



**Department for Transport, Local Government and the Regions**

**MULTI-MODAL STUDY  
A453 NOTTINGHAM TO M1 JUNCTION 24**

**WORKING PAPER NO 26**

**A Strategy of Freight**

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## **CONTENTS**

- 1. Introduction**
  - 1.1 Background**
  - 1.2 Contents**
- 2. Context**
  - 2.1 The Distribution Market**
  - 2.2 Government Policy**
  - 2.3 Regional Strategy**
- 3. Consultation**
  - 3.1 Overview**
  - 3.2 The Freight Seminar**
  - 3.3 Operator Interviews**
  - 3.4 Strategy Indicators**
- 4. Freight Strategy**
  - 4.1 Objectives**
  - 4.2 Strategy Framework**
- 5. References**

## **1. INTRODUCTION**

### **1.1 Background**

This report sets out work undertaken to date to develop a freight strategy for the A453 Nottingham to M1 corridor, and describes the policy and consultation context of the strategy.

### **1.2 Contents**

In Chapter 2 the wider context for the strategy is described. This includes an overall discussion of the freight distribution market, a summary of Government policy for sustainable distribution and rail freight and an outline of the regional policies arising from the North South Movements in the East Midlands Study.

The A453 MMS consultation process relating to freight is discussed in Chapter 3. This covers the industry seminars for interested parties held on 11<sup>th</sup> July 2000 and 12th June 2001 and interviews undertaken with a selection of freight generating companies operating in the study corridor.

In Chapter 4 the proposed freight strategy for the A453 MMS is outlined; with indicative schemes identified in chapter 5.

## **2. CONTEXT**

### **2.1 The Distribution Market**

The transport of freight is an important element of the national economy and an essential part of the distribution supply chain from raw materials through manufacture and retail to end users. This transport market is driven by the need to meet customers' requirements. The industry objective is generally to meet this requirement at minimum cost, thus maximising potential market share and profitability. Some industry sectors pay more regard to environmental implications than others.

Over recent decades there has been an increasing tendency to centralise both manufacture and distribution. The resulting economies of scale and consolidation allow overall manufacturing and distribution costs to be reduced. This centralisation has occurred not only on a national basis, but on a pan-national basis, for example, the vast majority of cars sold in this country are manufactured abroad and even those which are assembled in the UK will contain a high proportion of components manufactured abroad. Centralisation has changed the requirement for freight transport, but any additional cost of this has been more than compensated for by reduced production, storage and inventory costs.

The trend for centralisation has been facilitated by reductions in the barriers to international trade, e.g. the EC Single Market. It is driven by the need to be competitive in free markets. Companies which have not centralised have generally found it difficult to compete and many have been driven out of business, e.g. much of the UK automotive industry. Whilst centralisation has been the watchword for larger industry groups, there remains a large number of smaller manufacturers each with its own often unique distribution of suppliers and outlets.

## **2.2 Government Policy**

### **2.2.1 Sustainable Distribution Policy**

Government policy on freight is set out in 'Sustainable Distribution: A Strategy' which was published by DETR in March 1999 (Ref. 1). This is a follow on paper from the White Paper 'A New Deal for Transport' (Ref. 2). The aim of the sustainable distribution strategy is to ensure that the future development of the distribution industry does not compromise the future needs of our society, economy and environment. Its objectives are to:

- a) Improve the efficiency of distribution;
- b) Minimise congestion;
- c) Make better use of transport infrastructure;
- d) Minimise pollution and reduce greenhouse gas emissions;
- e) Reduce noise and disturbance from freight movements;
- f) Reduce the number of accidents, injuries and cases of ill-health associated with freight movement; and
- g) Manage development pressures on the landscape;

Actions proposed by DETR to promote sustainable distribution include:

- a) Use of economic instruments including taxation, to reflect the wide social and environmental impacts of distribution decisions;
- b) Work with EC partners to provide freedom of access to the continental rail network for rail freight operators;
- c) Encourage use of rail and water for freight transport through planning measures;
- d) Manage total demand to make best use of the road network including the examination of priorities for goods vehicles;
- e) Improve interaction of the road network with major rail and waterway transport interchanges;

- f) Require local authorities in England to produce Local Transport Plans which include freight plans;
- g) Promote greater use of rail freight through grants and promotion by the SRA;
- h) Consult on replacing UK drivers' hours rules with EC rules;
- i) Increase permissible lorry sizes to up to 41 tonnes gross vehicle weight (GVW) and consider a further increase to 44 tonnes GVW; and
- j) Promote the development of Quality Partnerships in urban areas.

Action (a) included an annual increase in fuel duty of at least 6% in real terms. However, this has now been dropped.

Many of these actions require further consultation and studies before they can be implemented in detail. In consequence it is too early to say what their impact will be.

### **2.2.2 Rail Freight Strategy**

The development of policy for rail freight is part of the remit for the Strategic Rail Authority (SRA). Their strategy is set out in the SRA Freight Strategy (Ref. 3). The main objective of this strategy is to increase rail freight by 80% over the next 10 years, by encouraging modal shift from road to rail. It is planned that this growth will be achieved by a combination of:

- a) Investment in rail infrastructure to provide additional capacity and improved reliability;
- b) Grant assistance and revenue support;
- c) Support for innovation; and
- d) Reducing constraints on the efficient working of the market such as restraints on access to terminals.

