

The Chartered
Institute of Logistics
and Transport



**CILT VISION
2035**
Transport, Logistics
and the Economy

UK Freight Planning to 2035



Stronger Together



Introduction

Vision 2035: Transport, Logistics and the Economy

CILT's original 2011 Vision 2035 report paved the way for a series of new papers looking in detail at various aspects of the UK's future infrastructure and planning needs

LOGISTICS AND TRANSPORT

VISION 2035



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The Chartered Institute of Logistics and Transport recently published a well-received report entitled: *VISION 2035*¹. Its purpose was to look to the future and visualise what transport and logistics in Britain would be like, taking account of demographic changes, increasing population, technological developments and social and political change. The aim was to identify the challenges the industry would face and the policy instruments needed to serve society as effectively as possible.

The main conclusions of the report were:

- Provision of effective freight transport capacity and reliable journey times must be key priorities to support recovery and growth
- Transport demand will be strongly influenced by population growth, an ageing population, and where these changes will occur
- The UK will never have sufficient capacity to meet all potential demands for transport services; the financial burdens on the UK limit its ability to fund new infrastructure over the next decade and in the medium term the problem will be exacerbated by the fall in tax revenues from vehicle fuel duty
- Economic recovery can only be achieved if sufficient capacity can be released or created in transport networks. This needs demand management and behavioural change as well as additional infrastructure.
- The logistics and transport sectors should take the lead in promoting a reduction in both freight and passenger traffic by supporting
 - a. alternatives to travel
 - b. reduced commuting distances; and
 - c. shorter, more localised supply chains
- Information technology has the potential to revolutionise the way we use and manage transport and logistics services and to make better use of capacity
- Transport must be planned and administered together with economic and spatial planning regionally and in the devolved nations

The report does not claim to be the last word on the subject: the Institute regards it as a starting point for continuing work on likely future changes and the development of more detailed ideas on how best to meet the likely demands on logistics and the transport system. The Institute therefore intends to promote a series of studies, discussions and other activities to build on the original Vision 2035, up-date it as we go along and highlight new and emerging issues. Our new series of reports is called *Vision 2035: Transport, Logistics and the Economy*. This report, *UK Freight Planning to 2035*, is the first of this series. In due course we will be publishing further reports, holding discussion evenings and events on a number of topics ranging from transport planning to aviation.

The Institute hopes that this series of publications will stimulate debate and lead to a fuller understanding of future problems and how our own members and the transport and logistics sectors more widely can help to improve our response to them.



1. Vision 2035: Published by The Chartered Institute of Logistics and Transport, September 2011

Freight and Logistics Planning to 2035

Introduction



In the future, logistics may change significantly as infrastructure evolves. This is a green truck corridor as envisaged by Volvo.

CILT Public Policies Committee

Final report of the subcommittee working group on UK freight planning to 2035

Members of the working group:

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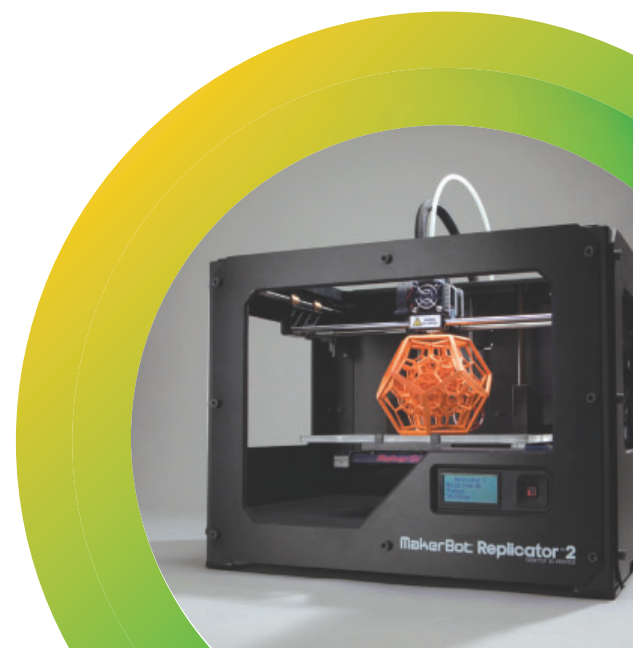
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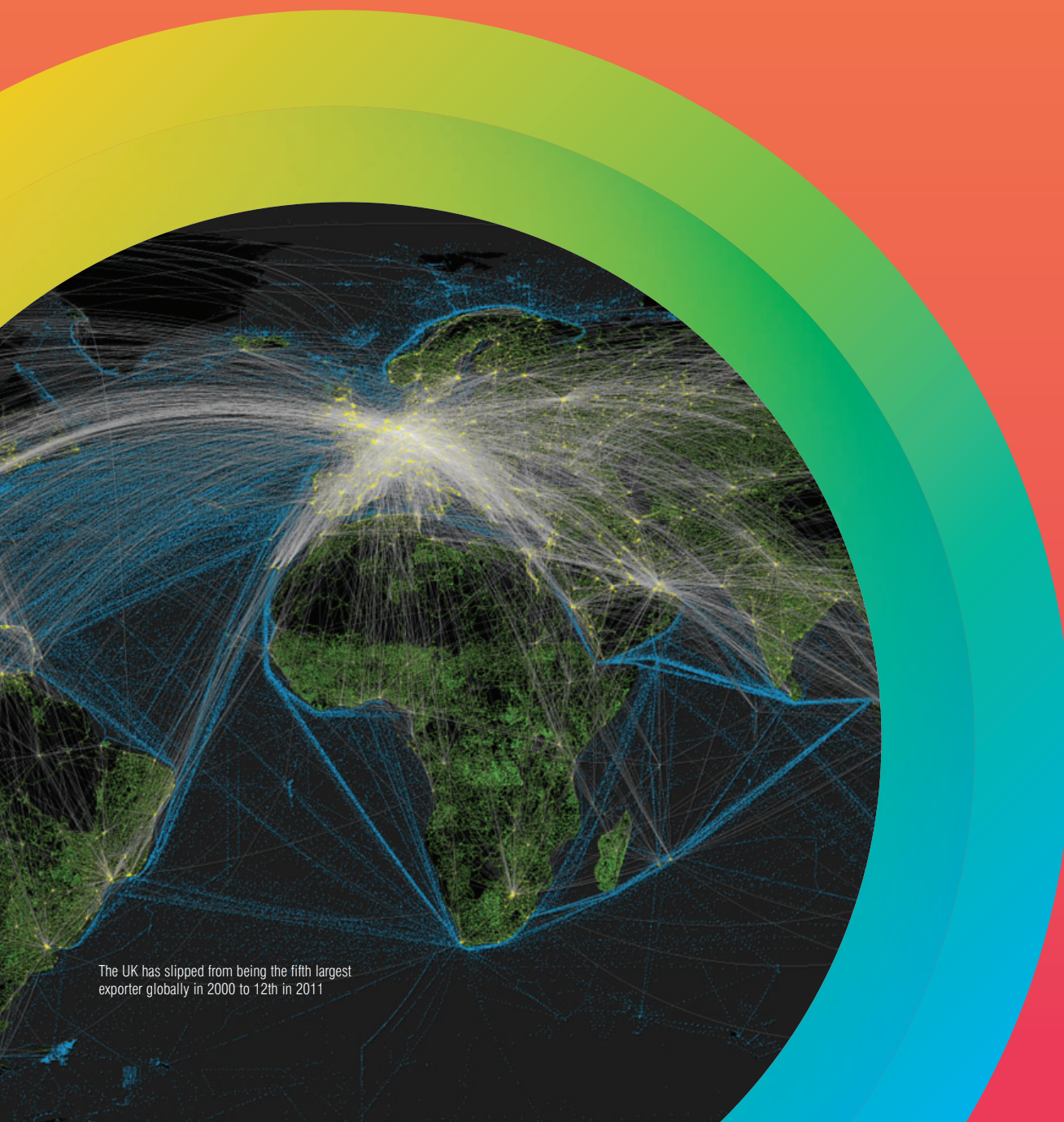
- 1 CILT has recently completed a major report called Vision 2035 which addressed future transport and logistics scenarios to 2035, their impacts and the required responses in the UK and in relation to global logistics links and developments over time.
- 2 In the process of reviewing current UK Government plans for freight, the PPC identified gaps in strategic planning policy-making in areas such as integrated intermodal networks, infrastructure and capacity planning, related policies and regulation to support the development of a globally competitive logistics sector and network in the UK.
- 3 A working party was set up to explore the current plans, areas requiring further definition and to develop strategic alternatives for submission to HMG. This initial report forms part of an ongoing programme of activity and research intended to support the development of a more efficient and competitive UK logistics sector, within a domestic and global context.
- 4 The scope of the working party is to:
 - Compare the efficiency and competitiveness of the current UK supply chain to its global competition and assess the changes needed in transport infrastructure, modes and regional development requirements relative to UK needs
 - Examine the probability, relative significance and potential impact of future megatrends in terms of requirements of the UK network and infrastructure
 - Review the current and developing UK Government strategic plans for the UK freight network
 - Identify key capacity and innovation constraints, general risks, barriers and enablers for future freight efficiency
 - Explore sustainability and the potential impacts of further increases in oil price and decreases in availability and their impact on industry costs, GHG emissions, and HMG and EU sustainability targets
 - Provide recommendations to Government and policy-makers in relation to freight transport policy

