Department for Transport

Traffic Advisory Leaflet ITS 10/03

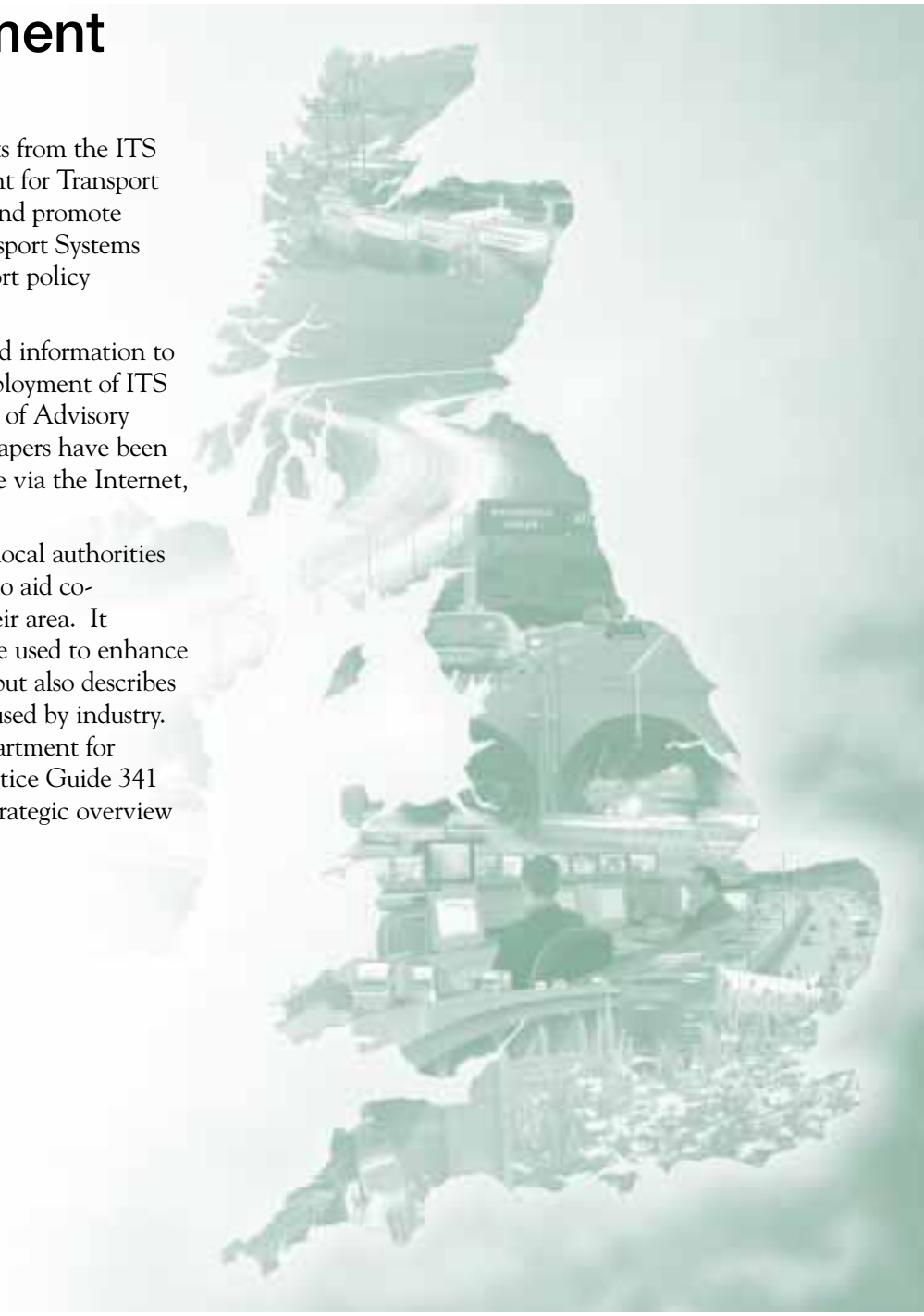
Freight Management

Introduction

This leaflet is one of a series of documents from the ITS Assist Project. ITS Assist is a Department for Transport (DfT) initiative that aims to encourage and promote across the UK the use of Intelligent Transport Systems (ITS) as tools to implement local transport policy objectives.