SRA see the majority of the increased traffic arising from intermodal unit loads. This will be encouraged by means of improved network capacity and reliability, new terminals and subsidies to reflect environmental benefits. Growth in bulk traffic will also be encouraged by means of grants for rail operations which would otherwise not be viable.

SRA have set out a 4 phase strategy for the development of improved freight infrastructure. In relation to the Nottingham to M1 study area the only relevant proposal is the upgrading of the Midland Main Line, which is included in the 3rd phase, which is scheduled to be undertaken between 2005 and 2010. This would provide at least 2 extra freight train paths per hour. However, it is not clear how the recent failure of Railtrack will impact on the strategy. The SRA are now working on more detailed regional freight strategies, and hope to complete the strategy for the East Midlands in the spring of 2002.

## **2.3 Regional Strategy**

### **2.3.1 North South Movements in the East Midlands Study**

The North South Movements in the East Midlands Study (M1 MMS) has developed a strategy for the wider M1 corridor through the East Midlands. The A453 MMS area will be covered by strategies arising from the M1 MMS. The M1 MMS recommendations in relation to freight are set out below.

#### **1. Co-ordination**

- A need is identified to co-ordinate freight policy throughout the East Midlands region. It is recommended that a regional freight co-ordinator is appointed to achieve this.

#### **2. Strategic Road Infrastructure**

- The following measures were recommended in relation to strategic road infrastructure:

- 2a) Greater enforcement of motorway speed limits to reduce the differential between cars and goods vehicles.
- 2b) Crawler lanes on uphill sections of motorway (Junction 28 to Junction 29) and widening throughout the corridor to 4/5 lanes.
- 2c) Restriction of goods vehicles of over 12 tonnes unladen weight to the inside 2 through lanes of widened motorways and smaller freight vehicles to the inside 3 lanes to reduce conflict between different types of vehicle.

#### **3. Road Behavioural Change**

- The following road behavioural change measures were recommended:

- 3a) Improvements in goods vehicle scheduling to minimise fuel consumption per tonne kilometre.
- 3b) Use of advanced fuels to minimise emissions.
- 3c) Improvements in safety by means of driver training.
- 3d) Encouragement of best practice in minimising the external costs of freight distribution.
- 3e) Use of more aerodynamic vehicles to reduce fuel consumption.

3f) Use of more efficient engines to reduce fuel consumption.

**4. Rail**

- The following rail measures were recommended:

- 4a) Development of intermodal terminals possibly at Castle Donnington, Toton and Markham, with sites to be confirmed in the forthcoming Regional Freight Study.
- 4b) Improvements in the loading gauge on routes which link the proposed terminal sites with the East and West Coast Main Lines.
- 4c) Development of rail freight links from the proposed East Midlands terminals to the Humber Ports.
- 4d) Development of domestic intermodal freight services targeting the fast moving consumer goods sector.

The study noted that given their proposals for enhanced passenger services capacity problems would arise at Nottingham Station and between Beeston and Trent Junction. They suggested, but did not recommend, that the latter problem might be reduced by replacing the level crossings on this line by bridges or by providing a south facing curve at Trowell to allow freight trains to run from Toton to Nottingham via Trowell.

**5. Waterways**

- The development of an inland port on the Trent, possibly at Colwick, is recommended.

**6. Urban Freight**

- The following recommendations were made for urban freight:

- 6a) Consider allowing heavy goods vehicles to use bus lanes to minimise environmental impacts.
- 6b) Open city centres for 24 hour delivery access allowing deliveries to take place outside peak traffic periods. This can be backed up by freight quality partnerships to ensure that local requirements are observed.
- 6c) Designated Freight Routes with improved signing should be provided to/from the main freight generating locations and freight interchanges.

**7. Land Use and Economic Development**

- The following land use and economic development measures were recommended:

- 7a) New freight generating developments should, where possible, be directed towards brownfield sites with rail or waterway access.
- 7b) Local sourcing should be encouraged by major supermarkets and/or by setting up farmers' markets.
- 7c) Products should be labelled with some information to allow consumers to select local products.
- 7d) Inward investment to rail connected sites should be encouraged from companies who are likely to make significant use of rail transport.

**8. Lobbying National Policy**

- Small businesses should be encouraged to use common carriers for deliveries thus encouraging a shift from light goods to heavy goods vehicles and minimising overall congestion and pollution.

Recommendations 6(a) to (c) are likely to be highly significant as they could be enacted within the A453 MMS area.

Recommendations 4(a) to (d) and 5 are designed to stimulate transfer from road to rail/water. However, road cartage would be required to/from terminals at Toton, Castle Donnington or Colwick. Given the need for road cartage the net effect on road congestion in the Nottingham to M1 corridor is likely to be insignificant. If the Toton terminal were to be developed, a new road access is likely to be required direct from the A52.

A planning application has recently been approved for the development of a distribution terminal at Castle Donnington. This has been supported by the SRA.