The growth of 3D printing could well have a significant impact on current supply chain patterns by 2035 if its development continues at the same pace as at present



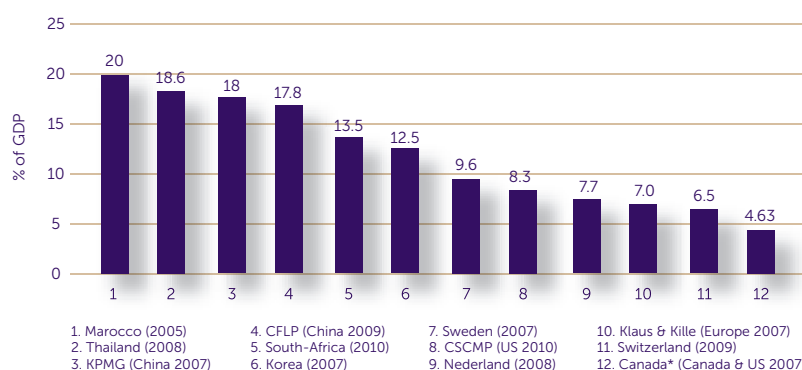
Freight and Logistics Planning to 2035

The role and state of freight and logistics
in the UK economy



- 5 This section provides a short rehearsal of the importance of freight and logistics to the UK. Freight and logistics are a business service to industry and commerce providing the storage, handling and transportation of goods from origin to point of use, conversion or final consumer.
- 6 'The movement of freight is vital to the British economy. Whether it is raw materials for manufacturing, fuel for electricity generation or the transport of consumer goods, the population of Britain relies on freight transport for its high standard of living and economic prosperity'¹. In 2007, Uri Dadush, Trade Director, World Bank, remarked: 'As a main driver of competitiveness, logistics can make you or break you as a country in today's globalised world'².
- 7 Freight and logistics is a very significant part of the economy, Estimates vary significantly, and depending on research definitions the sector employs 1.7 to 2.2 million people, across 63,000 to 192,735 companies, which is up to 8% of the UK workforce³. These companies have a collective turnover of £770 billion and a GVA of circa £55–96 billion, which equates respectively to 26% and 11 % of the total economy⁴.
- 8 Without an efficient freight transport network the UK would and will be exposed, relative to our global competition, to increasing commodity, energy and consumer prices, reduced availability of goods and more expensive services. While the UK lies seventh in the 2011 global GDP rankings⁵, it is 10th in the World Bank global LPI logistics rankings⁶ and 11th in OECD productivity rankings of the 30 OECD countries. Any improvement in efficiency offers a significant opportunity for economic growth, as an increase in UK productivity of 1% equates to £11 billion in additional GDP⁷. Within the UK, the origins of freight may be ports, factories, quarries, waste disposal sites, retail distribution warehouses and e-commerce fulfilment centres, inter alia. This abbreviated list emphasises that supply chains that are served by freight and logistics are diverse and the services required are not homogeneous.
- 9 On a global level, UK supply chains are co-dependent with international logistics to a significant degree, and UK capabilities play a major role outside our island boundaries. We exported £298 billion and imported £399 billion of goods in 2011⁸, all of which are handled by the freight and logistics sector, with a direct impact on UK value add and competitiveness.
- 10 The UK has slipped from being the fifth largest exporter globally in 2000 to 12th in 2011⁹ and this is largely driven by lower manufacturing costs offshore, particularly in Asia.
- 11 Labour costs are beginning to increase in the developing world. By the end of September 2012, the 31 Chinese regions had increased minimum wages by 21.7%. While other developing nations, such as Bangladesh and Vietnam, are benefiting, the lack of skills and infrastructure, coupled with the increasing costs of global freight transport, is leading many businesses to consider returning production to the developed world. Logistics costs are typically significantly higher in the economically emergent world (see figure 1)¹⁰.

