

Thames Gateway FQP
Best Practice Workstream

Compendium of sustainable freight
research and initiatives

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Contents

1	Introduction.....	4
2	Pan-European initiatives.....	5
	a) BESTLOG (www.bestlog.org).....	5
	b) BESTUFS (www.bestufs.net).....	5
	c) CIVITAS (www.civitas-initiative.org).....	6
	d) CORDIS (http://cordis.europa.eu/en/home.html).....	6
	e) EUROCITIES (www.eurocities.org).....	6
	f) MARCO POLO (http://ec.europa.eu/transport/marcopolo/index_en.htm).....	6
	g) PROMIT (www.promit-project.net).....	7
	h) Transport Research Knowledge Centre (www.transport-research.info/web/index.cfm).....	7
3	UK information sources.....	8
	a) DfT - Department for Transport (www.dft.gov.uk).....	8
	b) DCLG - Department for Communities & Local Government (www.communities.gov.uk).....	9
	c) DEFRA - Department for the Environment, Food and Rural Affairs (www.defra.gov.uk).....	9
	d) BERR - Department for Business, Enterprise and Regulatory Reform (www.berr.gov.uk)...	10
	e) Commission for Integrated Transport (www.cfit.gov.uk).....	10
	f) Sustainable Development Commission (www.sd-commission.org.uk).....	10
	g) British Waterways (www.britishwaterways.co.uk).....	10
	h) The Carbon Trust (www.carbontrust.co.uk).....	10
	i) Civil Aviation Authority (www.caa.co.uk).....	11
	j) Highways Agency (www.highways.gov.uk).....	11
	k) Skills for Logistics (www.skillsforlogistics.org).....	11
	l) Transport for London (www.tfl.gov.uk).....	11
	m) VOSA (www.vosa.gov.uk).....	12
	n) Association of Inland Navigation Authorities (www.aina.org.uk).....	12
	o) High Speed 1 (www.highspeed1.com).....	12
	p) Linewatch (www.linewatch.co.uk).....	12
	q) Network Rail (www.networkrail.co.uk).....	13
	r) Port of London Authority (www.portoflondon.co.uk).....	13
	s) Campaign for Better Transport (www.bettertransport.org.uk).....	13
	t) Chartered Institute of Logistics & Transport (www.ciltuk.org.uk).....	13
	u) Civic Trust (www.civictrust.org.uk).....	14
	v) Freight Transport Association (www.fta.co.uk).....	14
	w) Institution of Highways & Transportation (www.iht.org).....	14
	x) Institute of Grocery Distribution (www.igd.com).....	14
	y) London Rivers Association.....	14
	z) Rail Freight Group (www.rfg.org.uk).....	14
	aa) Road Haulage Association (www.rha.net).....	15
	bb) Sea & Water (www.seaandwater.org).....	15

1 Introduction

- 1.1 This report provides an overview of selected partnerships and initiatives related to promoting sustainable freight distribution, focussed on Great Britain but extended to cover mainland Europe.
- 1.2 A considerable volume of research and demonstration projects have been undertaken in Europe related to the promotion of more sustainable means of distribution. To date, we have identified over 2,000 separate projects carried out over the last decade in the UK and mainland Europe, the majority of these sponsored by European and/or national administrations.
- 1.3 An initial high-level review of the list of research projects indicates that most of these are led by academic institutions and based on theoretical research or prototypical projects, which may create future opportunities dependant on significant changes in the total and/or relative costs of the various modes of freight distribution.
- 1.4 To this could be added a much larger list of projects undertaken by the private-sector, through the ongoing review and evolution of their own distribution networks.
- 1.5 Reflecting that in most cases both business and society seek the common goal of using the least possible resources to satisfy consumer demand, the various strands of research can be grouped into a number of 'themes', including (but not limited to):
 - Maximising load capacity, to minimise vehicle movements;
 - Intelligent routing and scheduling, to minimise vehicle time / distance;
 - Improved delivery access to urban areas, to minimise vehicle time / distance;
 - Improved driver training, to minimise fuel use and emissions;
 - Alternative vehicle / fuel technology, to minimise fuel use, noise and emissions;
 - Alternative modes, to minimise road mileage and exploit spare capacity;
 - Alternative warehouse designs, to minimise energy use and emissions;
 - Just-in-time and 'lean' logistics, to minimise stock and warehouse space.
- 1.6 In some cases, trying to simultaneously achieve the above may cause conflicts between business and society, for example use of larger vehicles to minimise vehicle movements may then create noise and visual impacts in residential areas.