**3. CONSULTATION**

**3.1 Overview**

Two consultation exercises were undertaken which related to freight as follows:

- a) Two industry seminars the later held at the Boots Conference centre on 11 July 2000 and 12 June 2001 (joint with M1 MMS).
- b) Interviews with 15 freight generating/operating companies in the Nottingham area (A453 MMS only).

The implications of these are described in the following sections.

Participants in the seminar and survey included organisations generating freight movements, road and rail freight operators and some companies who generate movement and also operate a road transport fleet.

### **3.2 The Freight Seminar of June 2001**

A full report of the seminar proceedings is given in Working Paper 19.

Consideration was given to more freight being carried by rail. Distribution operators pointed out that the vast majority of their operations are too geographically dispersed and their volumes are too low for rail to be a viable option. EWS agreed with this view and stressed the need for rail freight to focus on markets which have the combination of trip length and volume which would allow rail to compete. There was a strong view among operators that rail is currently unable to deliver the speed and reliability which is generally required to meet short lead times specified by their customers, and may never be able to do so in many cases.

There was considerable resistance from operators to the introduction of road congestion charging. In general charging costs would be passed on to the customer and would not have a restraining effect on freight vehicle movement. It was considered that this would effectively be another indirect tax on consumption. There was also concern about pressure to relocate freight generating operations outside charging areas with potential adverse effects on patterns of travel demand and the local environment.

The distribution industry felt that they could do little to reduce congestion as their operations are primarily driven by the need to meet customer demand. Where possible they avoid operating at peak periods. There were strong views that congestion was primarily caused by low occupancy car traffic and measures should be focused on this aspect.

It was pointed out that the distribution industry is highly competitive and profit margins are low. In consequence there is little scope to absorb the increased costs involved in adopting more environmentally friendly, but more costly, fuels and distribution practices.

It was suggested by some participants that many goods could be sourced locally to minimise the need for transport. However, in discussion it became clear that even companies who had a positive policy of sourcing locally, were generally constrained due to the limitations of suitable local supply. In a free market economy there is no mechanism to enforce local supply except through influencing customer preferences. Such influence needs to be applied at a national level to be fully effective.

### **3.3 Generator/Operator Interviews**

The interviews were undertaken in good faith in confidence.

### **3.3.1 Mode of Operation**

Freight operator interviews were undertaken with 15 companies who generate significant freight volumes or operate road freight transport in A453 MMS study area. A particular concentration were interviewed from the Riverside area between Queens Drive and Beeston.

The operators interviewed ranged in size from small manufacturers and wholesalers through to large national retailers and multi-national manufacturers, some operating their own transport fleet and others using/providing contract services. They demonstrate the diversity of commercial activity in the study corridor with a particular emphasis on manufacturing. Most of the operators distribute products over a wide area, generally on a local and national basis and some on an international basis.

All the operators are competing in highly competitive markets. In consequence most operators are adopting distribution methods which minimise the overall combined cost of transport, inventory, warehousing and manufacture. These methods generally require short lead times between manufacture and sale and in consequence delivery times and schedules are often critical.

All operators need to be highly responsive to customer demands. This requires the manufacturing and distribution process to have sufficient flexibility to quickly react to changes in customer requirements. This requires close co-ordination between logistics and manufacture.

For bulk industries most raw materials are sourced relatively locally within the UK. However, for other manufacturers most raw materials are sourced further away, often outside the UK. These are mainly imported through ports in the South East which serve the main deep sea shipping routes and ferry routes to the continent.

Product distribution is primarily to other manufacturers for further processing/assembly, into retailer warehousing and distribution systems, or for export. In recent years there has been a tendency to reduce stockholdings at all stages of the distribution system reducing inventory and storage costs and relying more on 'just in time' deliveries.

Operators in the consumer goods industries distribute their product to large retail outlets such as supermarkets and other national store chains and/or to smaller individual retail outlets. For the large outlets goods are transported in bulk to the Regional Distribution Centres (RDC) of the large outlet for them to distribute on to their individual retail stores. To serve smaller outlets, operators have their own RDCs which are served in bulk from their factory or Primary Distribution Centre (PDC) or they serve all small outlets direct from the PDC. Generally, relatively small consignments are distributed to each individual smaller retail outlet. Larger operators consolidate numerous products into delivery vehicle loads, and some retailers distribute directly from PDC/RDC to shop shelf to minimise storage/handling at retail outlets.

### **3.3.2 Road Transport**

The vast majority of freight transport is undertaken by road. For trunk haulage and larger scale regional distribution the largest possible vehicles are used. However, for local distribution smaller vehicles are often used. This generally occurs where access constraints preclude the use of larger vehicles or where volumes are relatively low. The majority of distribution is undertaken by third party contractors rather than in-house operations. However, in-house distribution is more prevalent for smaller firms as they consider this gives them more control and minimises problems of damage caused in transit.

For most operations delivery times are highly critical. In some industries these can be exact times. If the vehicle misses the slot it may be necessary to return to the depot and unload the consignment, which if it is perishable may have to be written off. There are also often financial penalties for missing the slot. Thus missing of delivery slots imposes high costs.