Figure 1 Levels of logistics costs in statistics-based studies as a percentage of GDP (*% of sales)



1. Value and importance of Rail Freight report, Network Rail 2010
2. Logistics Manager 2007 UK Scrapes into top 10 logistics performers
3. PWC 2012 and Skills for logistics 2010 Sector skills assessment for the freight logistics sector
4. Logistics Guild feasibility study 2012
5. World Bank 2011 GDP Rankings
6. World Bank LPI Rankings 2012
7. UK CES 2010/Ambition 2020, the 2010 Report
8. ONS UK Trade statistics SNEP 6211 Oct 2012
9. IMF Direction of trade statistics via ESDS 2012
10. Rantasila – Ojala OECD Discussion paper 2012

- 12 Reducing UK logistics and transport costs substantially would enable the UK to compete more effectively beyond labour unit costs and productivity.
- 13 The history and role of freight and logistics in driving economic transformation is often overlooked. Essentially, freight and logistics systems have evolved to enable longer distance trade at lower cost with greater speed: from the horse and cart, through sailing ships, steam ships, canals, railways (from rail cars to container and bulk cars), container sea freight and the evolution of the lorry to the 18m articulated trailers plated to 44t.
- 14 Each of these developments rendered previous modes more or less obsolete and each has further developed within its own model as the technology has been stretched. The radical changes in shipping with the demise of the dock labour scheme and the introduction of containerisation is a good example. In parallel, the development of the UK motorway network supported by trucks with larger payloads and increased cube, have rendered local depot networks increasingly obsolete.
- 15 The bottom line of the development of the global logistics market for UK business has been access to wider markets and sources and the concentration of supply and manufacturing. Increased productivity and economic performance in freight and logistics has taken the strain and delivered a lower total system cost; a process that has been a continuous development.
- 16 It is important to also understand that the logistics market in itself operates as a zero sum game in the short term, unless it adds value to shippers' business and drives up volumes of goods in a specific market. Price elasticity of demand in freight does not exist without a significant business model change of the types previously outlined. Thus in the short term, on an established freight paradigm, price competition in the market for logistics actually results in traffic moving from one carrier to another without driving up total volume. This is important when considering the impact of making road freight more efficient, where it has been argued that lower costs lead to lower prices and higher traffic; in reality, lower costs may make new network routings grow, which will be at the expense of other routes and modes. This guiding principle applies unless the total cost of the whole supply chain is so much better that the goods can be sold more cheaply.
- 17 Failure to grasp this fundamental of economics has created a frequent presumption in policy-making that marginal reductions in freight unit costs and consequent prices of goods would increase volumes and consequently road traffic (this being the predominant mode). In fact, the volume of goods moved is determined by size of markets and freight and logistics is a minor factor, with any reductions in costs being fed into replacing lost profit margin, rather than price reductions. This is evidenced by the CPI rising 22 points since 2005¹¹ due to the current environment of upward spiralling energy and commodity prices.
- 18 Freight and logistics is highly energy intensive and dependent on carbon fuels. As such it is vulnerable to rises in fuel costs, which are projected to continue. The consequential cost pressures on margins and hence pressure on prices has the potential to deflate the whole economy.
- 19 Freight and logistics efficiency is therefore central to economic survival rather than a core engine for growth.
- 20 As observed in paragraph 7, the UK is ranked 10th out of 155 in the world for logistics by the World Bank in its 2012 Logistics Performance Index (based on a basket of measures that includes infrastructure rating and customs capabilities). On this measure the UK is behind Singapore, Hong Kong, Finland, Germany, Netherlands, Denmark, Belgium, Japan and the USA. In contrast, in 2011 the UK ranked eighth behind Germany, Singapore, Sweden, Netherlands, Luxembourg, Switzerland and Japan. We believe that the differences in the entrants and top rankings from one year to another coupled with the vastly difference logistics characteristics across the leading nations could be the subject of debate; the survey method employed has the potential to be subjective and respond to the emotion of short-term operating conditions.
- 21 Notwithstanding that qualification, it is important to note that the UK is in the top 10% for its freight and logistics capabilities and is widely recognised for its supply chain leadership through world-leading institutes such as the Cranfield Centre for Supply Chain and Logistics Management.
- 22 The UK transport sector has a modest record on innovation as recorded by Innovation surveys that are conducted in the UK on a regular basis¹². This work suggests that in the transport division, only 54% of firms consider themselves as innovation active, placing it below the overall average of 63%. In the context of the margins earned and commented above, this state of affairs should not be surprising.

- 23 UK freight and logistics is hugely dependent on publicly funded infrastructure in the form of roads and railways. These national resources are accessed by freight and, in the case of roads, are free of charge at the point of use, subject only to VED and fuel taxes to access the system.
- 24 This taxation model does not consistently reflect the full externalities of providing capacity for freight – for example, on the maintenance, environment, health and congestion for other users. While for road freight there is no attempt to take a total cost view, rail freight is subject to track access charges, which are more likely to reflect properly the true costs of their provision.
- 25 Since more than 98% of freight by both tonnes and movements is conducted by road and rail within the UK borders, the Government is a major stakeholder in freight transport assets and strategy. Recent analysis of the road traffic statistics by a TSB-funded project (ABI3L¹³) showed that road occupancy in the form of lorries and vans on major routes such as the M6 and M62 is close to 40%, where a lorry is calculated as being the equivalent of 2.3 cars. This means that the UK has constructed its road network significantly for freight and to an extent that we think is not widely understood.
- 26 In contrast, the nodes (factories, ports and warehouses where stock is held for shipment) in the network that are connected by the roads and railways are entirely private sector owned and operated. Ports, rail freight terminals, airports, distribution centres, industrial parks are all invested by private businesses and are subject to market forces and competition.
- 27 This private sector, in conjunction with the improvements in the road network, has followed a strategy of fewer bigger facilities and increased centralisation of stock and distribution. This gives them site operating productivity gains, reduced stock holding and obsolescence costs and reduced inbound transport. These benefits are partly offset by increased outbound transportation and freight costs, but the net economic effect has been beneficial over the last 30 years.
- 28 It is this change that has been instrumental in building the world class performance of British freight and logistics, investing in assets and operating capabilities that have supported the drive for centralisation.
- 29 The national transport statistics illustrate the increasing transport intensity that was associated with the growth years in the economy and the centralisation strategy, as tkm were closely correlated with GDP until around 2000. At that time the trend decoupled and tkm started to grow less quickly than the economy¹⁴. Causal analysis of this change is not complete but it is likely to be some combination of the economy becoming more dependent on services and the fact that imports grew steadily in that period; also the early wave of centralisation and increased vehicle loading being complete. The bottom line for business has been that their freight and logistics costs have declined steadily from around 12% of sales to as little as 6% according to surveys by the ELA and AT Kearney¹⁵. In conjunction with low-cost supply, this has been transformational, driving economic growth and market innovation.
- 30 The concern is that there are some signs that this trend may be starting to reverse in the face of higher fuel prices and the impact of congested networks and reducing transport efficiencies.
- 31 So while the state of UK freight and logistics is currently good, the concern is that the private actors are seeing a fundamental worsening of the situation that can only be addressed by clear governmental policy in relation to infrastructure and regulation. This section has pointed to the reality that the negative aspects of such deterioration are more likely to be felt than any growth potential from improved logistics performance. Either way, freight and logistics needs policy attention.

