for greenhouse gas emission reductions we shall:

- promote fuel efficiency by driver training and performance monitoring
- encourage the transport industry to improve its efficiency with the aim of achieving a less-fuel intensive, more sustainable distribution system
- publish new guidance on aerodynamic equipment for vehicles
- prepare a guide on computerised vehicle routeing and scheduling

6.80 Climate change is another powerful reason for exploring the potential for further efficiency gains in the operation of the vehicle fleet. Reducing freight vehicle mileage will cut emissions of carbon dioxide, the most important greenhouse gas. The proposals already put forward for promoting greater use of rail, shipping and waterways; to increase fuel duty by an average of 6% above inflation to promote more efficient vehicle utilisation; reducing empty and light running; load consolidation; changes to journey timings and speeds and to lorry weights, all have a constructive part to play in minimising overall fuel consumption and therefore emissions of greenhouse gases. By pursuing every available opportunity to improve efficiency, aggressively and consistently over time, it will be possible to achieve a less fuel-intensive, more sustainable distribution system, while supporting economic growth.

6.81 Pollution is not just a function of engine design, fuel type, mileage operated and numbers of vehicles. It is also, very significantly, related to the way in which vehicles are driven, which has a substantial impact on fuel consumption. DETR's Energy Efficiency Best Practice Programme has evaluated the potential of effective driver training and performance monitoring.

6.82 The fuel consumption guide for lorry fleets, produced jointly with the Freight Transport Association and based on the actual performance of over 3,500 vehicles in 300 fleets, shows that:

- the top 20% of fleets are achieving fuel savings of up to 20% compared with the average;
- the best fleets achieve almost double the mpg of the worst; and
- for individual vehicles, the best performing will be achieving much more than double the mpg of the worst.

This clearly suggests that there is considerable scope for efficiency improvements, with environmental benefits, in the majority of companies. The guide to fuel consumption not only gives benchmarks of good performance, but offers both strategic and practical guidance on how companies can improve.

6.83 Technology can help too. The forerunner of the Energy Efficiency Best Practice Programme supported the first applications for aerodynamic styling for vehicles in the late 1980s. New guidance is planned on this for the coming year, together with work on more aerodynamic tanker designs and a guide on computerised vehicle routeing and scheduling.

**Improved driver training saves fuel and reduces accidents**

**McKelvie and Co**

McKelvie implemented an in-house training programme for its drivers to improve safety and fuel economy and to reduce operating costs. On-going evaluation of the fuel data sheets allowed average fuel performance trends to be observed and specific vehicle/driver performance to be compared. Drivers were able to achieve improvements in fuel efficiency of 8% and vehicles showed a marked reduction in spare parts consumption owing to improved driving techniques.

**Vehicle accident statistics**

![Vehicle accident statistics graph]

**Benefits**

- Average fuel efficiency improved by 8%
- Accident rate down by half
- Fuel savings worth over £100k
- Accident cost savings worth over £10k
- Payback period: less than 1 year
- Improved company image
A study of this scheme has been published under the DETR Energy Efficiency Best Practice Programme (Case Study 311)

**Fuel management for transport operators**

**Thorntons plc**

Within the European Commision's SAVE' programme Thorntons devised a simple but effective method of fuel management for their goods vehicle fleet. Fuel savings were achieved in the first year and the in-cab computer data-logger proved such a success that Thorntons ultimately decided to equip their entire fleet. Thrntons proved that fuel performance could be improved by adopting monitoring techniques, and staff awareness and incentive schemes.

**Benefits**

- Lower fuel costs
- Lower maintenance costs
- Less pollution
- Lower accident rate
- Payback in one year

**Cutting costs by streamlining for improved fuel efficiency**

**ANC Ltd**

ANC have improved the aerodynamic performance of their vehicles by fitting streamlining kits. In addition to this the drivers were trained in fuel-efficient driving techniques.

**Benefits**

- Fuel consumption reduced by nearly 20%
- Reduced emissions to the atmosphere
- Fuel saved worth £700,000 a year

**Tackling Pollution and Nuisance from Other Modes**

**Summary of proposals**

Pollution and noise are not limited to lorries and other road vehicles, of course. The Government is determined to achieve substantial performance improvements in all modes of transport.