The majority of trunk haulage appears to be undertaken overnight or in the inter-peak period when congestion is relatively low. This is due mainly to the constraints of the manufacturing and distribution process and the benefits of avoiding peak period congestion. Cost savings from increasing vehicle utilisation generally exceed the additional staff costs involved in night working. Most local distribution is undertaken during the day due to delivery constraints at receiving outlets. At present, therefore, congestion has more direct effect on local distribution than on trunk haulage. However, congestion on the strategic highway network as a whole is having an increasing effect on trunk operations.

Increases in congestion have caused local distribution operations to reduce the number of calls which can be made by each vehicle. This has increased the number of vehicles which are needed to fulfil the same customer requirement. Increased restrictions on unloading and vehicle access are becoming a major problem for local distribution operations. These mean that delivery routes cannot be optimised and there is less flexibility in delivery times where restrictions apply for set periods. These factors also contribute to reduced vehicle utilisation. The result is that more vehicles are required to run further to meet the same customer requirement, resulting in increased congestion, accident risk and pollution.

Increasing congestion has caused some operators to dispatch their vehicles very early in the morning to avoid congestion. One company has completely restructured its delivery operation with very early starts on Thursday and Friday to allow vehicles to avoid afternoon congestion on the M1 when returning to their distribution centre.

Over recent years larger road haulage operations have reduced costs by increasing vehicle utilisation. This has included the increased use of backloading. However, for many operations backloading is not feasible due to contamination problems and negative effects on the reliability of the distribution operation.

The majority of operators perceive that reliability of journey time is more important than the actual journey time. Unforeseen long delays caused by incidents on the motorway network are an increasing problem.

### **3.3.3 Rail and Other Modes**

Of the companies interviewed only 2, who process or manufacture bulk commodities, are regular users of rail in the Nottingham area. One company uses rail because it is able to efficiently handle large quantities of bulk material. However, they expressed disappointment at the poor reliability level offered by rail, with trains being up to 3 days late. The other company use rail for limited wagonload traffic from the continent, which is efficient as both their continental plants and the East Midlands plant are rail connected. They have also experienced unreliability problems mainly due to the unavailability of Railtrack signalling staff who control access to their sidings. They also make limited use of the Freightliner container distribution rail services and EWS international inter-modal services.

Two other companies have trialled international rail services recently. One company made a large investment in piggyback trailers for use on international services. However, they found that rail was totally unreliable and that trailers were usually delivered late. To compound this there is no system to track trailers carried by rail, therefore they could not warn their customers that consignments would be late or take any other action. Their customers imposed financial penalties on them, but the railways refused to take any financial responsibility. In view of this they abandoned rail after 6 months and returned to road operations. They still use Freightliner operations in the UK, but only because the local depot has a rail link. The other company used international rail services between the UK and Holland, but abandoned using these as rail was more costly, clumsy in terms of modal transfer, takes longer and is not considered to be secure. However, they still use rail for distribution from Holland to other European countries.

Two of the remaining companies have in the past used rail for primary distribution to RDCs in Scotland and Newcastle respectively. Another company used to use rail for export to Ireland. However, all had abandoned these operations as they were uneconomic. One other company uses rail for primary distribution on the continent. However, they do not use rail in the UK as they have no confidence in the UK rail freight operating companies. Their consignments for the UK which use rail on the continent are transhipped at Calais and transported to their UK PDC by road in order to avoid using the British rail freight services.

All the remaining companies considered that their lead times were too short and their volumes were too low and locations served are geographically too dispersed to be served by rail. There were also concerns about rail reliability and the potential for damage and pilferage.

These experiences are similar to ones found in the comparable survey undertaken for the West Midlands to North West Multi-Modal Study in 2000. As the latter survey was undertaken prior to the disruption caused by the Hatfield accident, it is clear that these experiences are caused by long term problems rather than short term disruption after the Hatfield accident. Drawing the two surveys together, the reasons given for not using rail for large primary distribution operations, where it might be able to compete with road, can be summarised as follows:

- a) Rail reliability is very poor and there is no facility for monitoring progress;

- b) Rail is not cost effective compared with road;
- c) Lack of security, particularly for high value loads;
- d) The operator and/or customers do not have sidings which makes rail uneconomic due to the need for transshipment;
- e) The rail network has insufficient capacity;
- f) Rail could not provide the required level of service, speed and flexibility;
- g) Concerns about rail safety as hazardous loads are not attended;
- h) Unacceptable levels of damage to goods in transit;
- i) For international freight the uncertainty caused by the involvement of a number of continental national railways;
- j) The inability of the UK loading gauge to take mega trailers or standard piggyback trailers;
- k) Poor and congested road access to terminals;
- l) The inability of the rail industry to enter into long term commitments on price and availability of train paths;
- m) Lack of confidence in the management of the rail freight companies;  
and
- n) Poor response by rail freight companies in relation to the time taken to price prospective business and the lack of reasonable prices when bids are produced.

Despite these difficulties the local current bulk rail users are planning to increase their use of rail. This is because rail is able to offer bulk transport capacity which allows their whole manufacture and distribution process to operate more efficiently. Road is not able to provide the required capacity and rate of throughput.