2 Pan-European initiatives

2.1 A number of initiatives exist to promote sustainable distribution across Europe, in most cases with funding support from the European Commission. The main research groups and 'gateway' websites identified so far include:

a) **BESTLOG** (www.bestlog.org)

A group of 9 partners mainly comprising universities from 9 European countries, supported by the EC through to 2010 to promote sustainable distribution through conferences, a best practice website and three main workstreams:

- Scoping the issues facing logistics;
- Means to disseminate best practice;
- Options for benchmarking of best practice.

b) **BESTUFS** (www.bestufs.net)

Similarly structured to BESTLOG but focussed on projects in urban areas. Originally planned to run from 2000 to 2004 with EC support, the initiative is now being developed further. The first phase of the programme has sought to create a network of partners and workshops, with the second phase then looking to create a series of best practice guides. Topic areas for the workshops have included:

- Accommodating the needs of passenger and freight transport;
- Approaches to urban consolidation: concepts and experiences;
- Freight logistics in small and medium sized cities: approaches, solutions and success factors;
- 'Last mile' solutions;
- Managing urban freight transport by companies and local authorities;
- Port cities and innovative urban freight solutions;
- Urban waste logistics.

More than 200 freight-related project references can be found using the site's search facility (www.bestufs.net/cgi-bin/projectdb/project_db.pl).

c) **CIVITAS** (www.civitas-initiative.org)

Clty-VITAlity-Sustainability has a wider objective to help cities achieve more sustainable, clean and energy-efficient urban transport systems through technology and policies. CIVITAS I started in 2002 (within the 5th Framework Research Programme); CIVITAS II started in early 2005 (within the 6th Framework Research Programme). Within CIVITAS I (2002-2006) there are 19 cities clustered in 4 demonstration projects, whilst within CIVITAS II (2005-2009) 17 cities in 4 demonstration projects are taking part. Of the overall budget of €300m, the EC is providing €100m. The most relevant project to receive funding through the initiative is the Bristol urban consolidation centre pilot.

d) **CORDIS** (<http://cordis.europa.eu/en/home.html>)

An EC-funded portal for Community Research & Development Information Service, and provides access to a wide range of research & development projects supported by the EC. More than 200 freight-related project references can be found using the site's search facility

(<http://cordis.europa.eu/search/index.cfm?fuseaction=search.simple>).

e) **EUROCITIES** (www.eurocities.org)

This group brings together local governments from over 130 cities in over 30 European countries to exchange experiences, share knowledge, analyse common problems and develop solutions for a range of issues including freight. The group organises various events and activities, and also publishes a range of documents including good practice guides.

f) **MARCO POLO** (http://ec.europa.eu/transport/marcopolo/index_en.htm)

The programme aims to achieve modal shift for international freight traffic from road to short sea shipping, rail and inland waterways or to a combination of modes of transport. Introduced in 2003, the current programme runs from 2007 to 2013 with a global budget of €400m, with annual calls for project proposals. Five distinct types of action are supported, namely:

- **Modal shift actions**, which focus on shifting as much freight as economically viable, through new or enhanced services;
- **Catalyst actions** seek to achieve a real breakthrough against structural market barriers, through highly innovative concepts;

- **Motorways of the sea actions** achieve a door-to-door service through innovative combinations of short sea shipping and other modes;
- **Traffic avoidance actions** integrate transport into production logistics to reduce freight transport demand by road
- **Common learning actions** enhance knowledge in the freight logistics sector and foster advanced methods and procedures of co-operation in the freight market.