The project provides advice, guidance and information to local authorities on development and deployment of ITS solutions. As part of this process, a series of Advisory Leaflets and Notes as well as Technical Papers have been produced. These documents are available via the Internet, and on request from the DfT.

This leaflet provides an introduction for local authorities to the potential benefits from using ITS to aid co-ordinated freight management within their area. It outlines some of the ways that ITS can be used to enhance freight management by local authorities but also describes some of the direct benefits of ITS when used by industry. The leaflet aims to complement the Department for Transport's systems-orientated Good Practice Guide 341 (Telematics Guide), by offering a more strategic overview of freight management.



December 2003

Traffic Advisory Unit

Background

In 1999, the UK Government published the document, "Sustainable Distribution: A Strategy"[1]. This daughter document to the Government White Paper "A New Deal for Transport" sets out the UK Government's objectives for the sustainable distribution of goods. Further advice is found in "Guidance on Full Local Transport Plans"[2]. It confirms the important role for Local Authorities when dealing with freight to promote best practice and new technologies, and Local Authorities are required to monitor and evaluate the performance of their freight management schemes in accordance with this document.

Benefits

Potential benefits to local authorities of using ITS to manage freight operations in their areas can come from:

- Informing Freight Quality Partnerships – Information from ITS brings knowledge and knowledge gives the confidence to act
- HGV Routing Management – Offering proactive information on routeing to HGVs can help minimise environmental impact
- Town Centre Access Control – controlling access by time of day and/or type of vehicle can reduce pedestrian/vehicle conflicts, enhancing the environment of an area
- HGV Priority – where HGVs justify priority treatment, ITS can facilitate smoother and more efficient journeys
- Urban City Logistics – using information to share vehicle resources can offer substantial benefits to vehicle operators and to the towns and cities in which they deliver
- Computerised Vehicle Routing and Scheduling – efficient planning by vehicle operators can save 10 to 15% of transport costs[3]
- In Cab Communications – The ability to monitor vehicle location and driver performance in real time allows timely and efficient decision-making and aids vehicle and load security

Freight Management Techniques

Freight Quality Partnerships

Freight Quality Partnerships are promoted within 'Sustainable Distribution'[1]. They are partnerships between a range of interested stakeholders that may include local authorities, freight operators and community representatives and are designed to:

- Resolve conflicts of interest
- Ensure that freight is moved in an efficient and effective manne
- Minimise the impact of freight operations on the environment and communities

These partnerships provide the mechanism to increase understanding, develop actions, consult on recommendations and then monitor outcomes. Whilst many are at a formative stage, the benefits of sharing information are already apparent. ITS can be used to collect and analyse appropriate raw data turning it into useful information to assist at every stage of the partnership process. Using ITS, local authorities can therefore:

- Collect information to increase knowledge of freight operations
- Use the information as a practical tool when developing solutions
- Demonstrate, through monitoring, the success of its freight management strategy

Further information on Freight Quality Partnerships can be found in the DfT's guide to Freight Quality Partnerships[4].

HGV Routing Management

HGV use of inappropriate roads is a problem faced by many local authorities. The problems caused include congestion, use of weak bridges and environmental intrusion.

The drivers of HGVs generally also wish to use the highest standard of road available. Provision of mapping or route guidance can encourage HGV drivers to use the most suitable routes. Information provided can include not only preferred routes but also vehicle height and weight restrictions – even locations of HGV driver and parking facilities. This information can be communicated in many formats, from a simple printed map to an Internet based routing information service or exported directly in routing and scheduling software. In West Yorkshire, local authorities are using electronic mapping technology to develop HGV driver routing.