The vast majority of unitised imports and exports are through ports in the South East. This is mainly because these ports are served by the appropriate shipping services whereas equivalent services are not available from ports in the East Midlands. Bulk exports are mainly through the Humber ports. No respondent identified use of the River Trent navigation as an option.

The study team are aware that coastal shipping makes a significant contribution to the carriage of some, mainly bulk goods over longer distances e.g. grain, petroleum, but no investigation has been undertaken of this aspect.

### **3.3.4 The Nottingham to M1 Road Corridor**

The A453 was generally considered to be the favoured route between central and south Nottingham and the M1 south. However, due to congestion, operators based in Colwick often use the A606/A46 as an alternative, while the operator based in Lenton almost always uses the A52. During peak congestion periods some operators based in the Riverside area use the A606/A46 as an alternative to the A453. However, they pointed out that this is also congested in the area north of Leicester in the motoring peak.

For traffic going north on the M1 the A610 to junction 26 is the generally favoured route. Also, the one operator interviewed in north Nottingham uses junction 26 to access the M1 southbound to avoid congestion on the Nottingham Ring Road. The A52 is generally only used to access the M1 by operators located adjacent to it.

The A453 is generally considered to be congested during peak periods and increasingly during the working day. This has a detrimental effect on the trunk haul operations which need to be undertaken during the working day. Local distribution operations are more affected as these generally need to be undertaken during the working day. Of considerable concern were the restrictions on access and unloading within Nottingham which are causing significant problems for local distribution operations.

It was generally considered that the cause of congestion is car trips. It was felt that public transport should be improved to attract these trips away from road. In particular it was noted that public transport in the Riverside industrial area is poor and should be improved. It was also noted that the Queen's Drive park and ride site is too far into the city. If placed further out it could intercept traffic before it reaches congested areas such as Clifton.

There was support for the improvement of the A453 or the provision of goods vehicle priorities on this route. It was considered that the journey time and reliability benefits of this would allow an increase in vehicle utilisation, which would reduce the total vehicle kilometres needed to meet distribution requirements. However, it was pointed out that improvement of the A453 through Clifton would only move the congestion problem to Clifton Boulevard and would generate new car traffic which would add to general congestion. It was suggested therefore that any improvement would need to be accompanied by restraint on car traffic.

There was considerable opposition to the concept of a road pricing cordon around Nottingham, including the industrial areas. This would increase costs and erode the operators' competitive position relative to operators based in other areas. For some operators this would probably only result in a marginal loss of business, whereas for others for whom transport costs are more important, it would be necessary to move out of Nottingham or go out of business. Congestion charging on major roads is not so strongly opposed if it provides benefits by reducing congestion and journey time unreliability.

None of the operators considered that rail or waterways provided a viable alternative to their current road transport operations.

### **3.4 STRATEGY INDICATORS**

#### **3.4.1 Road Operations**

Based on the responses at the seminar and to the operator survey, most operators consider that the road links between the Nottingham industrial areas, particularly the Riverside area and Colwick, and the M1 are congested. Although most trunk haul freight operations occur outside the peak periods in the future, increasing traffic demand is likely to spread more congestion to the inter-peak periods which will increasingly disrupt these operations. Also the lack of segregated access roads to industrial areas leads to undesirable environmental impacts on routes such as the A453 which pass through residential areas. These issues need to be resolved either by restraining car traffic and/or by new highway construction. Operators consider that there is no realistic scope for restraining goods vehicle traffic by local congestion charging or other measures, as this would damage the viability of industries in Nottingham and cause their decline or relocation and a consequent loss of employment and prosperity.

Access and loading restrictions are becoming a major problem for local deliveries within the corridor. While restrictions on goods vehicles are often imposed to achieve environmental gains, their effects can often be opposite in causing increased goods traffic generation and consequent increased congestion, pollution and accident risk. In view of this, proposals for increased restrictions on goods vehicles in the study corridor should be balanced against their effect on increasing costs, congestion, accidents and environmental impacts caused by consequent inefficient goods distribution.

Based on views expressed in this study and the similar operator survey for the West Midlands to North West Study, there is strong evidence to suggest that the adoption of the EC Working Time Directive will increase transport costs, increase daytime congestion and increase accident risks. Costs will increase due to the limitations on night-time working which will make longer trunk hauls impractical within one driver shift. This will cause some trunk haulage to transfer from night-time to daytime thus increasing congestion during the working day. Shift changes in the early hours of the morning are likely to be used to circumnavigate the Directive. Research suggests that drivers working such shifts are more likely to have accidents due to fatigue than drivers who work a complete night shift. In consequence there is strong opposition to the adoption of the EC Working Time Directive.

#### **3.4.2 Rail Freight**

The operators consider that rail will not be able to cater for the vast majority of the freight movement using the Nottingham to M1 corridor. There is some limited potential, particularly for intermodal units and bulk products, but the poor performance of the rail freight industry is discouraging this traffic from transferring to rail. Also there is a lack of intermodal terminals and services in the Nottingham area.

