ArupTransportPlanning

Transport for London

London Rail Freight Study

Draft Final Report

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Arup**Transport Planning**

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Draft Final Report

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1. STUDY OBJECTIVES

1.1 Introduction

1.1.1 The London Rail Freight Study (LRFS) was commissioned in December 2002 by Transport for London with the objective of advising TfL on an achievable action programme to promote the increased movement of freight by rail in London. The LRFS Steering Group is chaired by TfL and includes representatives from the GLA, the SRA, the Rail Freight Group and EWS.

1.1.2 The purpose of the Study, as set out in section 2 of the Brief, is:

"to investigate opportunities in the London area for market growth for rail freight and for developing a sustained modal shift of freight from road to rail, especially for freight to and from the capital. The study will identify the main obstacles preventing achievement of the objective (including financial and deliverable constraints), develop a suggested action plan to enable modal shift and consider how TfL should be involved in the process."

1.2 Background

1.2.1 The Mayor's Transport Strategy lead to the establishment of the London Sustainable Distribution Partnership (LSDP). Policy 4K.1 of the Strategy states:

"The Mayor and Transport for London will work with the London boroughs, business and the freight, distribution and servicing industries, and other relevant organisations to ensure the needs of business and Londoners for the movement of goods (including waste) and services are met, whilst minimising congestion and environmental impacts in accordance with the objectives of the Mayor's Transport, Air Quality, Waste and Noise Strategies".

1.3 Key Tasks

1.3.1 The Brief identifies eleven key areas to be addressed in so far as they affect or influence the achievement of the main purpose of the Study as set out in para 1.1.2. These are (in the order presented in the Brief):

1. The effect of Government and regulatory policy.
2. Identification of the present and potential markets and volumes for freight on rail, highlighting the key drivers and business objectives of the supply chain of end-users.
3. Identification of the potential for rail freight operators to stimulate growth (e.g. by pricing, performance).
4. Identification of measures to promote the growth of rail freight in London including the London Lorry Ban (LLB) and any changes to the LLB or to loading/unloading or service provision on the road network.
5. A review of the likely effect of road pricing, both in London and nationally, on achieving the core objective for rail freight.
6. Examination of the ability of new technology and other innovative solutions to contribute to the growth of – and to promote modal shift to – rail-borne freight.
7. Examination of the effect of London and national rail network capacity.

8. The effect of opportunities for new and existing rail terminal capacity, taking account of the need to integrate rail terminal facilities with more sustainable road-borne or water-borne delivery and collection methods.
9. A review of the benefits of development of sustainable modes of transport taking account of environmental impacts.
10. Identification of the role to be played by Transport for London in promoting the development of rail freight.
11. An assessment of the ability of Freight Quality Partnerships to support the achievement of the core objective.

1.3.2 The output from the Study should be:

- measures to achieve the core objective;
- an action plan to address these issues;
- identification of specific areas appropriate for funding by Transport for London or its involvement under the Mayor's Transport Strategy.

1.4 Layout of this Report

2. MOVEMENT OF FREIGHT IN LONDON

2.1 Overview

2.1.1 The relative scale of freight movements in London by road and rail is shown in Table 2.1. Although these estimates relate to different years, as a broad indication, in tonnage terms, excluding transit traffic, rail movement accounts for approximately 6% of movement by road.

Table 2.1: Estimated Freight Flows in London

	Million tonnes	
	Road 2001(1)	**Rail 2000(2)**
Lifted and delivered in London	55.0	1.1
Received from other regions	44.0	4.7
Sent to other regions	31.0	2.0
Total	**130.0**	**7.8**

Sources: (1) Continuing Survey of Road Goods Transport (CSRGT)
(2) Estimates produced for SRA, quoted in SRA analysis of rail freight in London and SE

2.2 Road Freight

2.2.1 The total road freight lifted in Great Britain in 2001 was 1,580 million tonnes. Thus the 130mt moved within, to and from London accounts for 8% of the volume lifted nationally.

2.2.2 Road freight tonnages by origin and distribution region, to and from London are shown in Table 2.2. The strongest interactions are mostly in the proximate regions (the East and South East), which account for 30mt of the 44mt sent to London and 22mt of the 30mt sent from London.

Table 2.2: Tonnage of Freight by Road to/from London

Region	**To London (million t per annum)**	**From London (million t per annum)**
East of England	15	12
South East	15	10
London	n/a	n/a
South West	2	1
West Midlands	4	3
East Midlands	4	2
North West	2	1
Yorkshire & the Humber	1	1
Wales	1	<1
Scotland	<1	<1
North East	<1	<1
Total Inter-Regional	**44**	**30**

Source: CSRGT

2.2.3 It is more difficult to estimate the volume of transit traffic. The M25 carries most of the road freight which passes "through" London.

2.3 Rail Freight

2.3.1 The volume of rail freight lifted in Great Britain has fallen from 138 million tonnes in 1986/87 to 94 million tonnes in 2001/02 (a fall of 32%, see Table 2.3). Excluding movement of coal, which is not carried in significant volumes in London, total rail freight volume has declined from 61 million tonnes in 1986/87 to 48 million tonnes in 2001/02, a reduction of 21 percent.

2.3.2 Importantly, rail freight volumes have stabilised in the last three years. Nevertheless, the Government's target 80 percent growth, from around 90 to around 160 million tonnes in ten years is substantial.

2.3.3 The renaissance of rail freight is more apparent from a measure of goods moved (measured in billion net tonnes km, shown in Table 2.4 and Figure 2.1). This shows that, following a decline from 1985/86 there has been a steady rise from 13.0 billion net tonne km in 1994/95 to a estimated 19.4 billion tonne km in 2001/02, an average annual rate of increase of 5.9 percent per annum[1]. *This national picture provides the content for potential rail freight growth in London*.

2.3.4 Using the data in Table 2.3, total rail freight lifted/delivered in Great Britain in 2000/01 was approximately 95m tonnes. The total rail freight flow shown in Table 2.1 thus accounts for approximately 8% of the national total.

Table 2.3: Freight Lifted (million tonnes) Great Britain 1986-87 to 2002-03

	Coal	Other	Total
1986-87	77.2	61.2	138.4
1987-88	78.8	65.6	144.4
1988-89	79.2	70.3	149.5
1989-90	75.8	67.3	143.1
1990-91	74.7	63.4	138.2
1991-92	75.1	60.7	135.8
1992-93	67.9	54.4	122.4
1993-94	48.9	54.3	103.2
1994-95	42.5	54.8	97.3
1995-96	45.2	55.5	100.7
1996-97	52.2	49.6	101.8
1997-98	50.3	55.1	105.4
1998-99	45.3	56.8	102.1
1999-00	44.3	47.6	91.9
2000-01	45.7	49.7	95.4
2001-02	46.1	48.3	94.4

[1] Excluding coal, the increase has been from 9.7bt km in 1994/95 to 13.2 bt km in 2001/02, an increase of 4.5 percent per annum.

2.3.5 Rail freight movements to and from London, by origin and distribution region, are shown in Table 2.5. These show a rather different pattern to the corresponding movements by road, reflecting the greater average length of haul by rail. The South-East, South-West and East Midlands are the dominant source regions whilst the South-East and East are the main recipients.

Table 2.4: Freight - Great Britain 1986-87 to 2002-03

	Coal	Metal	Construction	Oil and Petroleum	International	Domestic	Other	Total(1)	Infrastructure(2)
1986-87	5.0	-	-	-	-	-	-	16.6	-
1987-88	4.6	-	-	-	-	-	-	17.5	-
1988-89	4.8	-	-	-	-	-	-	18.1	-
1989-90	4.6	-	-	-	-	-	-	16.7	-
1990-91	5.0	-	-	-	-	-	-	16.0	-
1991-92	5.0	-	-	-	-	-	-	15.3	-
1992-93	5.4	-	-	-	-	-	-	15.5	-
1993-94	3.9	-	-	-	-	-	-	13.8	-
1994-95	3.3	-	-	-	-	-	-	13.0	-
1995-96	3.6	-	-	-	-	-	-	13.3	-
1996-97	3.9	-	-	-	-	-	-	15.1	-
1997-98	4.4	-	-	-	-	-	-	16.9	-
1998-99	4.5	2.1	2.1	1.6	1.1	3.5	2.5	17.3	0.8
1999-00	4.8	2.2	2.0	1.5	1.0	3.9	2.7	18.2	0.8
2000-01	4.8	2.1	2.4	1.4	1.0	3.8	2.6	18.1	0.9
2001-02	6.2	2.4	2.8	1.2	0.6	3.5	2.6	19.4	1.2

Notes: (1) Infrastructure not included in total
(2) This series excludes some possession trains

Table 2.5: Tonnage of Freight by Rail to/from London

Region	To London (million t per annum)	From London (million t per annum)
South East	1.1	1.3
South West	1.5	<0.1
London	n/a	n/a
East Midlands	1.4	<0.1
North West	<0.1	0.1
West Midland	<0.1	<0.1
Yorkshire & the Humber	0.3	<0.1
East of England	0.2	0.5
Wales	0.1	<0.1
Scotland	<0.1	0.1
North East	<0.1	<0.1
Total inter-regional	**4.7**	**2.0**

Figure 2.1:

2.4 Freight movements to and from the Port of London

2.5 Freight movements through London, to and from other ports

3. POLICY AND REGULATORY CONTEXT

3.1 Key Stakeholders

3.1.1 There are a number of key stakeholders and regulatory authorities that influence the freight industry. In terms of statutory stakeholders, the key influence is exerted by **Central Government**. Through the planning system, and particularly the use of Planning Policy Guidance Notes (PPGs), national strategy is presented for freight in general and key specific sectors such as waste and aggregates.