We shall:

- work through the International Maritime Organisation to reduce the environmental impact of shipping
- monitor and enforce the requirement for operators of ports, harbours, terminals and marinas to plan for the provision of reception facilities for ships' wastes
- support the work of the European Commission to develop noise standards for rail freight wagons
- support moves within the International Civil Aviation Organisation to tighten the standard for NOx, emissions from aircraft
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press for removal of the exemption from duty of aviation fuel used on international flights so as to encourage fuel efficiency

Shipping and Ports

6.84 Shipping operations can have an adverse impact on the marine and coastal environment. Media attention tends to focus on pollution resulting from accidents, such as those involving the SEA EMPRESS and the BRAER. However a significant amount of marine pollution is caused by deliberate and illegal discharges carried out as part of the day-to-day operation of ships. The Government is working to reduce both accidental and operational pollution from ships; in particular, by promoting the adoption, through the International Maritime Organisation, of appropriate rules and standards, and their effective enforcement.

6.85 Measures contributing to the protection of the UK coastline from pollution from shipping accidents include:

- efforts to eliminate substandard ships (the "Quality Shipping Campaign");
- routeing measures to minimise the risk of collisions, and to keep the ships which present the greatest risk of pollution away from hazardous or sensitive areas of the coast;
- the provision of an effective response capacity, including emergency towing vessels; and
- the availability of prompt and adequate compensation for claims arising from pollution from ships.

6.86 The Government is pursuing initiatives, or undertaking reviews, on all these fronts. In particular, it will shortly publish an updated strategy for the response to marine pollution incidents. This strategy, the National Contingency Plan on marine pollution from ships and offshore installations, will take account of the results of the review of salvage and intervention and its command and control carried out for the Government by Lord Donaldson.

6.87 The Government is seeking to reduce operational pollution from ships by encouraging the responsible discharge of ships' wastes in port, through effective port waste management planning. The operators of ports, harbours, terminals and marinas already had a statutory duty to ensure the provision of adequate reception facilities for ships' wastes. The Government has now complemented this with a new duty to plan for the provision of reception facilities in consultation with their users and other interested parties. The aim of this policy is to integrate shipping and port operations so that ships' wastes can be discharged in port quickly, simply and inexpensively. This should remove any excuse for illegal discharges at sea.

6.88 Where illegal operational discharges do take place, the Government has extended its power to deal with those responsible. The geographical scope of UK legislation now extends to the maximum permitted under international law. We have increased the maximum penalties which can be imposed on polluters by UK courts. As a result of a UK initiative, the International Maritime Organisation has adopted a virtual ban on discharges of oil in waters around the UK coast. We have established a dedicated enforcement unit within DETR's Maritime and Coastguard Agency, resulting in more successful prosecutions.

Marine pollution from ships

The government's policy for the reduction of marine pollution from all types of shipping consists of three major strands:

- making controls more effective through improving regulations and their enforcement;
- improving facilities for the legal disposal of waste in ports through port waste
management planning;
- increased penalties for illegal discharges.

The port waste management planning initiative is being developed internationally through a proposal by the European Commission and a UK-led group within the International Maritime Organisation.

Source: 'Port waste management planning', DETR, 1998

**Railways**

6.89 The Government intends to support the work of the European Commission to develop noise standards for railway freight wagons. Because it is not practicable to eliminate railway noise at source, there is also a need to consider ways of mitigating the impact of noise on those most affected by it. The European Commission has proposed a Framework Directive on environmental noise, to harmonise methods of calculating noise exposure, so that targets and action plans can be developed, initially by Member States but eventually at EU level.

6.90 At a domestic level, each train operator's licence contains a condition on environmental matters under which the operator must establish a written policy to protect the environment from the impacts of licensed activities, together with operational objectives and management arrangements to give effect to the policy. This policy must take into account any general environmental guidance issued from time to time by the Rail Regulator.