The new 'EXCITE' project (European X-Channel Intermodal Transport Enhancement), which seeks to transfer freight from road to rail using the new High Speed 1 (HS1) rail route from the Channel Tunnel to Barking, has attracted €1.5m of Marco Polo funding as a Catalyst action. Funding will be used to modify a small fleet of electric locomotives to allow these to operate on HS1, which together with the larger loading gauge (height and width) of HS1 compared to normal British railways, will enable higher-capacity rail freight services to operate from mainland Europe to London.

g) **PROMIT** (www.promit-project.net)

Acts as a European co-ordinator for intermodal freight transport, initiating, facilitating and supporting national and European initiatives, projects, promotion centres, technology providers, research institutes and user groups. PROMIT's objective is to contribute to a faster improvement and implementation of intermodal transport technologies and procedures and to help promoting intermodal logistics and mode shift, by creating awareness on innovations, best practices and intermodal transport opportunities for potential users as well as for politicians and for the research community. The 3-year programme seeks to provide 3 conferences and at least 15 workshops, in addition to dissemination of information via brochures, newsletter and its website.

h) **Transport Research Knowledge Centre** (www.transport-research.info/web/index.cfm)

This is the European Commission's gateway site to transport, which provides a search engine facility to locate specific projects against various categories.

3 UK information sources

3.1 Various Government, research, industry and campaign groups provide sources of information and guidance into sustainable distribution. Examples include:

Government Departments

a) **DfT - Department for Transport** (www.dft.gov.uk)

The DfT's research programme aims to support the implementation of the Strategy for Sustainable Distribution¹. The programme currently has three sub-programmes:

- ***Home Delivery Operations***: The aim of this sub-programme is to commission new research in this field, dealing with issues such as operational efficiency and overall transport and environmental impacts of increasing home shopping;
- ***Sustainable Distribution Research***: identifies ways to increase the resilience of supply networks and also explores future logistics scenarios to inform policy development;
- ***TransportEnergy Best Practice programme***: seeks to improve the efficiency with which energy is used in the UK by stimulating the uptake of best practice. Outputs include Good Practice Guides for freight operators on topics such as fuel management and telematics and Good Practice Case Studies describing how particular operators have implemented best practice, and the resulting savings. A summary of current work performed by TEBP is included in the programme's six monthly newsletter (www.freightbestpractice.org.uk/).

Individual projects within each sub-programme, their results, publications and evaluations are described in more detail in the research database (www.dft.gov.uk/rmd/search.asp) which holds details of over 1,000 projects.

The DfT also administers the Sustainable Distribution Fund in England, a programme of grants to encourage more use of rail and water transport for freight. More information can be found at www.dft.gov.uk/pgr/freight.

¹ <http://www.dft.gov.uk/pgr/freight/sustainable/sustainabledistributionstrategy>

b) **DCLG - Department for Communities & Local Government**
(www.communities.gov.uk)

DCLG provides planning guidance relevant to freight, in particular PPG 13², as well as advice on sustainable urban design. The recent Planning White Paper and subsequent Bill³ seek to provide clearer guidance moving forward for major infrastructure projects, including ports and freight interchanges.

c) **DEFRA - Department for the Environment, Food and Rural Affairs**
(www.defra.gov.uk)

DEFRA has become increasingly interested in the supply chain for food and has conducted or supported research to reduce the environmental impact of the food chain. The DEFRA Champions' Group on Food Transportation has sought to achieve efficiencies of around 20% in the environmental impact of the grocery supply chain. The group has identified actions that would be reasonably easy to implement, with an indication of their relative contribution:

- Higher-capacity lorries (eg double-deck trailers) 5.3%
- More use of alternative modes of transport 4.5%
- Improved Euro IV & V engines for lorries 3.5%
- Collaboration between retailers and/or logistics companies, to make more shared-user deliveries 3.2%
- Greater use of telematics to improve the scheduling, routing and tracking of vehicles and deliveries 3.0%
- Redesigning logistics systems to optimise efficiency, eg improved warehouse design and operation 2.3%
- More out-of-hours deliveries to avoid peak-hour road congestion 2.0%

DEFRA's current and previous research activities can be found on their website <http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=FieldOfStudy&Completed=0>. Some 200 projects are listed within the 'Resource Efficient and Resilient Food Chain' theme.