3.1.2 Government also produces policy on all other relevant factors that can have an impact on the industry. These can include green belts, employment sites, housing, etc. It is the relative weight that each of these factors is given when weighing up both strategy and specific proposals that can have a major impact on planning decisions on freight facility developments.

3.1.3 On railways, a national level, the Government created the **Strategic Rail Authority (SRA)** as a body to improve long term planning. The SRA provides a locus for discussion of planning issues concerning freight as a [limited] source of funding. The Office of the Rail Regulator….(ORR) ……..sets the regulatory framework. At a functional level, **Network Rail** (which took over Railtrack PLC in October 2002) is responsible for maintaining the tracks, signals, tunnels, bridges, viaducts, level crossings and stations within their ownership.

3.1.4 SRA is taking the lead in network development……….

3.1.5 At the regional level, strategic planning policy is interpreted through Regional Planning Guidance (RPG). RPG is produced in London by the **Greater London Assembly (GLA)**[2]. At the pan-London level, the transport provider ????? is **Transport for London (TfL)**. It also has the role of maintaining London's roads. Below this in Greater London are the **boroughs**, which produce targeted policies to be implemented 'on-the-ground'. They are also the waste planning authorities for London.

3.1.6 Freight movement on *roads* is represented by the **Road Haulage Association**. The rail freight sector is supported by the **Freight Transport Association**, which represents the interests of companies moving goods by road, rail, sea and air.

3.1.7 **Freight Quality Partnerships (FQPs)** are now established in over 30 areas in the UK to providing an opportunity and meeting place for all stakeholders to work together to promote freight facility development.

3.2 Stakeholder objectives and policies

National and Regional Planning Policy

3.2.1 Planning policy plays a vital role in determining how freight strategies are implemented within a geographical, social and environmental context. With the publication of PPG13 (Transport) in 1994 (and subsequently updated in March 2001) the planning system has shifted the emphasis of transport policy towards increased sustainability, specifically by minimising the need to travel through a more integrated transport policy. This means integration:

[2] Outside London, the relevant regional bodies are the **Government Offices for the South East (GOSE) and the East of England (GO-EAST). THese** authoritiest have led the Government's multi modal studies.

- within and between different types of transport;
- with policies for the environment; and
- with land use planning.

3.2.2 A key theme [aspiration?] of these policies is a shift away from road transport towards alternative modes , including rail. The Mayor's Transport Strategy specifically identifies the need to reduce the environmental impact of freight.

3.2.3 The Government's 10-Year Transport Plan, published in July 2000, set a target of an 80% growth in rail freight, giving it a total market share of 10%. This increase is identified more generally as a key objective in relation to freight by the regional bodies, namely:

- RPG3 (London – to be replaced by the London Plan, due to be published in late-2003);
- the Draft London Plan;
- RPG9 for the South East;
- RPG6 for East Anglia (to be replaced in 2003 by RPG14 for the East of England);
- Draft RPG14 for the East of England.

Whilst these objectives are clear, in order to be effective, they need to be supported by clear policies and instruments to enable the key stakeholders to deliver this growth .

A key objective related to the increase in rail freight is the development of inter-modal interchange facilities. Again, the creation of these facilities as ways of maximising freight movement by rail is a primary objective of national and regional policy. Most planning policy documents produced at regional level state that local authorities should safeguard sites for rail freight facilities as well ensuring, where practicable, access to new industrial development by rail. One example is in the 10-Year Plan and the Mayor's Transport Strategy, which both advocate effective distribution along with a switch to rail and/or water where economic and practical. However, what is clear is that, if rail freight is to grow, there is a need for a number of new inter-modal facilities like the LIFE scheme (see later in this section) around greater London's M25 ring. RPG falls short of taking a lead in facilitating their selection and development.

Strategic Studies

3.2.4 Multi-Modal Studies of particular relevance to London are ORBIT (the study of the M25) and the Thames Valley Multi Modal Study (TVMMS).

The common theme between these two studies is the consideration of the primary economic operation of rail freight. They both identify that rail freight will only be considered over road movement if it is cost competitive. Whilst this may always be the case between two rail connected facilities, it depends upon the length of haul when a transfer of mode is required[3].

3.2.5 TVMMS states, where sites are rail connected, movement by rail generally already occurs. In contrast, the ORBIT study suggests potential for a substantial increase in *international* rail freight movement.. This prospect places a spotlight on the ability of the planning system to accommodate this growth. Key sites with recent, ongoing or imminent planning inquiries, with implications for rail freight in London, are discussed in section 4.3 below.

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[3] In general, movements need to be of at least 250km in length. This rule of thumb varies by commodity; see section…

Waste

3.2.6 One of the key freight movements that can be influenced by the rail sector is waste. In respect of waste, rail currently delivers mostly municipal waste from transfer stations to landfill sites. However, the sector is changing rapidly with a shift away from landfill towards incineration and recycling. This has implications for the movement of waste, particularly where planning is underway for new incinerator stations, as is the case around London in places such as Waltham Forest.

3.2.7 PPG10 (Planning and Waste Management) suggests that, where possible, plans should identify sites for waste management and disposal facilities over the period of the plan, including facilities for the management of waste with specific requirements, such as special waste. It also states that the planning system should not inhibit the ability of the waste management industry to adapt to the changing trends that are occurring.

3.2.8 Complementary to this, the Mayor has produced a Draft Municipal Waste Management Strategy, which has reached the Public Consultation Draft stage, published in September 2002. As stated earlier, the London boroughs are the waste planning authorities for London, and the Strategy states that the boroughs, through their Unitary Development Plans (UDPs) should identify waste issues.

3.2.9 Instantly this creates potential difficulties within the planning framework, as each borough follows its own local agenda on waste, with an absence of a strategic framework. Whilst this may be possible in respect of movement of waste by road, when considering a shift to rail, a pan-London/South east approach is required. The key objective then becomes the integration of local policy with the objectives of Transport for London and the Strategic Rail Authority.

3.2.10 In addition, only by locating a growing number of facilities on the rail (and water) network, for the reuse, recycling and final disposal of waste, will it be possible to prevent an increase in road traffic, with the ultimate aim to reduce it.

3.2.11 Initially, it is the planning system that will dictate to what degree these factors are enabled. Then it becomes an issue of provision, which in many instances has been lacking in respect of rail infrastructure.

3.3 Key Policies

Rail Freight Policy

3.3.1 In the 10-Year Plan, the Government outlines the role of the Strategic Rail Authority (SRA), which, amongst other things, is to:

- improve infrastructure;
- develop freight priority routes;
- enable larger boxes to be carried on the network;
- encourage innovation;
- enhance the Freight Facilities Grant Scheme.

3.3.2 The Government's Sustainable Development Strategy, promises increased grants for rail freight to assist in the achievement of the target 80% traffic growth. It is estimated that 16-

18% of that 80% increase could be accounted for within London and the South East[4]. Further to the DfT's Sustainable Development Strategy, the SRA's Freight Strategy[5] sets out the intention to facilitate market provision of freight services through:

- infrastructure investment;
- targeted grant assistance for marginal traffics;
- short-term assistance for start-ups and innovation in the industry;
- reducing constraints on effective market operation (e.g. gauge capacity on port routes).

3.3.3 The Freight Strategy also sets out the intention to create Regional and Key Market Directorates to ensure delivery of Government/SRA objectives.

3.3.4 The actual increase in the proportion of rail freight traffic has been 7% in two years[6]. This is good progress taking account of the considerable disruptions to the rail network since the rail crashes at Hatfield and Potters Bar. It does . however highlight the size of the 80% target.

Freight Priority Routes for Rail

3.3.5 DfT and SRA documents discuss the intention to develop, amongst other things, freight priority routes. This policy is echoed in Draft RPG14 for the East of England, which states that a range of freight bypass options should be considered in light of the Shellhaven Port development proposal. This mentions a Lower Thames Crossing option, which would require new lines to connect with West Coast Main Line, possibly via Braintree and Stansted; and a Gravesend–Tilbury option, which would use existing lines. In the Draft London Plan, the Mayor supports the development of such a bypass route for traffic with neither an origin nor destination in London.

3.3.6 SRA's freight strategy mentions a London bypass only in the context of a long-term option to be explored to accommodate freight growth in the 10-20 year horizon. It has not yet been costed and is more a long term aspiration than an achievable short or medium term measure.

Port Access

3.3.7 The Government in the DfT's 10-Year Plan, and the SRA in the Freight Strategy, make clear the intention to improve access to rail freight at major ports such as Felixstowe and Southampton, by means of gauge improvements, capacity upgrades, and improved loading facilities at ports.