**Air Services**

6.91 Government policy in relation to air cargo services has in the past been linked very closely to (and to a substantial degree determined by) air passenger transport issues. Passenger traffic is the dominant factor in airport development in most cases, and some 70% of all air freight and parcels traffic flies in the baggage holds of passenger aircraft, rather than in freighters. Policies to limit aircraft noise and emissions, which often have to be developed and agreed internationally, are largely common to passenger as well as freighter operations.

6.92 International standards for noise and emissions from aircraft are agreed through the International Civil Aviation Organisation (ICAO). The UK is amongst those states pressing for early action to update the existing standards and make them more stringent.

6.93 Under the aegis of ICAO, older, noisier "Chapter 2" subsonic jets are being phased out. After 31 March 2002 they will only be allowed in Europe under the most exceptional circumstances. In further moves, the European Union has agreed a Regulation which, subject to approval by the European Parliament, will limit the addition to national registers of subsonic civil jets originally certificated to Chapter 2 limits but which have been modified to meet the more stringent, "Chapter 3" levels. This is because such aircraft seldom meet Chapter 3 standards by as great a margin as aircraft originally built to that standard. The aim of these proposals is to prevent the gains from the phase-out of Chapter 2 aircraft being eroded by an increase in the use of barely compliant aircraft.

**Aircraft noise standards**
6.94 On emissions, the UK is in the forefront of moves within ICAO to tighten standards. A new rule on NOx was accepted by ICAO's Committee on Aviation Environmental Protection in April 1998 and ICAO adoption as a new international standard is expected shortly. In parallel the European Commission has produced a draft Directive to implement a comparable standard for EU Member States.

6.95 The Government also believes that the international agreement to exempt aviation fuel from duty is now anomalous. It supports moves to remove the exemption. An internationally agreed tax on aviation fuel would help to reduce emissions and encourage manufacturers and airlines to invest in newer, more fuel-efficient aircraft. The European Commission is conducting a study into the environmental and economic effects on the Community of an aviation fuel tax.

**Best Practice for Sustainable Distribution**

**Summary of proposals**

We shall:

- widen the scope of the Energy Efficiency Best Practice Programme to include all sectors involved in supply chain management and all aspects of sustainable distribution, including pollution, waste reduction and recycling, safety, training, new technologies, benchmarking and overall performance improvement
- publish a new journal of Sustainable Logistics to disseminate Best Practice information
- explore ways in which innovation and best practice can be recognised

6.96 The Government intends to draw together many of the strands of policy and initiatives described above under the banner of an expanded and enhanced Best Practice programme.

6.97 The Energy Efficiency Best Practice programme is delivering impressive results in the areas of driver education, efficient vehicle utilisation and benchmarking, with a focus on reducing energy wastage (which in turn reduces greenhouse gas emissions). In the road distribution and logistics sector, it has identified scope for cost-effective savings of around the same 20% level which tends to pertain across the rest of industry, commerce and the public sector. The most energy-efficient organisations are often the most efficient on a broader basis, and market leaders in their field.

6.98 The Government will widen the scope of the Best Practice Programme to include the whole range of issues relating to sustainable distribution, including pollution, waste reduction and recycling, safety, training and qualifications, new technologies, benchmarking and overall performance improvement. The new programme will focus on wider logistics issues as well as transport per se, and will extend across all transport modes and services.
Effective dissemination of information is vital to the success of any Best Practice Programme. Accordingly the Government will collaborate with industry to publish a new Journal of Sustainable Logistics, which will have wide circulation. The journal will be of interest to, and will seek contributions from, industry, central government, local government, the European Commission, professional bodies, academics, regional and local bodies. It will also address audiences in Scotland, Wales and Northern Ireland, providing for a local focus as appropriate.

The Government will also explore ways in which innovation and best practice can be recognised, whether through new certification or award schemes, developing NVQ or equivalent qualifications or perhaps, in due course, by a new British Standard. Such an approach could help to reinforce positive trends within the industry, for example by persuading consignors to insist that their distribution contractors should possess the relevant accreditation.
Chapter 7: Indicators for Sustainable Distribution

Summary of proposals

We shall:
- monitor and aim to reduce the freight transport intensity of economic growth
- publish sustainable distribution indicators on a yearly basis

7.1 Having defined the vision of sustainable distribution, and set out a strategy to achieve it, it is important to consider how progress can be measured.