11. ONS

12. DTI (2005) *Innovation in the UK: Indicators and Insights*, DTI Occasional Paper No. 6, July 2006

13. www.abi3l.org

14. McKinnon, A: *Transport Challenges and Opportunities*, prepared for the Commission of Integrated Transport, November 2009, citing the Department for Transport 'Road Freight Statistics 2008' London

15. Cited by: Round Table on Supply Chain Challenges for National Competitiveness through Transport UNECE, Geneva, 2 December 2009, Professor Lauri Ojala, Turku School of Economics

Freight and Logistics Planning to 2035

Megatrends in freight and logistics

London Gateway port has yet to open. It could be the catalyst for a new megatrend in logistics that is yet to be played out.



32 The environment for freight and logistics in the UK has changed considerably over the last 30 years. The mega trends of the past can be summarised under the headings:

- Logistics centralisation, which drove increased tkm until around 2000 in line with the economy, but followed by a decoupling of the relationship as described in paragraph 29
- Globalisation, which has driven massive growth in port traffic and specifically in container freight
- Rail freight growth, which has been driven mostly by the need to move containers from the ports to the central distribution points
- Portcentric distribution, which has started to gain a foothold in the north-east and north-west with large port-related distribution parks
- Outsourcing of logistics services, where goods owners have handed operational execution to a range of service providers for transport and warehousing
- Growth in internet fulfilment for consumer demand

33 There are also some megatrends looking forward to 2035 that will need to be addressed:

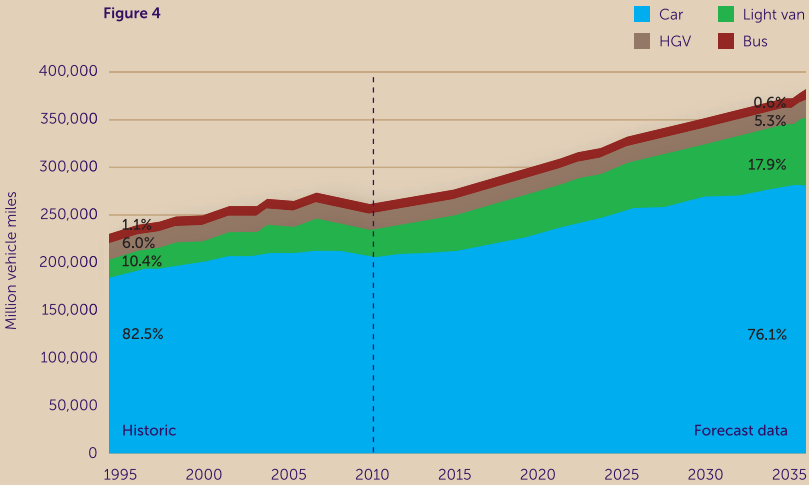
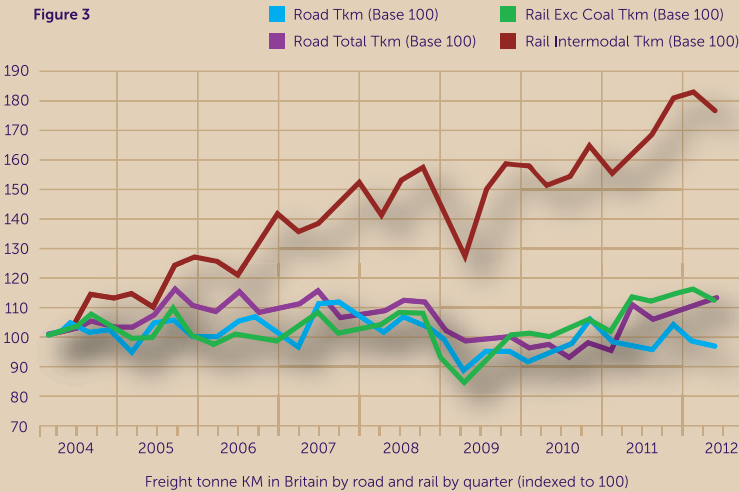
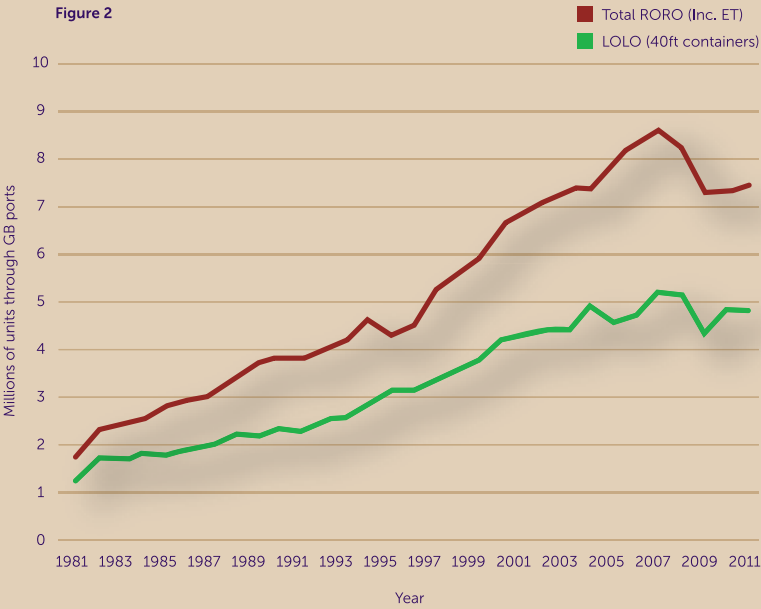
- Rising costs of energy for freight and logistics – the increasing costs of fossil fuels driven by the needs of the growth economies
- Sustainability – the commitment to reduce carbon emissions by 80% by 2050
- Environmental – the EU policy to make urban transport a zero-emissions zone, including for freight
- Reshoring and customised manufacturing – the resurgence in manufacturing in the UK and the introduction of make-to-order on a lot-size-one basis
- Continued growth in the omni-channel retailer – customer relationship and fulfilment
- The increased use of social media that will hold operators to account on service and social performance