3.3.8 RPG6 (East Anglia) also talks of the need to improve facilities at the region's major ports (Felixstowe, Ipswich, Lowestoft and Great Yarmouth) and associated rail freight services, and states the need to seek development of facilities for the further integration of sea-borne freight and rail services.

1.1.1 [4] this is likely to require the development of intermodal interchanges around the M25 on the main roads to London see section …….

[5] May 2001.
[6] DfT's 'Delivering Better Transport' progress note on the 10-Year Plan, published in December 2002.

3.4 Rail Freight: Policy Instruments

Rail Freight Grants

3.4.1 In 2001, SRA took over the administration of two types of freight grant; the Freight Facilities Grant (FFG), and the Track Access Grant (TAG) from DfT. These grants are the key instruments available to SRA for effecting the target 80% increase in rail freight transport.

3.4.2 Mention suspension for FY 20003/4

3.4.3 *Freight Facilities Grants:* The FFG is a capital grant, requiring a high level of traffic certainty. It is intended to help offset the costs of providing, or re-investing in, rail freight handling facilities. The grant can be made to any company wishing to move freight within Great Britain by rail (or by inland waterway or coastal shipping, discussed later). In order to qualify for the FFG, a service must be shown to be commercially non-viable. In addition, a FFG will not usually be awarded where environmental benefits are too low.

3.4.4 A key factor, in the assessment of FFG applications is the value of "sensitive" lorry miles which, if the investment in additional rail freight facilities were made, would be removed from road. The estimation of these benefits is described in section 6 below.

3.4.5 *Track Access Grants:* The Track Access Grant is a revenue grant paid in arrears, therefore offering more scope for encouraging traffic development in parts of the rail freight market where traffic levels are uncertain. TAGs are designed to help operators meet the charges paid to the infrastructure provider for access to the rail network. They are paid only to the goods service operator. As with FFG, the grant will not be made if, without the grant, a service is commercially viable.

3.4.6 ?

Table xx: Public Expenditure over the last 5 years on Freight Facilities CHECK Grants

	London	National
1997-8		£29.5m
1998-9		£28.7m
1999-2000		£27.5m
2000-1		£34.8m
2001-2		£60.2m

Source: Hansard, http://www.publications.parliament.uk/pa/ld199697/ldhansrd/pdvn/lds02/text/21218w02.htm#21218w02_sbhd0

Table XX: Freight Facilities Grants in London

Promoter	Items	Signing	London Borough	Grant Amount £million	% Scheme Cost	Lorry Miles Saved Mill
Day Aggregates	Concrete aggregates and sand (loading facilities for box wagons)	May 01	Stewarts Lane, South London	0.24	75%	1.1
Foster Yeoman	Aggregates distribution terminal for West London market	Oct 01	Colnbrook, West London	2.4	50%	28.8
Tarmac Southern Hayes?	refurbishment of their rail loading facilities	Jan 02	Middlesex depot	0.25	50%	5.6
Tilbury Container Serrvices	Extension of rail link to new container berth	July 02		3.25	75%	83.2
Castle Cement	(enforced?) Move of freight yard	?2003	Move from Kings Cross to new terminal at St Pancras			
Bow Midland Waste Recycling?/CAIB UK		1997		2.1		

3.4.7 Over the financial year 2001-2, the Strategic Rail Authority approved £35.2 million in Freight Facilities grants, with a further £16.4 million in private sector contribution. Schemes which will directly benefit London include:

- £11.7 m for delivery of bulk cement from Turnstead Quarry to London, among other places;?????????????

Over the same year, the SRA also awarded 21 Track Access Grants with a total value of around £8 million.

3.5 Rail Safety and Regulations

Introduction

3.5.1 Accident statistics show that movement of freight by rail is much safer than is much safer than movement by road. Rail safety regulations are closely enforced whereas road freight regulations are enforced on a sample basis.

Control of Rail Operations

Operating Practice

3.5.2 Rail operation is fully controlled by Network Rail involving comprehensive signalling and operating rules. All operating staff are carefully trained and must have explicit knowledge of the traction and wagons in their train and of the route over which they are operating, including the location and meaning of all signals to ensure clear identification day and night. In addition, speed restrictions are notified to all drivers and expected to be observed while the maximum permitted speed of the train, which is partly a function of its braking performance, must also be observed. Although speeds are not rigorously enforced, train paths are specified for the speed (class) of train and the haulage capability of the traction.

3.5.3 Train loading is enforced by load checking during loading or at weighbridges for some bulk traffic.

[more to follow]

3.5.4 Unlike road, all trains are timetabled and have a priority order when conflicts arise. Network Rail records all delays under the TRUST system and allocates them to specific causes, which are then attributed to the operator or Network Rail (subject to checking and arbitration).

3.5.5 All trains have an identification code (leadcode) and their location is known at all times between terminals. On Intermodal and Enterprise trains, the loads (wagons or containers) are tracked as part of the train. However, rail has a problem of communicating this information to customers, which is not yet general.

Vehicle standards

3.5.6 Wagon and loco condition is carefully monitored and set maintenance regimes enforced by each Freight Operating Company and wagon leasing companies. The compensation payable to NR if trains break down and delay other trains is generally sufficient incentive to minimise failures in traffic.

3.6 Road Freight Vehicle Regulation

3.6.1 Road freight is characterised by regulation of vehicle weight and dimensions (Construction and Use regulations, European Directives etc) including the maximum permitted axel loads. However, the haulier generally deals with the shipper in loading the lorry and there is no direct involvement by the highway authority or the police. Consequently, surveys have found that lorries are often overloaded (…….% in a survey ………..).

3.6.2 HGVs are limited to xxx kph and tachographs are used and submitted to traffic commissioners mainly to check drivers' hours. However, there is no routine speed checking nor is it possible to prevent lorries becoming unsafe through poor maintenance or to prevent dangerous situations arising in congested or bad weather conditions.

3.7 Critical "external" policy instruments

Introduction

This section describes policy instruments external to the railway sector which may influence rail freight growth.

Regulation

3.7.1 The ways in which legislation affects freight haulage costs, or attempts to shift freight off the road and onto rail or water, are:

- More stringent controls on emissions and other environmental standards for road haulage vehicles.
- The Working Time Directive, which will have the effect of increasing road haulage costs and causing difficulty in maintaining existing service levels (although this will be a side-effect of the policy, which is not aimed at shifting freight traffic to rail. See also Appendix A)
- Drivers Hours Rules: Changes to the existing EU drivers' hours rules were originally targeted for mid 2004 but now could be delayed for 12 months. The proposals are being actively debated by the EU and parliament but the existing proposals could result in:
    - A maximum five day week due to the loss of weekly rest reduction at base
    - Reduced flexibility due to the increase in daily rest
    - Some operational arrangements becoming impossible due to the alteration to split rest
    - Increased costs
- Digital Tachographs: These new tachographs are due to be fitted to new vehicles from 5th August 2004 and all vehicles retrofitted by August 2007. This change will require considerable training and running the two systems in tandem will be difficult to manage. Again, this change will increase road transport operators' costs.

Key Planning Decisions

3.7.2 The planning system plays an important role in providing the foundation for a shift to rail freight. In particular, a key recent planning decision was the refusal of planning permission for a multi-modal freight interchange – the London International Freight Exchange (LIFE) - at Colnbrook in West London (see Box below).

London International Freight Exchange (LIFE) Planning Inquiry

The LIFE proposal (promoted by developers, Argent Properties) was for a road and rail freight exchange and aggregates depot at Colnbrook, in Slough, West London. The development was refused on appeal at a planning inquiry in 2001, and this view was upheld by the Secretary of State.

The reasons for each refusal were different. The planning inspector felt that the scheme description was so vague as to be unable to interpret what was actually being sought. The Secretary of State, on the other hand, refused it on the grounds that it brought undue harm to the green belt. He felt that the main issue was the balance between sustainable transport and whether the proposals were appropriate in the green belt.

Each decision highlights the barriers presented by the planning system in providing for major schemes in the freight sector. By their nature, these large developments will need to be located on the outskirts of London, thereby almost certainly creating an incursion into the Green Belt. In addition, their complex nature means that they have to comply with multiple criteria, rather than just that of the primary use.

This decision could have important implications for freight distribution, and particularly for rail freight. It may discourage the use of multi modal freight exchanges, instead focusing on road transfer from point-to-point. Alternatively, it may force a network of exchanges to develop further outside London, beyond green belt boundaries. This could start to make delivery of freight by rail *more* economically competitive.