7.2 There is no single answer to that question. It will be important to track a range of measures, including (for example) statistical trends in accidents, pollution and congestion, and indicators of the relative success of different transport modes, as well as the aggregate quantum of freight movement.

7.3 Over the medium term, an important guiding objective of the sustainable distribution strategy will be to help to reduce the freight transport-intensity of economic growth. Two new measures are therefore proposed:

- a measure showing the relationship between the trends in overall tonne-km and GDP growth, which tracks the overall transport-intensity of the economy; and
- a measure showing the relationship between the trends in lorry vehicle km operated and GDP growth, which tracks the road transport-intensity of the economy (reflecting the particular concerns about the impact of road traffic on the environment and society).

Freight intensity (total freight tonne kms) of GDP

Lorry traffic intensity (vehicle kms) of GDP
7.4 The graphs above show the historical trends in these two indicators over the past twenty years.

7.5 These indicators will be monitored and published on an annual basis, but in view of the cyclical fluctuations (as shown in the historic series above), it will only be possible to draw conclusions as to underlying trends in performance over a longer timespan of, perhaps, five years or more.
Chapter 8: The Government's Aims: In Conclusion

8.1 The Government's White Paper "A New Deal for Transport" makes it clear that freight distribution has a crucial part to play in supporting the economic growth of this country. But this should not be at the expense of the wider community and the environment. A balance needs to be struck so that distribution in the 21st century is sustainable. This document sets out how, working with industry, local Government, businesses and the wider community, the Government intends to deliver a sustainable distribution strategy.

The Government's objectives are to:

- improve the efficiency of distribution;
- minimise congestion;
- make better use of transport infrastructure;
- minimise pollution and reduce greenhouse gas emissions;
- manage development pressures on the landscape;
- reduce noise and disturbance from freight movements;
- reduce the number of accidents, injuries and cases of ill-health associated with freight movement.

8.2 To achieve this requires an approach that is integrated:

- integrated across all transport modes, so as to improve the overall efficiency and competitiveness of the UK;
- integrated with the environment, so that the industry plays its part in achieving the Government's environmental objectives;
- integrated with land use planning, so as to improve the strategic development of the freight transport infrastructure and promote more sustainable patterns of goods distribution; and
- integrated with the Government's wider policies for health, education and wealth creation, so that freight transport contributes to a fairer, more inclusive society.

8.3 This approach is promoted through 3 key areas of action:

- a sustainable market - to deliver a more effective, open and fair market for the UK freight transport industry;
- strategic planning - to promote integration within the freight transport infrastructure;
- raising standards to improve the environmental performance of the freight industry and reduce accidents, noise and disturbance.

8.4 This will be achieved through a range of measures:

- fiscal - to promote transfer of freight to rail, inland waters and sea, reduce emissions of greenhouse gases and reduce air pollution;
- strategic planning both at national and local level, to improve the planning of transport networks, make better use of the existing transport infrastructure and improve our knowledge of the freight distribution industry;
- regulation to improve safety and vehicle standards and create a fair and open market;
- partnerships by which Government will work with industry to improve its environmental performance and efficiency and reduce its social impacts.
8.5 By pursuing the sustainable distribution strategy, within the context of the wider sustainable development agenda, the Government expects to deliver, over the next ten years:

- steady economic growth, with rising prosperity and good quality jobs;
- substantially reduced greenhouse gas emissions;
- cleaner air in our towns and countryside;
- safer roads, streets and lanes, for drivers, cyclists and pedestrians;
- better forward planning, which minimises environmental damage and loss of habitats;

while maintaining access to efficient distribution services and a wide choice of competitive goods and services.

**Your views**

If you have any comments or questions regarding our sustainable distribution strategy or if you wish to contribute ideas and proposals, please contact us at:

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Appendix 1: Responses to the White Paper Consultation Process

1. A report summarising the views expressed in response to the White Paper consultation exercise was published last year\(^\text{44}\). This summary concentrates on the freight issues raised.