34 Each of these is expanded briefly with supporting data in the following paragraphs. The outcome of the historic trends has been a declining trend in logistics costs for shippers. The outcome of the future trends will be to reverse that picture, which will require attention at the policy level to ensure that future megatrends are addressed and adverse implications are mitigated.

35 The historic megatrend of logistics centralisation can be seen most clearly in the huge warehouse developments of the so-called 'Golden Triangle' centred on Daventry. These large sites (typically 30,000m² and going up to 75,000m²) have replaced goods owners' multiple sites. The business case is that the large sites deliver site operating cost savings and inventory reductions that are less than offset by higher transport costs to customers. Over the last 20 years, improving transport costs as a result of motorways and lorry design has mitigated the cost of the additional tkm from a centralised solution. An integrated statistical picture of this megatrend is not available and the published statistics on warehouse stocks are poor¹⁶. Nonetheless, all the commentators and observers are clear about the impact of this trend.

16. Research by the ABI3L consortium, www.abi3l.com

17. Analysis by MDS Transmodal Ltd



- ³⁶ Increased globalisation of procurement and the corresponding decline in UK manufacturing has changed the inbound flows to this more centralised distribution model. Over the last 30 years, the national growth in port traffic in terms of tonnes and containers has surged as is illustrated in the graph – a compound growth rate of 4.5% against average economic growth of around 2%. The vast majority of this freight is containerised and moves to its onward distribution point by truck or rail (See figure 2).¹⁷
- ³⁷ Rail freight growth in the last 20 years has reversed an historic decline in rail freight since the Second World War. This resurgence has been tightly coupled to the globalisation of trade the need to move large numbers of containers from ports to the distribution centres. Rail freight now accounts for 10% of all national freight tkm and is projected to reach 14% in 2014. There are now services from the Golden Triangle to Scotland that service in-market distribution as against the main growth area of inbound and outbound container freight. The industry is clear that there is potential for increased in-market services. The graph shows this growth by type of freight that supports these observations (See figure 3).¹⁸
- ³⁸ The pressures of congestion and capacity at the main ports has led to the concept of portcentric distribution, in which the warehouses are placed adjacent to the ports to avoid the long journey to the centre of the UK only for much of the goods to travel back from the centre to where it originally landed. This was first seen on Humberside, which started taking feeder ships from Rotterdam, particularly on behalf of B&Q. ASDA and Tesco now both have major portcentric sites at Teesside and Peel Ports are developing similar concepts associated with Liverpool and the Manchester Ship Canal. The investment by London Gateway in a megaport on the Thames has 900,000m² of portcentric warehousing planned. As a result, this is a megatrend that is still being played out.
- ³⁹ There has been a megatrend to the outsourcing of logistics services. This has become a highly competitive market in its own right and the penetration of these services on the national logistics capability is variously estimated in the range 60% to 80%, depending on the commentator. The outsourcing market for logistics is not homogeneous, with many services and sectors represented. The competition in conjunction with logistics being a zero sum game has driven margins to very low levels and the industry is now concentrating through merger, acquisition and bankruptcy.
- ⁴⁰ The national policy implication of the current state of outsourcing is that competition between these companies, internally and externally tends to preclude large-scale collaboration. Such partnering is required to improve vehicle fill, share investment in infrastructure and co-ordinate network operations, which in turn are required to enable step changes in logistics efficiency.
- ⁴¹ The internet is the final extant megatrend that is changing the shape of UK freight and logistics. Since the late 1990s, consumers have adopted internet shopping at an unprecedented speed. Essentially, it has gone from zero to 12% of all retail expenditure and is forecast to continue to as much as 30% by 2025. The implications for UK high streets are observable with empty units, and the growth in charity shops and coffee houses unable to fill the gap completely. The implication for UK logistics is the growth in package delivery and the need for more sophisticated distribution centres. Indeed, vans (LGV) are the only segment of the vehicle parc in the UK that is forecast to grow. This is shown in the graph from the DfT (See figure 4).
- ⁴² The consequences of these trends for policy-making are profound in the following ways:
- The centralisation trend, which is largely played out, may be giving way to the portcentric model
 - The consequence for rail freight services is that demand may be reshaped, with implications for capacity and investment in terminals
 - The current state of outsourcing will not provide unprompted investment responses as the sector is in its bunker trying to protect low margins, with a low propensity to collaborate or innovate
 - The internet is congesting town and city centres with a plethora of small vans, albeit they may be partly replacing passenger car traffic