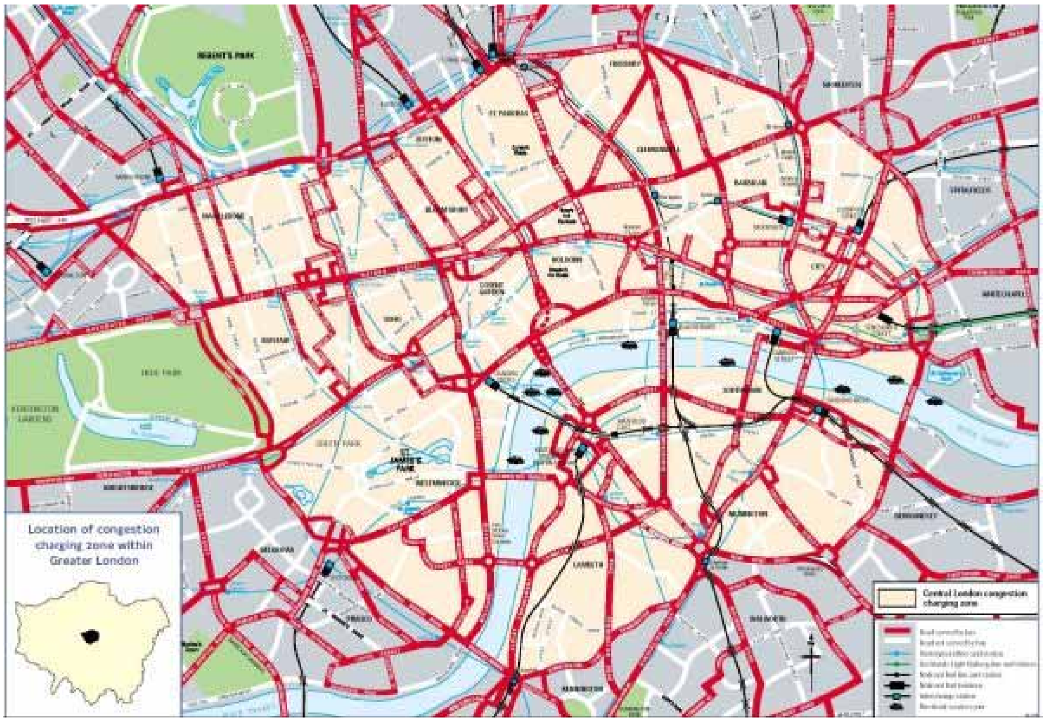
3.8 Port of London: Regulatory Context

3.9 Road Pricing and Distance-based Charging

Congestion Charging

3.9.1 London Road User Charging covers only the very central area of London and, as such, is expected to have little effect on road haulage industry. Figure xx shows the charging zone, effective from 17th February 2003.

Figure xx: London's Congestion Charging Zone



3.9.2 As the charge area cordon covers only a small area in the very centre of London, the Scheme will affect delivery vehicles, but not trunk haul HGVs. Road freight vehicles may experience increased congestion outside the cordon, increasing haulage costs. Since the congestion charge will add only a relatively small amount to the total journey costs of the long distance trips with which rail transport is more competitive, the effect on road/rail on propensity to use rail for freight movement is expected to be low.

Road Pricing

3.9.3 The progress note, 'Delivering Better Transport', published by DfT in December 2002, refers to the Chancellor's announcement, made in the 2002 Budget, to introduce a distance-based electronic scheme for lorries. If this increases lorry costs in comparison to rail, it is likely to support a shift to rail. However the initial level will be set reasonably low and will be at least partially offset for UK hauliers by a reduction in Vehicle Excise Duty (VED).

3.9.4 Road pricing when applied to *inter-urban trips* is potentially more likely to cause transfer to rail. This is because the longer distances involved means that rail becomes a more economical, alternative to road. This policy instrument could potentially be used to encourage a road to rail transfer. The status of Eurovignette proposals is summarised in BoxZZ.

Box ZZ

Eurovignette and European Road User Charging

Since 1995 a vignette scheme for HGVs has been jointly operated in Germany, Belgium, Denmark, Luxembourg and the Netherlands, with Sweden joining in 1998. This "Eurovignette" is a time-based permit to use motorways in any participating country, and complies with the EU directive 1996/62/EC on the charging of heavy goods vehicles, which came into force in June 2000.

The future of the Eurovignette is uncertain. The most important, and centrally located country, Germany, plans to replace it with a satellite-based kilometre charge in 2003. This raises questions as to whether the other participants will follow suit.

The European Commission's White Paper on Fair Payment for Infrastructure Use, and the reports from the European High Level Group on Transport Infrastructure Charging consider distance-based charging to be an attractive policy option for achieving fair and efficient pricing. The system which does this should:

- Link charges as fully as possible to underlying costs;
- therefore apply to all kilometres driven not just those on specific road types; and
- be non-discriminatory by nationality of vehicle or origin/destination of goods transported

Directive 1996/62/EC has been criticised for not allowing charges to be levied on smaller roads (where marginal costs are higher in non-congested conditions), and for enforcing a maximum charge regardless of the size and characteristic of the network. For this reason it is argued that 1996/62/EC fails to comply with the first two objectives.

3.10 Lorry Controls in London

Introduction

3.10.1 There are a number of different lorry controls in place in London. These are:

- The London Lorry Control Scheme (LLCS)
- Central London ban for lorries over 40ft long
- Local environmental lorry bans
- Pedestrianisation and town centre access schemes
- Waiting and Loading restrictions
- Weight and height limits at weak or low bridges
- Control on operating centres

3.10.2 In addition HGVs are subject to the London Congestion Charging Scheme in Central London, with a £5 weekday charge, the same as for cars[7].

[7] The original proposal was to charge lorries £15, on account of the extra road space which they occupy compared to cars. This was dropped for political reasons.

3.10.3 To reduce environmental nuisance, many premises used by lorries have planning restrictions limiting hours of operation, usually at night and weekends. If access routes to such premises need to be controlled to ensure a particular route is used, local restrictions of the types referred to above are applied on the alternative routes.

London Lorry Control Scheme (LLCS)

3.10.4 The London Lorry Control Scheme (LLCS) is a night-time and weekend restriction on the movement of HGVs over 18 tonnes GVW. It resulted from concern about the disturbance caused by large heavy lorries, particularly in residential streets[8].

3.10.5 The scheme operates from 9pm to 7am on weekdays and from 1pm on Saturdays to 7am on Monday morning. There are no access or loading exemptions but a system of exemption permits, granted to those who can demonstrate the need to use roads covered by the order during the period of control. Permit holders are only allowed to leave the exempt network (see Map ……) by the shortest route on the restricted network to or from their origin or destination.

3.10.6 Further conditions to obtaining a permit are:

- Compliance with EU noise limit standards[9];
- Agreement that drivers should be trained in considerate driving techniques.

Coverage

3.10.7 The network excluded trunk roads and other main roads which had little residential frontage development and provided access to industrial and warehousing sites. As a result most of the TfL Road Network (TLRN) is part of the exempt network. There are few exempt routes in central London and so a vehicle without an exemption permit wishing to cross London during the hours of operation, for example from Charlton to Kilburn, would have to use the Blackwall Tunnel and North Circular, or the South Circular routes.

3.10.8 Apart from the TLRN, the exempt network was last reviewed in 1999/2000. One change was to make provision for a *Special Routing Agreement*, where operators can demonstrate that there are environmental advantages in using an alternative route to the route that would be required by compliance with the Scheme. *We believe this could provide an opportunity for supporting lorry movements to rail freight terminii. This possibility could be pursued by TFL.*

Enforcement

3.10.9 *Enforcement* of the LLCS is carried out by the Transport and Environment Committee of the Association of London Government (ALG). In 2000/2001 the ALG issued about 50,000 permits and deployment of five enforcement officers resulted in approximately 2000 successful prosecutions. Income from court costs and other sources is about £400,000 and the costs are about £1million per annum. The balance is met by a precept on the Boroughs.

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[8] A Government inquiry (Armitage 1980) has drawn attention to the environmental impact of lorries and the Greater London Council had conducted its own inquiry into options for bans on lorry movement (Wood, 1983). As a result a traffic order was implemented in January 1986 which controlled vehicles over 16.5 tonnes from using all but an exempt network of main roads, unless they had a permit. 16.5 tonnes was the maximum permitted weight of a two axle lorry, so the regulation effectively applied to all lorries with three or more axles, including articulated and drawbar trailer combinations. The limit has subsequently been raised to 18 tonnes as changes in lorry regulation have altered the maximum permitted weight of a two-axle vehicle.

[9] non-compliant vehicles had to have a 'hush-kit' fitted before being granted a permit

Operator Reaction

3.10.10 The road transport industry has always opposed the LLCS because of the administration work involved in permit administration and the additional operating costs incurred in following the specified routes.

3.10.11 TRL are currently undertaking a study for TfL Street Management to consider any changes that should be made to the scheme on the TLRN. To date only background research and identification of issues has been undertaken. Recommendations for any changes will come at a later stage in the study.

Central London 40ft Restriction

3.10.12 There is a restriction on lorries over 40 ft (12.2 metres) in Central London, except for *access*. The area covered is smaller than the LLCS area and was introduced in 1975 and designed to keep large vehicles out of the centre unless they were delivering or collecting goods. The order has not been updated to metric units, or modified to an 'except for loading' restriction , which is easier to enforce.

Local Environmental Bans

3.10.13 There are many restrictions designed to prevent lorries diverting through residential areas. The restriction usually limits vehicles over 7.5 tonne GVW (being the maximum size vehicle that can be driven without an HGV licence) or 18 tonne GVW. The exception for vehicles with business in the area is usually now 'except for loading' rather than 'except for access'. This aids enforcement because any stop, eg to buy a newspaper, constitutes access, whereas loading requires the collection or delivery of goods.