2. In all, some 7,300 responses were received to the White Paper consultation exercise, of which three-quarters were from members of the public. The main issues of concern included public transport and making better use of the road network, and the main recommendations were concerned with improving public transport, personal mobility, travel safety and the local environment. On the environment, over 14% of all respondents raised local air quality as the main concern. Noise was the next most mentioned issue. Over 1,300 respondents raised freight transport issues, and the most frequently raised recommendation was to see a shift in freight movement from road transport to other modes.

3. Members of the public also wished to see more restrictions on lorry movements, in terms of hours during which access was permitted and the types of roads open to lorry traffic. However industry respondents were concerned that such restrictions would harm business efficiency and could add to congestion at peak times. The industry view was that off-peak (night-time) deliveries could be more environmentally acceptable and safer.

4. Notwithstanding concerns to see a shift from road transport to other modes, road freight was seen by the majority of respondents as the main mode by which freight will travel in the UK in future. Views on permitting heavier lorries were mixed. There was support from the main users of road haulage for the early introduction of the 44 tonne lorry, both to promote efficiency and to realise environmental and other gains by reducing the numbers of vehicles required for a given volume and pattern of distribution. However the rail freight industry saw the 44 tonne lorry as a potential threat to some of their business. Many individuals and pressure groups were concerned about the environmental impacts that heavier lorries might cause.

5. The intimidating effects of traffic speeds in rural areas was a significant theme for members of the public. Over 8% of respondents wanted better enforcement against speeding. Pollution was also a substantial concern, with requests for greater use of alternatively fuelled vehicles, more research into vehicle technologies and better enforcement of emissions standards.

6. There was strong support from industry for more enforcement, as well as from the public. A common computerised database to allow enforcement agencies to share information was recommended, together with stiffer penalties for offenders, particularly illegal (unlicensed) operators. Concerns focused both on threats to the environment and the unfair competition posed by 'cowboys' who broke the rules.

7. There was support for graduated Vehicle Excise Duty for lorries, reflecting both wear and tear on roads and wider environmental impact. Some environmental groups advocated changing VED and increasing fuel duty. The Road Haulage Association sought a fuel duty rebate for lorry operators, as essential users.

8. There was support from the freight industry (as well as other respondents) for urban road pricing, provided that the additional revenues raised were used to improve transport services or facilities. It was recognised that more research was needed to deliver a practicable scheme, but road pricing was seen as a potential way of delivering the National Air Quality Strategy and the UK’s contribution to reducing CO₂ emissions. The transport industry considered that concessions should be available if charging spread beyond urban areas. There was less support for motorway tolling. Concerns were raised that such a system might encourage some traffic, particularly HGVs, onto less suitable roads.

9. The freight industry saw an important role for best practice initiatives in reducing the environmental and social impacts of freight movements and wanted the Government to help promote such schemes. It was considered that results would need to be supported by consistent benchmarking, enabling industry to measure its performance objectively. Suggested benchmarks included vehicle utilisation measures, fuel efficiency and environmental efficiency. Better training for HGV drivers was supported by a range of interest groups.

10. Local authorities, in particular, wanted to see more freight transported by rail. Several organisations called for the safeguarding of land for the future development of rail freight terminals. Local authorities and businesses were particularly concerned to see improvements in infrastructure, with limited road construction and measures to develop the capacity and attractiveness of other modes, including rail gauge enhancement and improvement of shipping and waterway services, and surface access to ports and airports. Ports were seen as of high strategic value to the UK, with a major part to play as intermodal freight transfer points. Some also thought that shipping services should be further developed on inland waterway and coastal routes as well as mainland Europe and that the potential of roll-on-roll-off freight terminals should be examined. Many freight operators also felt that more cargo ought to be carried by air.

11. The ports and freight industry called for a reduction in bureaucracy, in line with the main aims of the Single Market, to make export of goods to Europe more efficient.

12. Integration of the trans-European railway networks with open access for freight services across Europe was seen as an important future development, which would open up markets in Eastern Europe to the UK rail freight industry. Operators called for the standardisation of railway infrastructure throughout Europe.