If rail is to play any significant part in carrying freight in the study area, substantial improvements in performance will be required including the following actions:

- a) The rail freight industry needs to improve its response to the market to overcome the many criticisms reported above;

- b) The rail freight industry needs to be able to provide guaranteed prices, capacity and reliability over periods which are sufficient to allow operators to invest with confidence;
- c) The freight train operating companies need to take steps to minimise damage, and safety risks and improve security for goods in transit;
- d) The reinstatement or construction of new rail connections needs to be encouraged by local authorities, particularly for sites with high volumes of freight generation;
- e) Local authorities need to protect local sites which have good road and rail access for future use as rail freight terminals and/or freight generating industry.
- f) Railtrack needs to provide sufficient track capacity on Midland Main Line and other key local routes to facilitate the reliable running of both normal and express freight services;
- g) Railtrack needs to increase the loading gauge preferably to allow mega trailers to be carried on piggyback wagons;
- h) Government needs to lobby the EC to allow free access to the continental rail network to allow a single operator to provide through freight services to continental destinations; and
- i) Government needs to provide more financial aid to encourage the development of rail freight facilities and services.

#### **4. FREIGHT STRATEGY**

##### **4.1 Objective**

The movement of freight is fundamentally important to economic wellbeing at the national, regional and local levels, and also to sustaining local communities. Many local jobs and the economy are dependant on the manufacture and distribution of products which require the gathering of raw materials and/or pre-manufactured parts and the distribution of finished products to outlets in the UK and overseas. Similarly local communities seek access to goods and materials and this requires delivery to local outlets and to local premises such as homes and businesses.

The debate is not therefore about whether goods should be moved, but how much, to/from where and when, by what means, at what cost, and, with what impact on local communities the environment and other travellers.

Local objectives of a freight strategy should include:

- i) Commodity sourcing and distribution philosophy which seeks to reduce/minimise unnecessary movement.

- ii) Facilitate essential movement with care for the environment and other travellers needs. Minimising imposition of cost and inconvenience to commerce and operators.
- iii) Reduce dependence upon road freight by creating good accessibility to an effective rail freight service.
- iv) Protection of the most environmentally sensitive areas.

Some of these objectives must be sought. Some are issues of national/strategic and commercial importance, and not all can be addressed within the relatively local A453 MMS.

## **4.2 Strategy Framework**

### **4.2.1 Overview**

The A453 MMS freight strategy needs to be consistent with the M1 MMS strategy, but provided with local focus. The recommended strategy from that study is broadly consistent with our objectives as stated above for the A453 MMS study area and we are happy to support it in general. In the following sub-sections we consider how elements of this strategy should be applied in the A453 MMS context, and provide that local focus.

### **4.2.2 Coordination**

We fully support the need to coordinate freight policy throughout the East Midlands Region and the appointment of a local co-ordinator. The proposed East Midlands Freight Study should be the first step in this process.

### **4.2.3 Strategic Road Infrastructure**

The MIMMS freight specific road infrastructure recommendations related to motorways. In consequence they have limited implications for the A453 MMS.

### **4.2.4 Road Behavioural Change**

We fully support the proposals for inducing behavioural change in relation to road transport. These issues are strategic in nature and we recommend that they are pursued at least on a regional basis. There is however potential benefit to the A453 corridor.

### **4.2.5 Rail Freight**

We support the measures proposed to encourage the transfer of freight to rail.

We strongly recommend that the rail freight industry should rigorously address the schedule of improvements identified in Section 3.4.2 to facilitate this aim.

In addition to the strategic Toton and Castle Donington sites we have examined possible local sites for rail freight terminals in the study area and have identified 5 further local sites for consideration at: -

- Bingham
- Stoke Bardolph
- Colwick
- Meadows East
- Beeston

A summary description of each site may be found in Appendix A.

Whilst these sites are very limited in size and could not accommodate a full scale intermodal terminal. They might be useful for a single user operation in sectors not presently well served. We recommend that these sites are considered further in the Regional Freight Study.

We are concerned that the passenger services proposed by both M1 and A453 MMS will cause capacity problems around Nottingham Station and between Beeston and Trent Junction. This may limit the potential for the development of rail freight services to/from the Nottingham area. This problem could be relieved by grade separating the 2 road level crossings in the Attenborough area or the M1 MMS suggested that by providing a south facing curve at Trowell to provide an alternative route between the south and Nottingham. The former option may not be feasible due to the proximity of adjacent developments, particularly at Attenborough Station level crossing. The latter option may also not be feasible given the alignment of the railway lines at Trowell, the proximity of residential development and the M1 and also the relative vertical alignment of the 2 lines would make it extremely difficult to provide a gradient suitable for freight operations. In view of the above we recommend that further consideration should be given to resolving this capacity issue.

We support the measures proposed to improve the loading gauge on lines connecting the inter-modal terminals with the East and West Coast Main Lines and the development of rail freight links to/from the Humber ports. We also support the development of domestic inter-modal freight services. All of these measures will help to transfer strategic freight traffic from road to rail.

#### **4.2.6 Waterways**

We support the concept of developing an inland waterway terminal at Colwick. However, the usefulness of such a facility could be constrained by the ship size limitations of the River Trent. We recommend that these issues are examined further in the Regional Freight Study.

#### **4.2.7 Land Use and Economic Development**

We support the directing of major freight generating developments towards brownfield sites with rail or waterway access. We recommend that the local planning authorities pursue policies which will encourage major freight generating activities to locate at rail connected sites.