Town Centre Access Control

As part of effective town centre traffic management, it may be appropriate to control access to parts of town and city centres for selected types of vehicle at certain times of the day. This usually requires a traffic regulation order (TRO). It is important that access restrictions on freight vehicles are undertaken with consideration of their likely effects on the surrounding area and on the economic performance of the town centre.

Where a TRO is considered insufficient, access control can be provided automatically using rising barriers or bollards. Access can be managed using CCTV, Smartcards or wireless communications between a transponder mounted on the vehicle and roadside equipment. Where barriers are considered visually intrusive, automatic enforcement systems such as number plate recognition can be employed to ensure compliance.

HGV Priority

In some locations around the UK, including the London Boroughs of Haringey and Wandsworth, and Newcastle-upon-Tyne, authorities have found that goods vehicles can benefit from priority over some other road users. Where circumstances are appropriate, measures such as dedicated lanes can be introduced, sometimes as part of bus priority schemes.

Where this is the case, ITS can be employed to assist with automatic vehicle identification for use in traffic signal priority thus ensuring that vehicles receive requisite levels of priority. Digital enforcement systems can also be used to identify offenders.

Urban City Logistics Schemes

FFor many years authorities have wished to encourage delivery systems in urban areas that minimise the impact on the community whilst, in parallel, the operators of goods vehicles have sought to maximise their own efficiency and minimise the effect of regulation on their ability to make deliveries.

The city logistics concept[5] seeks to enhance urban distribution efficiency by developing consolidation points around cities and towns, where loads from different vehicles are combined for onward delivery to town centre locations. ITS can provide the mechanism to receive data about goods, destinations, delivery requirements and vehicles fleets which can be processed to provide optimum co-operative delivery schedules. Schemes in the German towns of Freiburg and Kassel have led to considerable savings in vehicle kilometres travelled by delivery vehicles. Bristol is developing such a system, as the leading partner for the UK in the EU's VIVALDI project.

Within the special operating conditions of a high security airport a consolidation centre for deliveries to retail shops has been implemented at London's Heathrow airport[6]. The EU's 'Good Practice in Freight Transport Guide'[7] provides more information about City Logistics.

PHOTO COURTESY OF VOLVO TRUCK AND BUS

Volvo Dynafleet fleet management unit.

Industry Self Help

There is clear benefit for both authorities and industry alike, if industry can reduce the mileage of goods vehicles and encourage safe and efficient driving techniques by collecting management information using ITS. ITS are providing new opportunities for industry to help itself. Real time knowledge of each vehicles location, performance and the delivery status of goods brings a degree of control previously unattainable. More details of the systems on the market can be found in the TransportEnergy Good Practice Guide 341, (Telematics Guide).

Future Developments

ITS provide more and more data, useable by local authorities, that can be processed and applied to problem solving and monitoring. Used effectively this information can provide an unprecedented degree of knowledge and understanding about freight movements.

Lorry Road User Charge (LRUC)

One potential development is the proposed introduction, in 2006, of a distance based road user charge for all lorries using the UK road network. Details of the new charge, including the technology to be used, still need to be worked out. With regards to the charging structure, it may be varied by road type – for example charging less on motorways to encourage motorway use. With regards to the technology, it may involve the use of a satellite-based positioning (not monitoring) system. Measures to ensure confidentiality; and to combat fraud and evasion will also need to be developed as part of the scheme.

Depending on the technology used, the information collected could also provide a method of monitoring and evaluation of both general and HGV specific traffic conditions. The effects on the road network of individual freight related actions could be assessed alongside other applications such as monitoring of HGV routing advice compliance.

Further Information

The TransportEnergy Good Practice Guide 341: Telematics Guide provides practical information to freight operators on all aspects of road transport telematics systems.

The TransportEnergy Best Practice programme provides authoritative, independent information and advice to help implement sustainable transport initiatives. This information is disseminated through free publications, videos and software, together with seminars, workshops and other events.

For further information visit the website at: www.transportenergy.org.uk/bestpractice

or contact the Helpline on 0845 602 1425.