3.10.14 *Enforcement* of moving traffic offences is the responsibility of the police, but is normally only carried out in response to complaints, or if a vehicle comes to police attention for other reasons. Some restrictions limit the maximum width of a vehicle and these can be enforced by physical means.

Pedestrianisation and town centre access schemes

3.10.15 There are some areas where access for loading is prohibited at times when streets are likely to be crowded with shoppers. Most of these are in suburban town centres and for street markets. These require delivery firms to manage their operations to deliver at the permitted times. Most of the vehicles affected are smaller HGVs (below 18 tonne GVW), as most premises served by larger vehicles have off street servicing areas.

Waiting and Loading Restrictions

3.10.16 Many waiting restrictions are designed to permit loading, but exclude parking. This reserves kerbside space for loading where this is a priority over providing for car parking. Loading restrictions often limit loading to off-peak times, and sometimes prohibit loading during the working day. Many premises in London, particularly in town centres and Inner London, do not have off street servicing areas. These businesses are dependent on servicing from the public highway. The distribution industry complains that often restrictions on loading are unnecessary or at inappropriate times.

3.10.17 The TLRN has been comprehensively reviewed over the last decade with the introduction of Red Route restrictions, and unnecessary restrictions should have been removed during this review. The recent increases in bus priority measures have often resulted in new restrictions on loading. Except on the TLRN where enforcement is carried out under criminal law by the Metropolitan Police, waiting and loading restrictions are enforced by the London Boroughs, who retain the revenue collected to fund enforcement and other transport expenditure.

Weight and Height restrictions at bridges

3.10.18 The road network in the UK is normally available to vehicles up to 5.1 metres high, 2.6 metres wide, 16.5 metres long (18 metres for drawbar trailer combinations) and 44 tonnes GVW without restriction. Larger vehicles are classified as abnormal indivisible loads, and subject to prior movement notification procedures. In addition to the environmental restrictions referred to above, bridges with inadequate headroom and with unable to carry the loads are subject to individual restrictions.

3.10.19 Most bridges have been strengthened to carry 44 tonne vehicles if they are on roads that are likely to be used by such vehicles on a regular basis, but there are some that are restricted to lighter vehicles. These include two historic bridges across the Thames, Tower Bridge and Hammersmith Bridge, which could not be strengthened due to cost or conservation limitations.

Enforcement

3.10.20 Where restrictions are based on the actual weight gross or axle weight of the vehicle, enforcement is more difficult than GVW restrictions. The tare weight and GVW are stated on plates on the vehicle, usually locate on the bodywork inside the drivers door. Where it is necessary to enforce on the basis of actual gross or axle weight it is necessary to direct the vehicle to a weighbridge unless the vehicle is empty or carries bulk goods sold by weight, in which case the vehicle must carry a certified weighbridge ticket. This makes enforcement very difficult, and would often only carried out when joint operations are undertaken by police, trading standards and DfT vehicle inspectors to enforce a variety of vehicle offences.

3.10.21 There are many bridges, mainly under railway lines, that have headroom lower than 5.10 metres. Most container vehicles are below 4 metres and the height restrictions in most European countries are set at about 4.5 metres, and so many of these bridges do not impose limitations to most HGVs. The maximum height of double-decker buses is about 4.5 metres. The most important height restriction is the 4.04 metre limit on the northbound carriageway of the Blackwall Tunnel, which frequently has problems with over height vehicles.

Controls on Operating Centres

3.10.22 All HGV operators are required to keep their vehicles at licensed operating centres[10]. Licences are issued by the Traffic Commissioners and local authorities can object to licence on environmental grounds. This ensures that all HGV operators require access to appropriate off street facilities. If HGVs are normally stored overnight at intermodal depots, they would have to be licensed operating centres.

[10] In all London boroughs except Barnet there is an over night ban on street parking of goods vehicles of tare weight over 2.5tonnes.

Impacts of regulations on Lorry Operation

3.10.23 The main concerns of the road transport industry are the LLCS and waiting and loading restrictions.

3.10.24 In terms of competition between road and rail freight, waiting and loading restrictions are not a significant factor as they generally affect the final distribution element of the supply chain which is likely to be by road, even if the goods are carried by rail for the main part of the trip.

3.10.25 The LLCS imposes management and administrative responsibilities on operators, and operationally mainly affects trips with origins or destinations in inner London that cross the central area. This could influence the location of depots for companies wishing to distribute goods by night into London, which is mainly in the food industry. *Depots in Outer London or the home counties may be preferred to Inner London locations as a consequence*.

3.10.26 To the extent that there is more availability of rail freight train paths into London at night, , the LLCS makes it less desirable to locate rail freight distribution depots in Inner London (refer to Map). This would particularly affect goods like fresh foods, where just-in-time supply chains are operated around the clock and final distribution is normally in large vehicles. Where this might result in an environmentally sub-optimal supply chain solution, this could be overcome by use of a Special Routing Agreement (see ….above).

3.10.27 Haulage of *low value goods*, such as waste and aggregates, are less likely to be affected by the LLCS because they are less time sensitive. Movement by rail at night and distribution by day creates a need for storage facilities at the intermodal terminals. However this is normally necessary in any event for these businesses as a trainload of aggregates is used to supply a variety of individual customers, some of whom will collect from the depot.

3.10.28 It should be noted that these controls apply to vehicles carrying goods to and from intermodal terminals, as well as purely road based haulage and distribution. They are therefore not discriminatory between road and rail based supply chains, where the competitive environment is largely defined by the longer distance haulage costs. As most of the trip is outside London the effects of London-based measures are therefore not currently likely to have a significant effect on the overall competitive situation.

3.10.29 There are generally no restrictions on times of operation or routing on the rail network. Where depots have required planning applications limitations may have been imposed on the operation of those depots through planning conditions. Planning controls cover both the use of land and the construction of buildings and other facilities. Even where there has been an established use for rail freight operations on a site for many years, planning restrictions could limit the hours of operation of new facilities. It is important that the Mayor’s Spatial Development Strategy provides for the overall public benefit resulting from greater use of rail is an important consideration in such planning decisions, to be weighed in the balance with purely local concerns.

Possible interventions to affect the competitive environment

3.10.30 None of the above controls have been introduced specifically to influence the competitive environment between road and rail. They are designed to mitigate problems that could be caused by unrestricted lorry operation. A possible option for a direct intervention to influence competition would be the introduction of tolls on road traffic. The government proposes to adjust taxation for HGVs by introducing mileage based tolls, and reducing Vehicle Excise

Duty (VED) so that the scheme is cost neutral for the British road transport industry[11].. The scheme will use a Global Positioning System (GPS) with lorries tagged with In Vehicle Units (IVUs) communicating with the GPS satellite to record mileage covered. The proposal to introduce the system was announced in the 2002 budget with a target introduction date of 2005/6.

3.10.31 The system envisages that tolls can be varied by location, as it is suggested that tolls on motorways might be lower than on all-purpose roads. The system is also expected to have the capability to vary charges by time. *This system could therefore be used to implement a local mileage based toll, such as a surcharge for lorry mileage within the M25.* It could also vary such charges by time of day. It could also be used to monitor lorry movements and improve enforcement of existing lorry control measures, such as LLCS. Local lorry tolling could be introduced by local authorities using the powers in the 2000 Transport Act, with the net revenues ring-fenced to support more sustainable freight transport modes. It is probable the technology could be used to identify particular trips such as trips to and from intermodal terminals which could have differing charges or exemption.

Conclusions and Recommendations

- The road freight industry is quite tightly controlled, in London as elsewhere. Adverse environmental impacts are mitigated through planning controls, HGV licensing, routing and operating restrictions;
- Enforcement appears to be generally quite effective;
- Rail freight generally moves on corridors which impose reduced environmental impacts. However rail appears to be not so tightly controlled as road;
- In the light of these points the rail freight industry cannot, in general claim to be unfairly discriminated against compared to road
- Nevertheless, in specific circumstances, around intermodal termini there may be a case for tolerating higher levels of road freight movement if this generates more long haul movement by rail.

[11] The main motivation is to ensure that vehicles registered in other countries make a contribution to UK road construction and operating costs

4. RAIL CAPACITY CONSTRAINTS

4.1 Line Capacity

Channel Tunnel

4.1.1 Almost all through cross channel freight traffic moves to or via London. There are three routes used by this traffic between Ashford and Clapham Junction: via Maidstone, Swanley, Bromley and Nunhead; via Tonbridge, Sevenoaks and then Bromley etc; and via Tonbridge, Redhill , East Croydon and Balham. All of these routes are electrified using third rail 750v DC but only two (via Maidstone and via Sevenoaks) are cleared for Class 92 locos, the main electric loco for freight use. However, all routes are cleared for use of class 66 diesels but these cannot, of course, work through the channel tunnel. A further restriction is that only the Maidstone and Redhill routes are cleared to W9 loading guage which will allow swap bodies to pass.