- 43 Looking forward, we are faced with the additional pressures listed earlier, as well as attempting to address the implications of the trends already covered.
- 44 The first of these is the expectation that the costs of energy for freight and logistics will continue to rise. Freight and logistics is carbon fuel intensive at present. The increasing costs of fossil fuels driven by the needs of the growth economies, increasing scarcity and higher costs of production will all drive up the costs of freight and logistics and promote new supply chain configurations.
- 45 Second, there is the commitment to improve national sustainability of which the main proxy is CO₂ emissions. The Government has signed up to carbon reductions of 80% by 2050, which in the light of the energy cost escalation described in paragraph 45 is also commercially sensible if the investments provide a return. The implications of these targets are that tonne kilometres will need to drastically reduce which requires substantial supply chain reconfiguration. Alternatively, or additionally, the carbon emissions factors for freight transport will need to be substantially reduced, which requires a step change in vehicle technology. Based on our current understanding of electric vehicles and their much-reduced range of operation, this solution will also require radical supply chain reconfiguration.
- 46 The third of our future megatrends is the impact of freight and transport as a whole on the wider environment and the social conditions in our cities. The EU transport policy calls for urban transport, including freight, to be zero emissions and this can only be achieved by electric vehicles as a currently known technology. The implication of such a policy being implemented is that cities and towns will need urban hubs and freight zoning to allow the transfer of freight traffic to electric vehicles. Yet again, this will require substantial supply chain reconfiguration, as well as innovative handling and scheduling methods.
- 47 Fourth, we are beginning to see some reshoring of manufacturing as companies respond to rising costs in the Far East, alongside increased freight rates and the inherently long lead-times. For some products, offshoring is now seen as unsustainable, not least because of the stock risks and inability to serve volatile demand. New technologies are also emerging that enable on-demand manufacture such as print-on-demand and 3D printing. These offer new supply methods of the opportunity to make a product in much smaller batches (potentially lot size 1) on short lead-times. There are already signs that manufacturing is benefiting from a weaker pound, and that makes imports also more costly. Yet again, the implications are that supply chains will be reconfigured and the role and requirement for freight will change as result.
- 48 Fifth in our list of future megatrends will be the continued growth of omni-channel retailing. The attraction to the consumer of connecting to his or her supply using mobile devices and being able to receive a wide range of delivery services to suit lifestyle and mobility is compelling. It is widely forecast that remote fulfilment will account for 30% of all retailing; the implications of stripping much of this volume from conventional retail distribution and replacing the route to market will be to make the heritage methods of the last 30 years less cost-effective. Yet again, the implication is that supply chains will be reconfigured.
- 49 Finally, we should be aware of a massive shift in market power as a result of the rapid expansion of social media. This has the ability to drive unforeseen surges in demand as product and services go hot; it can also punish brands by feeding adverse comment to the marketplace. The consequence of this power is that supply chains will be inherently more volatile and companies will need to have much greater structural flexibility. Some of that may come from near shoring and more flexible manufacturing. However, the overriding implication is that supply chains will be substantially reconfigured to address this challenge, with consequential impacts on freight and logistics.
- 50 Looking forward, the megatrends of the future seem to be pointing in a completely different direction to those of the last 30 years. Supply chains and their consequences for freight and logistics are going to require substantial reconfiguration. This process needs to be a Public Private Partnership at all levels to set policy and embed the new operating models.

Freight and Logistics Planning to 2035

The challenges for freight and logistics

The freight and logistics sector must meet its carbon reductions targets for 2020 and 2050. This will require increased efficiencies. A Mercedes future concept truck is pictured.



- 51 This section builds on the previous two to describe the challenges for freight and logistics arising from the positioning of freight and logistics in the economy and the megatrends that have driven the current state and will drive it forward.
- 52 The first challenge is that the beneficial economic trend for freight and logistics has reversed as evidenced by a number of analysts and commentators. The ELA/ATKearney numbers referred to in paragraph 29 suggest this reversal started in 2005/06 while more recent concern was voiced by the EU in 2007 in its Freight Transport and Logistics Action Plan¹⁹.
- 53 The pressures of congestion, fuel price increases, regulation and environmental considerations are all combining to drive freight and logistics costs upwards.
- 54 The current economic malaise of flat or negative growth led to the Logistics Growth Review²⁰ and the National Infrastructure Plan²¹. In these two statements, the Government calls for growth from freight and logistics in its role as an investor and user of assets and infrastructure.
- 55 Other recent Government plans and announcements covered various diverse initiatives ranging from the 'red tape challenge', to reviews of the Habitats and Wild Bird directives. Elements include support for strategic rail freight interchanges (SRFIs), including a £55 million investment package for port bottlenecks and £1 billion in growth-critical roads.
- 56 However, these plans and initiatives fundamentally do not consider that an overall UK freight network strategy is needed.
- 57 The Logistics Growth Review is consistent with a clear policy imperative for private sector capital to take the strain in leading renewed economic growth. It says:
- *'Any actions to improve the sector's productivity will result in cost reductions that will, in part, be recycled for much-needed investment in capital and innovation across the sector but will also translate into reduced costs of production and transport of goods and reduced prices for the consumer.'*
 - *'Facilitating conditions for growth in the logistics sector is therefore critical to the Government's growth agenda. The diverse package of measures... is designed to create the right conditions to leverage short term private sector investment in critical pieces of logistics infrastructure and a longer term efficient, competitive and low carbon logistics sector that can service and support the growth that we are expecting to see across the economy as a whole.'*
 - *'... giving industry greater confidence to invest in the short term by removing planning barriers to sustainable logistics development, with a particular focus on strategic rail freight interchanges; and by promoting use of private capital in our approach to funding for the strategic road network; and by facilitating access to capital for commercial investment.'*
- 58 However, while calling for industry investment, there is a failure to identify the investment barriers to, and solutions for, network transformation caused by market failures, where investment risk in new nationally significant infrastructure is too large for private industry to undertake, or not commercially viable ahead of market demand, and where commercial investment models fail to enable collaborative investment in shared infrastructure.
- 59 The second challenge is for the freight and logistics sector to meet its carbon reduction targets for 2020 and 2050. In line with the decline in economic performance, all the signs are that the trajectory of carbon reduction will fall well short of the targets set.
- 60 A briefing paper prepared for the Commission for Integrated Transport in November 2009 by Professor Alan McKinnon²² identified the operational factors that would drive the bottom-line result of improved economic performance and reduced emissions in freight transport as:
- Modal split, where the percentage movement to more energy efficient modes such as rail and water is the criterion of success
 - Average handling factor, where the aim is to reduce the number of handlings and journeys made by goods as they move through the nodes of the supply chain
 - Average length of haul, where the aim is to reduce the distance travelled for each link based on network redesign and changing origins; combined with the average handling factor, this represents the structure of the supply chain
 - Average payload, where the aim is to increase the loading of the goods on the truck
 - Percentage of empty running, where the aim is to reduce the proportion of empty journeys
 - Energy efficiency, where the aim is to improve the distance travelled on a unit of energy
 - Emissions per unit of energy, where the aim is to enhance the burn and reduce the emissions, particularly through technology of engine design

- Other externalities relating to vehicle movements, where the aim is to cost and design out a whole range of factors, such as noise, vibration, accidents and interaction with other transport users

61 In his paper for CfIT, Professor McKinnon argued that against each of these measures the progress towards sustainable distribution made in recent years had been disappointing. The Green Logistics Research project also used the Delphi forecasting technique with a group of 100 freight industry specialists to predict the performance of freight by 2020. The research concluded that:

- *'Factoring the forecast changes in key parameters together gave a mid-range projection that CO₂ emissions from road freight would drop by approximately 8% between 2006 and 2007 and 2020 despite an underlying 24% growth of tkm. While encouraging, this decline would fall well short of the Government's target CO₂ reduction of 34% for the UK as a whole by 2020.'*

62 These two challenges were clearly articulated in the previous Government's policy development process under the heading: *Delivering a Sustainable Transport System: the Logistics Perspective*²³. This work, and the resulting document, responded to Stern's and Eddington's work on economic and environmental sustainability that concisely summarised that we must aim to be: 'green and rich enough'. This work is no longer available on the DfT web site, but provided a solid definition of the policy challenges, if not a clear and actionable direction.