Policy Advice on Freight Quality Partnerships is available from:

Department for Transport
Freight Logistics Division
Zone 2/24
Great Minster House
76 Marsham Street
London SW1P 4DR

The following documents provide further information on the topics discussed

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

TransportEnergy Good Practice Case Study 410 Freight Quality Partnerships - Case Studies, Department for Transport, 2003.

Contacts

Department for Transport
Traffic Management Division
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76 Marsham Street
London SW1P 4DR
Tel: 0207 944 2599
Fax: 0207 944 2211
Email: assist-info@dft.gsi.gov.uk
www.its-assist.org.uk

To find out more about the wide range of ITS-related initiatives and projects supported by the DfT, and the development of ITS policies to encourage and promote greater deployment of ITS, please contact the Department for Transport's Transport Technology and Telematics Division at: its@dft.gsi.gov.uk.

Lorry Road User Charge
Tel: 020 7944 2916
Email: lruc@dft.gsi.gov.uk
web page:
http://www.dft.gov.uk/itwp/lorryroad/lruc01.htm
E-mail: Freight@dft.gsi.gov.uk

References

1 "Sustainable Distribution: A strategy" http://www.dft.gov.uk/itwp/susdist/

2 "Guidance on Full Local Transport Plans" March 2000 http://www.local-transport.dft.gov.uk/fulltp/index.htm

3 TransportEnergy Good Practice Guide 273 Computerised Routing and Scheduling for Efficient Logistics, Department for Transport, 2000. http://www.transportenergy.org.uk/bestpractice

4 Transportenergy Good Practice Guide 341, Telematics Guide, Department for Transport, 2003.

5 TransportEnergy Good Practice Guide 335 A guide on how to set up and run Freight Quality Partnerships, Department for Transport, 2003. http://www.transportenergy.org.uk/bestpractice

6 "City Logistics concept" http://www.lean.at/documents/WP200_public_report.pdf

7 TransportEnergy Good Practice Case Study 402 Heathrow Airport Retail Consolidation Centre BAA PLC, Department for Transport, May 2002. http://www.transportenergy.org.uk/bestpractice

8 "Good Practice in Freight Transport Guide" http://europa.eu.int/comm/environment/trans/freight/booklet_en.pdf

DfT website www.dft.gov.uk

Details of Traffic Advisory Leaflets available on the DfT website can be accessed as follows:

From the DfT homepage, click on the Local Transport icon and then on Traffic Advisory Leaflets. Lastly, click on one of the themes to view material.

The Department for Transport sponsors a wide range of research into traffic management issues. The results published in Traffic Advisory Leaflets are applicable to England, Wales and Scotland. Attention is drawn to variations in statutory provisions or administrative practices between the countries.

The Traffic Advisory Unit (TAU) is a multi-disciplinary group working within the Department for Transport. The TAU seeks to promote the most effective traffic management and parking techniques for the benefit, safety and convenience of all road users.

Department for Transport

Requests for unpriced TAU publications to:
Charging and Local Transport Division,
Zone 3/23, Great Minster House
76 Marsham Street, London, SW1P 4DR.
Telephone 020 7944 2478
e-mail: tal@dft.gsi.gov.uk

Scottish Executive

Within Scotland enquiries should be made to:
Neil Weston, Scottish Executive, Development Department, Transport Division 3, Zone 2-F,
Victoria Quay, Edinburgh, EH6 6QQ,
Telephone 0131 244 0847
e-mail: neil.weston@scotland.gsi.gov.uk

Llywodrath Cynulliad Cymru
Welsh Assembly Government

Within Wales, enquiries should be made to:
Welsh Assembly Government,
Transport Directorate, 2nd Floor, Cathays Park,
Cardiff, CF10 3NQ
Telephone 029 2082 5111
e-mail: cone@wales.gsi.gov.uk


Cycling


Traffic Management


Walking


Bus Priority Systems


Parking


Signs and Signals


Intelligent Transport Systems

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