4.1.2 All channel tunnel traffic via London is routed to the Willesden/Wembley yard complex on the WCML either for loading or for awaiting an onward path. The main access route is the West London Line from Clapham Junction to Willesden Junction crossing the Thames. The only alternative to this route is to run via Putney, Kew Bridge and Acton Wells Junction. However, this is only directly accessible from the Bromley/Nunhead route and is not electrified between Kew Bridge and South Acton or between Acton Wells Junction and Acton Canal Wharf Junction. Therefore, there is a problem of lack of unconstrained diversionary routes for this traffic and a heavy dependence on the West London line for nearly all through and London-originating channel tunnel through freight. Proposals by TfL to upgrade local passenger services on the WLL from the present 2 tph are likely to pose a strategic problem for continued Channel Tunnel through freight operation and for any increase in this traffic.

4.1.3 Channel Tunnel through Freight moved on some 17-20 tpd in late 2002 following a major period of difficulty with illegal immigrants. This level of traffic reflects the disappointing market share by through rail which is carrying about 3 million tonnes /year, about half the projected traffic. Longer term problems in building this traffic are associated with the cost of using the tunnel and major problems in achieving acceptable reliability. Long term aspiration is to achieve 6 million tonnes or more which is compatible with the agreed number of 35 through freight paths per day in the tunnel. This will require up to 35 train paths per day through London or a minimum of 2 tph.

4.1.4 Container dimensions are fixed by ship geometry and shipping lines have been increasing their use of 9’6” high boxes which are now replacing 8’ and 8’6” boxes. There is unlikely to be a further height increase because of road height restrictions, particularly on the continent. However, the taller boxes pose a problem for rail haulage within the restricted British loading gauge. They can be moved on well wagons but this reduces train payload and rail’s competitive position relative to road. If additional clearance can be provided to Railtrack W10 gauge or larger, tall boxes can be moved on standard wagons. Because the tall box population is increasing, it is likely that container traffic will be lost to rail unless routes can be cleared to W10 or larger. Also, clearance to W12 is desirable if tall refrigerated boxes (2.6m wide) are to be carried.

4.1.5 The present W9 routes are: Tilbury-Stratford-Primrose Hill/Hampstead Heath-WCML , the WCML to the Northwest and Scotland and the ECML via the Hertford Loop. The latter is connected to Willesden/Wembley via Camden Road and the North London Incline. The route to Felixstowe from Stratford is not cleared to W10 nor are the Midland Mainline (MML) or the Great Western Mainline (GWML). There is also a particular problem of clearances on the Thamesport route which is forcing use of low deck wagons.

4.1.6 Diversionary routes for intermodal traffic also need to be cleared to W10 or larger. The SRA is committed to enlarging the GEML to W10 for access to Felixstowe but a diversionary route is also needed. A cross country route via Peterborough (Felixstowe-Nuneaton) has been identified for investment but no funds are available at present. There is no permanent diversionary route for the WCML for high cube traffic although the High Wycombe-Banbury-Coventry/Birmingham route was cleared in 2002 but with severe speed restrictions at tight spots. The ECML cannot be used as a diversionary route for the WCML to the North West unless clearance enlargement works are carried out on the Trans-Pennine route via Diggle which is not committed.

4.1.7 The continued successful operation of this traffic via London depends on the availability of suitable train paths. Although freight avoids the passenger peak periods, increases in off-peak passenger train frequencies are potentially in conflict with freight. Proposals to increase suburban passenger services on key lines like the NLL could adversely affect freight by limiting the number of freight paths or triggering the need for signalling and other upgrade investment.

Freight Use of Main Lines

4.1.8 Freight to or through London uses most of the radial main lines serving London. There are no regular freight flows on the Southwest Mainline, the lines via London Bridge, the Fenchurch Street Line west of Barking, the West Anglia Line from Liverpool Street or the Chiltern Line from Marylebone to Aylesbury. The main freight routes are the West Coast Main Line (WCML) from Willesden Junction to the Northwest and Scotland, the Great Western Main Line (GWML) from Acton westwards, the Great Eastern Main Line (GEML) east of Stratford and the Midland Main Line (MML). There is a limited flow of freight on the East Coast Main Line (ECML) for the King’s Cross area northwards. There are three routes to the Channel Tunnel all of which connect with the West London Line (WLL). Table 4.1 shows the freight train paths per Wednesday (a busier freight day) on each of the four main freight routes by class of train (i.e. speed).

Table 4.1: Daily Freight Trains (All Operators) Wednesday

	Class	Up	Down
WCML at Watford	1	8	8
	4	44	54
	6	13	13
	7	1	1
	Totals	**66**	**76**
	ow at night	**32**	**28**
GWML at Southall	4	3	4
	6	27	27
	7	7	5
	8	1	0
	Totals	**38**	**36**
	ow at night	**10**	**9**
MML at Luton	6	15	11
	7	0	1
	Totals	**15**	**12**
	ow at night	**7**	**2**
GEML at Stratford	4	18	18
	6	15	19
	7	4	5
	Totals	**37**	**42**
	ow at night	**13**	**21**

4.2 Terminal / Transhipment Capacity

Table 4.2: Rail Freight Terminals in London

Location	Type of Traffic
Acton Yard	quarried aggregate, coal
Angerstein Wharf	marine aggregate (out-bound), quarried aggregate (in-bound)
Battersea	sand, marine aggregate
Barking	reeled paper
Bow	building blocks, quarried aggregate
Brentford	domestic waste (out-bound), quarried aggregate (in-bound)
Cricklewood	palletised freight (in-bound), domestic waste (out-bound)
Dagenham	car components, sand (out-bound), quarried aggregates (in-bound), cars (in-bound)
Hayes	quarried aggregate
King’s Cross	marine aggregate, sand, cement
Neasden	palletised freight, quarried aggregate
Northolt	domestic waste (out-bound)
Paddington	marine aggregate
Park Royal	marine aggregate
Purley	quarried aggregate
Tolworth	quarried aggregate
Wembley	Post Office mail
Willesden	scrap metal (out-bound), intermodal freight

Note: All served by EWS unless otherwise stated.

4.3 Development Proposals

4.3.1

5. EXISTING AND POTENTIAL MARKETS

5.1 Freight Operators

5.1.1 EWS (English Welsh & Scottish Railway) is Britain's leading rail freight operator providing a key service for industry, running over 1,000 trains a day. Core business ranges from bulk solid and liquid commodities to a wide range of high-value, time-sensitive products such as new cars, mail and parcels. These are moved via railheads and direct site access links throughout the UK rail network and, via port and the Channel Tunnel, to and from the rest of Europe and beyond.

5.1.2 The Freightliner group is a major rail freight operator in Britain consisting of two activities. Freightliner Limited is Britain's biggest intermodal freight transport operators. The company operates over 100 daily trains supported by a road fleet to provide intermodal transport. Freightliner Heavy Haul Limited services the bulk freight market operating in the cement, coal, car, petroleum and waste markets as well as undertaking rail infrastructure haulage work.

5.1.3 GB Railfreight is a rapidly growing company in heavy haul transportation with a firmly established reputation for reliability and efficiency. GBRf's core business is to transport containers and bulk loads of materials by rail throughout Britain using its growing fleet of new and reliable locomotives and wagons.

5.1.4 Direct Rail Services (DRS) are a wholly-owned subsidiary of British Nuclear Fuels Ltd, established post-privatisation to provide BNFL with a strategic rail service. DRS' core business is to run services for the nuclear industry with railheads located near each nuclear power station around the UK, and the new Kingmoor depot in Carlisle. They also provide other services, such as bulk chemicals and rail services to support the maintenance and operation of the railway infrastructure.

5.2 Existing Rail Freight Movements in London (by Market Segment)

Channel Tunnel and Automotive

5.2.1 The main through rail freight traffic is intermodal, automotive and some bulk trainload flows, principally steel and paper. The intermodal traffic moves in swap bodies, in common use in European inland transport. It comprises many commodities including food and manufactures. About X tpd is traffic to and from the London area and a further X tpd are through trains to other parts of Britain. The automotive traffic is trainloads of trade vehicles and parts for use in vehicle manufacture; the regular trains serve Ford, Dagenham ( ).

Port-feeder Intermodal

5.2.2 Most of the container traffic hauled by rail to and from the ports of Felixstowe, Tilbury and Thamesport move through London via Willesden and the WCML for destinations in the West Midlands, the Northwest and Scotland. The scale and routeing of this traffic is given in Table 5.1.

Table 5.1: Rail Container Flows through London

Port	Route	Destination	Trains per Day
Felixstowe	Colchester, Stratford, North London Line, Primrose Hill or Hampstead Heath	W. Midlands	2
		NW/Scotland	6
		Cardiff	1
		Tilbury	1
Tilbury	Barking, Wanstead Park or NLL as above	Leeds/Teeside	3
Thamesport	Dartford, Hither Green, Nunhead, WLL	NW	2
		Tilbury	1
Southampton		Barking	1

5.2.3 The dominant operator is Freightliner which runs 10 tpd to and from Felixstowe via London. However, other operators are now involved, with recent growth in the number of trains serving Felixstowe for Medite traffic (hauled by GBRf) and other traffic operated by EWS to Warrington. An additional daily train has also recently been started by Freightliner to Thamesport.