We support the strategy of local sourcing. We recommend that local planning authorities should pursue policies which encourage local sourcing, eg. the setting up of farmers' markets.

### **4.3 Local Freight Issues**

Given a strategic framework in which the opportunity to reduce the need to move goods is provided by commodity sourcing and distribution philosophy, and the opportunity to divert suitable commodities to rail freight is enhanced, many residual movements will take place by road. Facilitating these movements in a manner compatible with environmental considerations is fundamentally important.

#### **4.3.1 Transshipment**

We have considered local transshipment depots where goods are transferred from long haul vehicles to small environmentally friendly vehicles for urban area distribution whilst appealing in some respects, the location, logistical and commercial implications need to be considered on a greater Nottingham if not sub-regional basis rather than within this corridor study and we recommend that this concept is addressed in that way.

#### **4.3.2 Freight Accessibility and the Environment**

The greatest improvement in accessibility will be provided by reductions in traffic congestion due to the area wide effects of the Preferred Transport Strategy. Not only benefiting road freight operations this will reduce the road for measures to provide priority for goods vehicles, improve journey time and reliability, and create more opportunity to protect areas of more sensitive environment including reduced potential for rat-running in both urban and rural areas.

Some of these gains would be negated if freight operators were simply to abandon measures they have already taken to avoid running at times of peak traffic demand. Minimising this risk may involve a combination of measures to encourage operators to utilise off peak periods. Such measures could include: -

- local goods traffic priorities operational only in selected time periods.
- extension of permitted delivery hours in urban areas under the auspices of quality partnerships.
- regulatory/fiscal measures.

We recommend the establishment of a local Freight Quality Partnership for the Greater Nottingham area.

#### **4.3.3 Shared use of bus lanes**

Sharing the bus lane by HGVs has some severe safety and operational disadvantages for HGV's and other road users. The frequent stopping of buses in contrary to need for heavy lorries to maintain momentum. It also introduces the risk of a serious bus/HGV accident. HGVs would be in close proximity to the kerb to be pedestrians. Bus lanes are often necessarily used by cyclists, and there is a clear safety issue if HGVs were also allowed to use them.

#### **4.3.4 Dedicated Lanes**

Lanes dedicated to HGV on multi lane roads use to have potential advantages both in terms of introducing priority and route designation. We recommend application only in particular cases to enhance/access to rail freight terminals and freight generating areas.

#### **Designated Lorry Routes**

**4.3.5** Lorry routes are an established part of the range of policies and techniques in Local Transport Plans. They are normally lengths of the non-primary road network selected and improved to best service an important demand for HGV movement where no major road route is available. In the A453 corridor the most significant route is between Ratcliffe on Sour Power Station and British Gypsum at East Leake. The Road between East Leake and Bunny is the other. These appear to be the extent of opportunities, but more detailed study and knowledge may reveal further ones.

An access strategy to East Midlands Airport should be confirmed.

#### **4.3.6 HGV Bans on unsuitable Minor Roads**

HGV bans on unsuitable minor roads have a bearing on solutions to transport problems in the A453 Corridor. A problem exists partly due to rat running to avoid congestion or to make a short cut, but also resulting from the changing pattern of industry and its associated transport of goods. Rat Running would be greatly reduced by improvement with increased capacity on the A453, relieving in particular the roads between Kegworth, Kingston on Soar, Gotham and Clifton. Bans can be applied only there alternative routes exist.

Consideration should be given to restrictions on the minor roads through Castle Donnington and Diseworth giving access to EMA.

The subject may well become more important if road user charging is introduced, because of the risk of a new level of rat running. This is a matter for the Local Highway Authorities to persue. It is recommended that a system of monitoring HGV use of roads on the minor road be considered, choosing zones or areas that complement the anticipated rat runs. It would require co-ordinated action by the County Authorities.

#### **4.3.7 Protection of Environmentally Sensitive Areas**

We recommend the protection of environmentally sensitive locations by the prohibition of HGVs on an area or route basis except for access.

We envisage such bans being implemented in Clifton Estate, and part of villages such as Kegworth, Gotham and other villages to ensure use of designated routes.

## **5. CONCLUSION**

This report has sought to identify a strategy for freight within the context of the Wider Strategy outlined for the MI MMS. The concepts outlined have been given a shaped focus to the A453 Study Area.

## **References**

1. Sustainable Distribution: A Strategy, DETR, March 1999.
2. A New Deal for Transport, DETR, July 1998.
3. Freight Strategy, SRA, May 2001.

This supplementary section of the Working Paper identifies and comments on possible sites in the Study Area. It does not examine the business case or the future changes however.

Currently, freight terminals are seen as major collection and distribution centres not unlike small inland ports. They ideally need to be at or near a transport hub or corridor in order to attract custom without much journey deviation, or close to the origin or destination of the goods being moved. As can be deduced from the Study survey, other criteria apply for individual firms, with logistics as an important underlying factor.