63 In the context of the need for change to respond to these twin challenges, it is important to note that both the DaSTS: Logistics Perspective and the more recent Fourth Carbon Budget²⁴ identified that there will be a need for supply chain rationalisation and reconfiguration in order to meet the 80% carbon reduction target for 2050 and, by implication, re-establish sector growth.

64 The question then is whether current policies are appropriate to promote that objective, especially in the context of:

- Our observations that freight and logistics is a zero sum game unless it adds value to the sectors it serves and changes the operating paradigm (section 1)
- The clearly stated need to invest in new operating models in order to establish a new paradigm
- Our observation that there are significant risks for the economy from deteriorating freight and logistics performance, and that there are signs that this is occurring in the form of higher fuel prices, declining transport resilience and loss of primary port traffic
- The Logistics Growth Review observation that investors will require greater confidence in order to move ahead
- The clear fact that government is the main stakeholder in road and rail networks and cannot depend on unguided private investment to fix the challenge
- The commercial dilemma of how to attract private funding to public shared use networks in road and rail
- Dramatic changes in commodity and energy costs, and the risks posed by potential shortages in portable fuel
- Industry concerns on the effect of interference at a local level in infrastructure projects of strategic national interest driven by the localism agenda 'as infrastructure issues have always suffered when dealt with by the local planning system'²⁵.

65 The challenges for freight and logistics are therefore huge. At present, it appears to be set up to fail in its twin national duties of economic contribution and environmental sustainability.

19. http://europa.eu/transport/logistics/freight_logistics_action_plan/doc/action_plan_la_full_en.pdf

20. <http://assets.dft.gov.uk/publications/logistics-growth-review/logistics-growth-review.pdf>

21. http://cdn.hm-treasury.gov.uk/national_infrastructure_plan291111.pdf

22. Transport Challenges and Opportunities, Briefing paper on the Freight Transport Sector, prepared for the Commission for Integrated Transport by Professor Alan McKinnon

23. www.parliament.uk/deposits/depositedpapers/2008/DEP2008-3089.pdf

24. Committee on Climate Change – Fourth Carbon Budget, January 2011

25. FTA Logistics report 2012

26. Analysis of data contained in National Input-Output Tables, 2007, Office of National Statistics. See Chapter 6

Freight and Logistics Planning to 2035

The current state of freight transport policy

There needs to be a further shift to electrical power for rail freight, says CILT



66 There have been eight Secretaries of State for Transport in the last nine years and five attempts to define an integrated transport policy.

67 The Logistics Growth Review of November 2011 and associated documents is the current point of reference, but is not presented as either integrated or a complete transport policy. Rather, it is a suite of six broad areas of focus with associated measures.

68 They can be summarised with our commentary on each:

- **Create investor confidence by removing planning barriers, with particular reference to strategic rail freight interchanges**
- Rail freight is expected to increase by 30% over the next seven years and this will not be attainable without additional rail freight interchanges, gauge clearance and capacity as well as electrical power
- The Strategic Rail Freight Interchange Policy Guidance document argues that more interchanges are needed and asks Network Rail to provide support and collaboration with the logistics sector to speed up the delivery of suitable sites, especially in the south-east of the country
- This guidance should mesh with the National Infrastructure Planning Policy statements, but as yet there is no specific statement in relation to road and rail
- A recent study by Heriot-Watt University shows that the road share of freight would need to reduce by 10% to meet UK emissions targets for 2050
- In the opinion of CILT, the emphasis on SRFIs is right and they are needed; however, the stated goal of a 30% gain in rail freight in seven years will only take rail to no more than 12% of all freight tkm, assuming it is achieved; rail freight cannot be positioned as a leading solution on this basis: it needs an integrated approach to planning with other modes, and far larger investment to achieve the benefits of modal shift predicted in many studies
- It should be noted that the return on the rail freight infrastructure (estimated at £250 million–£350 million annual subsidy through the Network Grant) relative to the value delivered to the economy of >£5 billion a year²⁶ is high, and the future investment, £200 million through SFN (HLOS) is small compared to road alternatives
- Finally, we are clear that to secure investor confidence and ease the planning process will require further clarity about national priorities in relation to the Localism Act; we do not see that clarity in current statements
- **Improving the long-term capacity, performance and resilience of our congested road and rail networks and improve connectivity to ports:**
- In line with this policy, some specific immediate announcements have been made on road investments, including the M25 and the A14 corridor; there are also measures to apply the regional growth fund, the strategic rail freight network, and measures on resilience and information
- We welcome these actions, but in our opinion they do not actively engage with the idea of creating new paradigms in freight and logistics; nor is the proposed scope of the investments placed in context of their contribution to reductions in congestion and carbon. We also note the major investment incentives through the TSB in development and promotion of the use of information networks to improve planning, advice and network integration
- However, we would add that if investor confidence is to be secured in such a way that game changing measures are established and invested privately, a more complete vision will be needed
- **Promoting the image of the sector at local level:**
- This is about promoting and developing the positioning of freight and logistics in the community; it is vital to increase the acceptability of freight and logistics at a local level, including the adoption of such measures as hushed night-time deliveries and the widespread adoption of low-emission vehicles and technologies
- We welcome these actions, as they will clearly improve the performance of the sector and can likely be achieved with minimal impact on society once initial objections have been overcome by experience