Aggregates, Cement and building materials

5.2.4 These traffics include stone, sand, cement, granite and other building materials. In general, these are low value, non time-critical bulk items which, especially for train-load volumes should be well suited to movement by rail. In specific commodities and geographical areas rail already has a majority market share, for example, approximately 70% of long-haul movements of bulk building materials to West London are estimated to move by rail

5.2.5 Key issues for this sector are:

- Integration between transport and land use planning policy (5.1 above). Very often, the economic case for movement by rail will depend on the proximity of material sources (quarries, mines etc) to rail heads. Planning permissions for new sources should take more account of the opportunity for rail. Most building materials consumed in London are sourced from the home counties, so that there is need a co-operative approach, as the benefits of rail movement will be felt throughout the journey length not just to the inhabitants of the local authority granting planning permission;
- *Opportunities for greater value added activities at bulk materials termini.* This is a real issue where the boroughs with GLA can influence the relative attractiveness of rail. EWS operates ….. bulk materials termini in the GLA. To defray EWS' transhipment costs seek to engage in activities which add value at these locations (examples: concrete batching, asphalt?…). However by their very nature, terminii are the focii of environmentally unfriendly lorry trips distributing product to final consumers. These adverse impacts are typically mitigated through operating agreements tied to planning permission. In fixing the restrictions planning authorities should take maximum recognition of the financial and economic impact these will have on potential rail freight customers; more effort should be made to identify others means of dealing with environmental impacts so at to maximise the wider economic and environmental benefits and commercial opportunities which will arise from increased movement by rail;
- Improved Access to ports. Although wharfage fees are relatively high, the Port of London is an important source of some materials (sea-dredged aggregates …..) in this sector.

Further steps should be taken towards and integrated policy towards maritime and rail transport………………….

Municipal Waste

- Is this the same as containerised household waste? A parallel to point 2 in 5.1 above can be drawn for this sector; just as there is an issue for passenger transport demand about the case for reducing the need for travel, in the case of waste, there is the option for on-site incineration, removing the need for movement to landfill;
- The incinerate or move decisions involves……. [elements of trade off …]
- where incineration is not an acceptable option, the mode of transport (road rail or water) in is influenced by planning policy decisions which influence the landfill sites available. *Decisions in favour of (inland) sites, poorly located for rail access will severely reduce opportunities for increased penetration of this market by rail.*

Royal Mail and Parcels

Nuclear Waste

5.2.6 This flow comprises mainly spent nuclear fuel in flasks from power stations to Sellafield in Cumbria for reprocessing and fuel in the opposite direction. Three power stations in the Southeast are served: Sizewell, north of Ipswich, Dungeness near Rye, south of Ashford, and Bradwell near Southminster, although traffic to Bradwell is suspended.

5.2.7 Trains comprise one or more flasks and movements generally occur one per fortnight with trains combining at Willesden for the trunk haul to Crewe and Sellafield. They usually run from GEML via the NLL and Hampstead Heath or Primrose Hill, and from Ashford via any freight route to the WLL.

Fast Moving Consumer Goods (FMCG)

5.2.8 The main fmcg traffic flows using rail are virtually all *into* and not out of London. They tend to be non-time sensitive goods such as drinks, non-perishable foods in the primary stage of their distribution en route to Regional Distribution Centres. They are generally not needed "Just in Time". Even non-time sensitive goods usually need to meet agreed booking in times at their final destinations.

5.2.9 Rail has made limited progress in competing with road transport in this sector. Examples of the limited movements which are done by rail include:

5.2.10 It is instructive therefore to understand (i) why road transport is so dominant and (ii) what conditions would need to change to make rail more competitive

Why Road Transport has been dominant

The reasons for this include:

i) Physical characteristics of product

Some products have demanding handling requirements which mean that, with present technology, they cannot, for technical reasons be carried by rail:

- Bulk Powders – due to the required overall vehicle height for unloading in a raised position

- Bulk Liquids that have a limited time from loading to unloading before they would solidify
- Bulky goods that require Double Deck trailers to achieve economic cost levels

However, this still leaves considerable tonnage movements of ambient goods within the fmcg and industrial (non bulk) freight sectors that are potentially capturable by rail.

ii) Connections to the Rail network

For many years the possibility of rail was virtually ignored because invariably the premises of both the loader *and unloader* were not rail connected to the rail network. This meant that rail wagons had to be *unloaded* at railheads *and re-loaded* on to road vehicles at both ends of the trip. Invariably this was uneconomic. The development of inter-modal facilities has removed the cost of double handling and more often today, at least one end of the trip is rail connected.

iii) Return load opportunities

Full loads carried by road within primary distribution are sometimes one way movements with the vehicle returning empty. But more often the road vehicle will have a return load and the price of both the outward and return loads will reflect the benefits of the back loading[12]. There is usually some deviation mileage between the outward load delivery point and where the return trip has to be loaded. Rail is a less flexible system. This makes it difficult to find return load opportunities which are economically viable.

iii) Operational considerations

Further practical operational reasons for the predominance of road transport in this sector are:

- journey time reliability. If there is any problem on the rail network, there is often no way round it or the fixed rail timetable does not permit any effective alternative. In contrast, if there is a problem on the roads, despite the increase in traffic congestion, road operators can usually find an alternative route. Most drivers now carry mobile phones and can keep their customers informed of any changes to schedule;
- Security. Road drivers have been able to take total responsibility for their accompanied loads and they can usually make sure the goods arrive on time, untampered and undamaged
- warehouse operators have developed booking-in schedules to maximise their own warehouse staff productivity and avoid undue vehicle waiting time Generally it has only been road transport that has been able to meet the needs of “Just in Time” and these delivery time bookings
- there has been a marked increase in timed deliveries due to “Best Before” dating of products and in fresh/chilled produce
- road transport has not been as affected by strikes as rail services.

[12] In recent years retailers within this sector have invested much time and effort into persuading their suppliers to let them practice “reverse logistics”, i.e. pick up their own purchases. This has involved using primary and even some secondary distribution vehicles and has driven down the overall cost of transport because the retailers have negotiated suitable collection allowances within their purchase prices.

v) Relative Costs

5.3 Most Promising Markets for Rail Freight Growth

6. BENEFITS OF TRANSFER TO RAIL

6.1 SLM Estimates

Introduction

6.1.1 Sensitive Lorry Mile (SLM) values represent the environmental and social benefits of removing Heavy Goods Vehicle (HGV) journeys from the road network by switching the freight to rail or water. SLM values are used by the SRA to assess the case for Freight Facilities Grants (FFG) and Track Access Grants (TAG). In future, they may also be used to value the benefits generated by investment in rail infrastructure through other mechanisms.

6.1.2 The SLM value represents the net external benefit of rail freight transport in terms of:

- Emission and noise costs of HGVs;
- Congestion costs of HGVs by road type
- Accident costs avoided;
- Reduction in government revenues;
- The additional external costs of rail freight.

Proposed new SLM Values

6.1.3 The SLM values have been under review by SRA and DfT since early 2002. Values proposed by Arup in a Study for SRA, completed in early 2002 are shown in Table XX These show the much higher benefits of transfer from road to rail in London and other congested areas. For practical operational reasons it has been considered inappropriate to implement SLMs in terms of more than a single standard value. In practice, if a case could be made for using a higher SLM value in congested areas, this would increase the case for greater use of rail

Table XX: Net marginal cost savings to society and infrastructure operators, arising from a transfer of freight from road to rail (pence per HGV-km)

	High Congestion	**Medium Congestion**	**Low Congestion**
Motorways	24.1 (8%)	14.2 (9%)	7.3 (19%)
	London and Conurbations	**Rural and Urban**	
Trunk and Principal	69.5 (7%)	23.9 (42%)	
Other	88.5 (3%)	21.6 (12%)	
All	**24.1 (100%)**		

Note: Each figure in brackets shows the percentage of total HGV-km within the given category.

6.2 Non-Quantified Benefits

6.2.1 Texts.

6.3 Case Studies

(i) Building Materials

(ii) Containers;

7. OPPORTUNITIES FROM NEW TECHNOLOGY

7.1 Introduction

7.1.1 There are several recent developments and opportunities that might assist rail freight serving London. Each is considered and their potential importance in achieving a switch to rail.

7.2 Mail Rail

7.2.1 This is the brand name for the post office tube railway, now owned by Royal Mail, which was opened in 1927/8 between Paddington Mainline railway station and Whitechapel, Eastern District Office, via sorting offices in central London generally parallel to the Central Line of London Underground. Running north of the Central Line parallel to Oxford Street, as far as Holborn then north to Mount Pleasant where the main depot is located. From Mount Pleasant the line turns south again to the former Post Office Headquarters near St Pauls, then via Liverpool Street Station to the Eastern District Office on Whitechapel Road.

7.2.2 The line was constructed to carry letter and parcels traffic quickly and reliably across central London to overcome the congestion and delay experienced by post office vans in London traffic, the speed of which was falling. It also overcame the problem of complaints about the noise of vans passing at night. The main running tunnels are 9’ (2.74m) diameter carrying two tracks of 2’(0.6m) gauge. Trains are remotely controlled and powered by 440 vbc via a third rail.

7.2.3 The line has a fleet of cars designed to carry rail containers on wheels, which are loaded by hand. Operations suit postal traffic peaks, a stopping train takes about 27 minutes to traverse the line including stops of 1 minute at 6 intermediate stations and 2.5 minutes at Mount Pleasant, a non-stop train could take about 19 minutes. Services operated for 22 hours per day (Monday-Saturday) and headways could be as low as 3 minutes.