As there are few sites for major rail freight terminals the Study also looks at possible smaller versions that might prove viable in the future with new management and techniques. They would consist of perhaps only one loop siding most likely with crossovers from an appropriate line in the opposite direction, with a secure building housing the transfer area, innovative containerisation, handling, and control, and highway access. A typical layout is shown on figure 1, and possible sites on figure 2.

### **Identification of and comment on possible Railhead sites**

Large sites (all identified prior to this Study)

- Toton Sidings
- Former Castle Donnington Power station

Small sites (newly identified possible sites except for Beeston)

- Bingham
- Stoke Bardolph
- Colwick
- Meadows East
- Beeston

It is anticipated that large sites could vary greatly in layout and composition, but would essentially include multiple siding lines and a collection of warehousing or similar buildings, with access roads and lorry parking.

Small sites would be one or two sidings parallel to the main tracks, with a single building for goods transfer, and road access with lorry parking.

Operational economic viability has not been assessed. Commercial movement of goods is a highly logistical subject with individual circumstances for each operator. This exercise looks at the transport links and site characteristics.

### **Assessment**

A full assessment is outside the scope of this Study because of the many factors peculiar to the Freight Industry. Freight is an important multi modal consideration, but the outcome and recommendations of the Study will not depend on Railheads. They are considered in outline.

### **Toton Sidings**

The extensive existing sidings at Toton have been used for mode transfer of freight amongst other things since the railway was first built, but have fallen into a low level of use in recent decades like many of the similar large sidings in the UK.

The possibility of regeneration into a modern large Railhead has been retained in Development Plans. The main problem is road access. The Highways Agency is currently studying the feasibility of an access direct from the A52, but the prospect is doubtful because there is insufficient length of A52 to accommodate a full standard 2 level junction between the adjoining ones with the M1 and at Bramcote.

### **Castle Donington (former power station site)**

This site has been the subject of planning and feasibility studies and has been considered in preparation of the North West Leicestershire District Local Plan, but as a storage and distribution centre with a rail connection rather than a Railhead. The difference between the two in practice is likely to be one of emphasis i.e. how much would be devoted to mode transfer and how much to storage and distribution.

The space available on the former Castle Donington Power Station site would be sufficient for a railfreight terminal of similar size to the one at Daventry (DIRFT). It is accessible from the A50 trunk Road, but would need approximately 1.5km of new link road to the existing industrial estate roads connecting to the A50 Cavendish roundabout, including a bridge over the railway. Rail access would be to the Trent junction – Burton on Trent freight line a distance of 7km from the Midland Main line.

### **Bingham**

This site is remote from the A453 corridor but is relevant because it is close to the A46, A52, and A6096 junctions, a focal point for journeys east and north of Nottingham. It would be on the Nottingham - Grantham line, accessible from the Midland Main line or East Coast line.

It would be a siding on the north side of the twin track line, with crossovers from the west bound line. The land occupied is allocated in the Local Development Plan for. There has been no previous suggestion of a railhead.

Operationally the site would be restricted because of the short length of track available at ground level. The railway rises from the level crossing at Chapel Street at the eastern end, to approximately 4m at the western end where it bridges over the A46. Road access would be by internal development roads from the A6096 near to its junction with A46.

### **Stoke Bardolph**

The site would be on the north side of the Nottingham-Newark line between the railway and the proposed A612 link from Colwick Loop Road. Access would be from the junction of the link and the existing A612. It has been identified as a means of serving journeys east and north of Nottingham as well as east Nottingham, but on inspection it is found that it would not readily achieve these aims and would be in a fairly sensitive location near housing. It is therefore not recommended for further consideration.

### **Colwick Industrial Estate**

This would be on the west side of the Nottingham-Grantham line immediately north of the River Trent. The area is currently casually used open ground for storage of skips. As the railway is approximately 3m above general ground level some fairly substantial earthworks would be required to produce a workable interchange area, but this should not be an insurmountable problem. Even though there are nearby buildings the site appears to be within the Trent Flood plain. The Environment Agency may wish to place conditions on development with earthworks.

Access would be via a short connecting road to the existing internal roads of the Colwick south Industrial estate. It would have the advantage of direct road access to the a large multi use Industrial area as well as to a main eastern road artery for Nottingham. The rail connection from Nottingham would require goods trains to pass through Nottingham Station.

### **Meadows East**

Immediately east of Nottingham Midland Station, between London Road and Daleside Road there is an area of former sidings still partly used for storing rolling stock. The overall use of the railway land has reduced over the last 40 years, and the site has been partially redeveloped with industrial and commercial units.

The Railhead site would be on the north side of the Nottingham – Newark/Grantham line with access by the existing traffic signal controlled junction on Daleside Road/Manvers Street. This is a reasonably convenient location for the road network on the eastern/central side of Nottingham, but less so for destinations outside the conurbation, as lorry trips by road would be brought well into the City.

### **Beeston**

This is the re-opening of the former boots freightliner terminal, which is close in specification to currently envisaged small Railheads. The Boots Company abandoned the facility after unsuccessfully trying transport by rail for their goods. The reasons for its failure were not to do with the location or design of the terminal, although it would be modified and updated. They were due to the poor overall operational performance as referred to in the first part of this paper.

It is envisaged that the site would be for the exclusive use of the Boots Company unless they preferred otherwise.