- Additionally, we would like to see a major programme to make freight and logistics accessible to the public based on a national vision for the sector; CILT regards this as part of its core mission
- **Reducing unnecessary regulation:**
 - These measures include easing port developments, defending high semi-trailers in the EU, trialling longer trailers, simplified driver hours regulations, speed limits and tachograph regulations
 - Again, we welcome these actions, as they have the potential to improve or protect the performance of the sector
 - However, we think that some regulation could be introduced in relation to telemetry in vehicles, which has the potential to reduce the total system cost of freight including fuel reduction measures, providing evidence in crash investigations; telemetry can also be part of the platform for more visionary regulation of road freight and taxation of freight vehicles and provide significant security enhancements
- **Attracting and retaining high calibre recruits**
 - This measure includes providing funding to establish new and innovative approaches to training and increase competitiveness
 - In the context of an industry that employs 2.9 million people, measures to upskill a sector on which the economy depends can only be welcomed and is part of the CILT mission
 - We would point to the comment made above that the sector needs a creative effort to make it accessible to the public at large, as this will create competition for places and apprenticeships; indeed, logistics apprenticeships would be a worthwhile initiative to fund through modest tax breaks
- **Promoting low carbon growth**
 - The government is making available substantial funding for research and procurement of low carbon HGVs through the TSB; the TSB is also focused on technology and modelling for the management of the network
 - Again, we welcome this measure and would only add that any such developments need to be placed in the context of a parallel network vision to accommodate the characteristics of any new technologies in terms of range and the economic provision of service points
 - In summary, the measures contained in the Logistics Growth Review tick many boxes, but appear to be incremental in nature and leave some major doubts; these are about defining a long-term vision for economic transformation of freight and logistics, how private sector funding can be attracted to invest with confidence without such a vision and how potential conflicts with localism will be resolved

69 The following section describes CILT's alternative vision for freight and logistics; it is provided as a basis for discussion and development with the aim of filling the perceived policy void.

Freight and Logistics Planning to 2035

CILT policy recommendations

Planning for urban logistics hubs
should be given priority



- ⁷⁰ The objectives of regenerating growth and meeting carbon reduction goals are unarguable. However, the means to achieve any objective are always the subject of argument.
- ⁷¹ It is clear that as a nation we need to think radically about freight and logistics or find ourselves falling down the World Bank rankings, experiencing supply chain shocks, declining economic performance and missed carbon targets.
- ⁷² Professor Gary Hamel of the London Business School and the World's leading expert on business strategy was quoted in FORTUNE magazine as saying: *'My argument is the more difficult the economic times, the more one is tempted to retrench, the more radical innovation becomes the only way forward. In a discontinuous world, only radical innovation will create wealth'*.
- ⁷³ The implication of his observation is that incrementalism will not create a new paradigm or even encourage market forces to do the job.
- ⁷⁴ There seem to be two immutable facts on which a new vision for freight and logistics must be based:
- Dramatically increased private and Government investment in our major road and rail infrastructure will be needed as well as in ports, interchanges and warehouses, with an acceptance of the Government's role in providing central infrastructure where it is not possible privately
 - Supply chain structures and networks will need to change fundamentally if the economic and carbon goals are to be met, and this will involve leveraging new technologies and new locations alongside existing modes
- ⁷⁵ CILT proposes the following measures as an integrated set of actions to drive new behaviours and practices and to attract new investment.
- ⁷⁶ First, replacement of VED and fuel tax for all GV's with a lorry-user charging system based on road occupancy. This would be a way to develop congestion management and encourage the desired supply chain redesign, as well as taking the externalities of freight transport into account; it would also create a level playing field between UK-registered and foreign trucks since the charging would apply to them as well. In the context of the RAC Foundation's findings that fuel duty revenues will fall, the case for road-user charging for all traffic is an inevitability that will need to be addressed. This change should be linked to regulation on telemetry to create an industry-wide system to upgrade performance of the national fleet.
- ⁷⁷ Second, planning for urban hubs should be made a priority under the national guidelines and local authorities given powers to contract for these sites and mandate their use for categories of business in their areas. This would provide necessary consolidation and relieve congestion in our cities and major towns. It would also provide operating points for short-range low carbon vehicles and this model can be funded through private investment. This measure would again serve to transform supply chains, reduce empty running, lower carbon and ease congestion.
- ⁷⁸ Third, all major distribution parks should be planned with a presumption of rail connection and suitable sites identified nationally and facilitated with local authorities. This measure can be designed to bring down the high UK cost of development and make a more effective market where national need is balanced clearly with local interests. The national network should not be compromised by local concerns and that will require clear thresholds against a national vision for freight.
- ⁷⁹ Fourth, the national freight and logistics network should be planned based on integrated evidence and modelling that includes regulation of type and use and that provides a basis for informed discussion and policy development. Planning for infrastructure considered to be of UK national importance should take precedence over local agendas. The devolved governments should be engaged in the UK planning process to ensure that regional and national policy developments are synergistically aligned. Our island is so congested and commercial inertia so great that it is unlikely that market-driven solutions will emerge without some direct policy encouragement. This is not about subsidies; it is about increased certainty and confidence so that institutions can get investment grade returns. Also, this should not be taken to imply that we propose any reduction in competition between and within preferred directions.
- ⁸⁰ These measures form an integrated policy that will in turn drive investment and growth, as well as risk assuring our supply chains and the wider economy. The current absence of such an integrated policy for freight and logistics is a void that must be filled, and soon.

- 81 There are two ideological elephants in the room that must be addressed by any government wishing to make headway in this area.
- 82 The first is the mantra that markets will find and exploit the opportunities to develop new paradigms; the failure of the planning system to enable any SRFIs in the south-east is evidence that there are too many barriers. Competition may be intense within existing models, but the cash to invest and lead change by the sector is limited by its low profitability and poor returns for risk. Competition may also be established in new ways around clear planning guidelines; at present the system works on imperfect information that embeds high developer profits and fosters an entire enquiry industry. Finally, the industry has identified significant potential through collaboration, which opportunities are often perceived to be hobbled by existing competition law; there is a need for clarification of the situation.
- 83 The second is the clear contradiction between localism and devising a national logistics infrastructure policy. Strategic network locations including urban hubs will be restricted in the choice available and a clear process is needed to resolve that tension.
- 84 The industry is held back by a mismatch between government policy-making, asset and contract life, where contracts are typically relatively short (three to five years), asset life is typically around 25 years and policy is subject to change at least every five years. In this situation, companies face unacceptable commercial and political risk investing in transformational logistics services and infrastructure.
- 85 Thus policies need to be framed consistently to give investor and operator certainty so that the period prior to break even on investments is sustainable; this requires longer term political surety where the initiatives support long-term national goals.
- 86 That increased certainty will drive construction, which has always been a key engine of economic regeneration. Given the current state of the economy, it should not be too difficult to engage private finance in the process, provided there is clarity of vision.

The future of aviation, including freight logistics, will be the subject of a separate report later this year





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