7.2.4 Mail containers have a capacity of 39cu ft. and are approximately 4’ x 2’6” and about 3’ 6” high. Their size is limited by rolling stock and tunnel dimensions, although it should be possible to use longer containers. Each car can carry four containers loaded via folding ramps on the car sides.

7.2.5 Changes in mail distribution in recent years, and its concentration on the Princess Royal hub, at Wembley which is fed by mail vans running directly from sorting offices has meant declining traffic on Mail Rail and Royal Mail has announced its intention to cease operation. However, the tunnels are a great asset and are being considered as a means of delivery to shops along Oxford Street. The obvious problem is that the system is designed for mail traffic in bags not the movement of standard freight pallets. The running tunnel dimensions limit the width and height of loads even if new trains were constructed to take longer loads.

7.3 Freight DMUs

7.3.1 One of the projects that attracted an award from the SRA in the freight innovation scheme was the demonstration of a Diesel Multiple Unit designed to carry freight. The main aim is to increase the power to weight ratio of freight trains and to provide easy reversing without having to reposition a loco. The advantage claimed for the FDMU are that it can reduce conflicts between passenger and freight use of the railway because high performance freight trains can run on passenger paths or at least reduce the track capacity needed for freight; it may also reduce operating costs.

7.3.2 Trials have been conducted using Railtrack's Multiple Purpose Vehicles, which were adapted to carry containers, moving drinks for Bulmers, which has the necessary rail connection at Hereford. One problem with the use of the Railtrack trains is that their deck is too high to carry most containers and swap bodies within the loading gauge. Another issue is that the concept is appropriate for shorter freight trains more appropriate to time-sensitive traffic such as fast moving consumer goods(FMCG). However, the economics of this concept relative to road has yet to be demonstrated and, if more frequent freight trains are intended, rail capacity problems could be increased on some routes.

7.4 Piggyback

7.4.1 Piggyback is an important method of combined transport used extensively on trans-alpine routes and by Eurotunnel who operate freight and passenger vehicle shuttle trains (Le Shuttle). Piggyback involves Ro Ro loading of vehicles on to trains or lift on – lift off (Lo Lo) loading of semi-trailers for unaccompanied traffic. This is not possible for standard height road goods vehicles within the British loading gauge, although experiments have been conducted with pocket wagons and restricted height trailers by the pet food industry. Blue Circle cement is also developing piggyback operation of road bulk cement trailers partly with rail freight innovation award grant finance from SRA.

7.4.2 Over the last ten years a scheme for increasing clearances on the WCML and lines to the channel tunnel has been promoted by the Piggyback Consortium. The main idea is to accommodate standard height road semi-trailers on trains of pocket wagons for through transit to continental Europe where they can already pass over the railway networks. The scheme could also serve London markets for domestic freight.

7.4.3 The project has not come to fruition largely because of cost. There are also concerns about the attractiveness of unaccompanied transits to road haulage industry, which is geared for accompanied traffic for domestic moves, and for most of the Dover straits ferry trade. Unaccompanied semi-trailers are important in North Sea trade through ports such as Immingham and this trade seems unlikely to switch to a through rail route for cost and time reasons. Despite these reservations, the idea remains potentially attractive if some London freight (domestic and/or international) could be served by through Piggyback train. This would require appropriate terminals with cranage and good local road access, and road hauliers organised to use an unaccompanied mode. We would envisage road hauliers having a stake in piggyback train operation to ensure that the price and service quality aspects were under their management as far as possible. However, a large quantum of traffic would be needed to justify the investment in clearance enlargement, rolling stock and terminals.

8. FREIGHT QUALITY PARTNERSHIPS

8.1 Introduction

8.1.1 The concept of FQPs was adopted by government in "Sustainable Distribution" in March 1999 and followed the partnership initiative "Delivering the Goods" developed jointly in 1997 by the Freight Transport Association and the Local Government Association.

8.1.2 "Delivering the Goods" sought to find best practice in urban distribution and a central management team co-ordinated the work of four local partnership groups in Aberdeen, Birmingham, Chester and Southampton. Each group had a common agenda:

- To identify problems – local authority, industry and environment
- To identify measures within the group's competence to resolve or alleviate such problems
- To identify best practice measures and principles for action
- In Aberdeen and Chester to explore the merits of transhipment transferring goods at Urban Distribution Centres (UDCs) from large vehicles into smaller less intrusive vehicles for final delivery.

8.1.3 The partners suitable for an FQP are likely to include:

- Local Authority – nominated officers from highways/planning/transportation. Also possibly from economic development/community/environment sectors as long as the balance is not unduly impacted
- Industry – important to ensure a broad range of distribution interests are represented from those delivering to or operating within the relevant area plus companies transiting through to another destination. Representation should be at a sufficiently senior level, although it should also be tempered by the need for people with local knowledge of movement and deliveries in the area
- Ensure representation from service and manufacturing as well as the retail sector
- The van/parcel sector has emerged as an important one and it should be represented where possible
- A rail operator or someone from the local airport or shipping operator if this is appropriate. The credibility of the FQP needs to demonstrate a willingness to embrace and involve modes other than road
- Police – particularly to cover parking and loading/unloading issues
- Local Chambers of Trade/Commerce or business organisations
- Environmental organisations – to ensure that the environmental side is represented, but only to address the specific local and not national agenda issues

Progress to date

8.1.4 Some of the key findings of Delivering the Goods are still of relevance:

- Retailing is invariably at the heart, economically and geographically of our towns and cities
- The lorry plays an indispensable role in the final delivery to shops, restaurants, public houses, garages, offices, commercial premises, manufacturers and wholesalers, hospitals, schools, public buildings and to private houses

- Cars represented more than 80% of urban traffic, light van traffic was 9% but HGVs only 5%.
- The modest studies into UDCs concluded the physical transhipment of full lorry loads into smaller vehicles for local delivery is untenable on both cost and environmental grounds. However, there may be some advantage in consolidating small deliveries of, say, one or two parcels at a UDC and making the final delivery with a small vehicle.
- There could be opportunities for privatised rail companies to capture primary trunking movements from road to rail using urban railheads
- The number of lorries operating in urban areas had generally reduced. This was due to:
  - Increased load consolidation at centralised distribution depots
  - More back loads in vehicles that previously travelled empty on their return
  - Better route planning using computer software
  - Use of modern communications to link depots, drivers and customers
  - Bypasses, relief roads and motorways have diverted lorries that are not actually delivering there
  - Increased lorry weights and dimensions
  - Growth in out-of-town trading

8.1.5 Local Authorities recognise that they are not specialists in freight distribution but the development of the FQP concept has prompted many of them to fund efforts by all the interested parties to address an identified need or solve a particular problem. The potential benefits of FQPs can be summarised simply as "more can be achieved by working together than in isolation".

8.1.6 Some 32 FQPs have been set up and recognised by the DfT to date with recorded Terms of Reference. It is understood that the DfT is due to produce a report in March 2003 that will show details of these recognised FQPs together with some case studies.

8.1.7 Examples of FQP actions envisaged or agreed to date are:

- Allow increased out-of-hours and night time deliveries where this can be shown to be acceptable to local communities – taking advantage of the great improvements in the design of goods vehicles in reducing noise and harmful emissions
- Review of goods vehicle access restrictions to ensure adequate access arrangements are available to companies, especially in urban locations
- Producing maps with key information on restrictions such as weight, height, length, loading bans, access and preferred routes
- Early consultation with freight operators over the development of traffic management schemes
- 24 hour goods vehicle networks and revisions of signage from key routes to local destinations
- Land use planning policy separating residential developments from freight operators for the sake of increased efficiency and reduced disturbance

8.1.8 FQP objectives should be Specific, Measureable, Achievable, Realistic and Timed. And if the Partnership is generating good news – shout about it with effective publicity!

8.1.9 No FQPs are known to have been created with specific rail objectives although it is thought that some of those in the Midlands and Scotland are willing to look for ways to switch freight from road to rail.

FQPs in London

8.1.10 Greater London has set up the London Sustainable Distribution Partnership that currently has two working groups – a Roadfreight Group that has concentrated initially on London Lorry Ban issues and a Railfreight Group that …………

8.1.11 It is understood that London has six Sub Regions ?????????? and two of these are in the process of launching FQPs:

- **West London** has a "West London Transport Strategy" partnership involving Ealing, Park Royal and Heathrow. Ealing is interested in loading and unloading in its town centre, Heathrow in its retailers and Park Royal covers the companies on the Park Royal Estate
- **North London** is developing what is called the Brimsdown FQP which involves 14 Industrial Estates in Brimsdown. It is believed to be seeking to create an "Information Strategy" and a "Signage Strategy" for business. The champion for this is thought to be Enfield Borough which is motivated to persuade companies not to relocate from Enfield northwards beyond the M25

9. CONCLUSIONS

(i) Is TfL delivering GLA's pledge to transfer more freight to rail?

(ii) Better data collection?

(iii)

10. RECOMMENDATIONS

(i) Possible role/Action Plan for TfL (Prop 2.10).

Annexes

1: EU Working Time Directive