² <http://www.communities.gov.uk/publications/planningandbuilding/planningpolicyguidance6>

³ <http://www.communities.gov.uk/planningandbuilding/planning/>

- d) **BERR - Department for Business, Enterprise and Regulatory Reform** (www.berr.gov.uk)

BERR's main activities of interest to distribution include promoting sustainable business practice, in particular on promoting more energy-efficient operations through use of cleaner and alternative fuels. A list of the reports produced by BERR and latterly the DTi can be found at www.berr-ec.com/CGIBIN/PRIAMLNK.CGI?CNO=1&MP=GINT00&WHAT=Category.

Other Government Agencies and related organisations

- e) **Commission for Integrated Transport** (www.cfit.gov.uk)

The Commission for Integrated Transport (CfIT) is an independent body advising the Government on integrated transport policy. CfIT has commissioned a range of reports on issues relevant to distribution, and a list can be found at www.cfit.gov.uk/docs/index.htm.

- f) **Sustainable Development Commission** (www.sd-commission.org.uk)

The Sustainable Development Commission is the Government's independent advisory body on sustainable development. The SDC takes a broader perspective on sustainability which encompasses distribution, but the Commission has produced reports on areas such as airfreight and high speed rail. A list of reports can be found at: www.sd-commission.org.uk/pub_choice.php?type=cats.

- g) **British Waterways** (www.britishwaterways.co.uk)

British Waterways is the organisation responsible for maintaining 2,200 miles (3,540km) of inland waterways. Whilst much of the network tends to be used for leisure purposes, BW is seeking to promote use of inland waterways for freight traffic. More information about freight on inland waterways can be found through the Association of Inland Navigation Authorities (see below) of which BW is a member.

- h) **The Carbon Trust** (www.carbontrust.co.uk)

A private company set up by Government in response to the threat of climate change, seeking to accelerate the move to a low-carbon economy by working with business and the public sector. The website provides advice on a range of measures to reduce carbon emissions and energy use.

i) **Civil Aviation Authority** (www.caa.co.uk)

The CAA is the UK's independent specialist aviation regulator. Its activities include economic regulation, airspace policy, safety regulation and consumer protection. Whilst most of the CAA's research and reports relate to aviation safety and regulation, some reports related to aviation policy, airport facilities, operations and developments may be of interest for distribution. The CAA's online search facility can be accessed at

www.caa.co.uk/application.aspx?catid=33&pagetype=65&appid=11

j) **Highways Agency** (www.highways.gov.uk)

The Highways Agency is responsible for England's strategic road network, and has an online knowledge centre which includes details of over 230 research projects, accessible via www.ha-research.gov.uk/programme/.

The HA also has a dedicated 'micro site' for HGVs at

http://www.highways.gov.uk/microsites/hgv_branded/english/index.html.

k) **Skills for Logistics** (www.skillsforlogistics.org)

Skills for Logistics is the Sector Skills Council which works alongside companies involved in moving, handling or storing goods. The organisation's job is to raise awareness of skills issues within the sector and to offer support and practical advice on all aspects of improving skills and training.

The organisation has undertaken research into the labour market and skills within the logistics sector, a list of reports are available at

<http://www.skillsforlogistics.org/en/index/reports/>.

l) **Transport for London** (www.tfl.gov.uk)

The two main portals to freight issues within TfL can be found within the Freight Unit, charged with developing and implementing the London Freight Plan, and within London Rail which is implementing the London Rail Freight Strategy.

- TfL Freight Unit: www.tfl.gov.uk/businessandpartners/freight/1280.aspx
- TfL London Rail: www.tfl.gov.uk/businessandpartners/freight/1324.aspx

m) **VOSA** (www.vosa.gov.uk)

The Vehicle and Operator Services Agency (VOSA) provides a range of licensing, testing and enforcement services with the aim of improving the roadworthiness standards of vehicles ensuring the compliance of operators and drivers, and supporting the independent Traffic Commissioners. A range of publications are produced, including statistics on vehicle failure rates, at <http://www.vosa.gov.uk/vosacorp/publications/publications.htm>.

Other infrastructure providers

n) **Association of Inland Navigation Authorities** (www.aina.org.uk)

The Association is the industry body in the UK for owners and operators of navigable inland waterways, which seeks to develop, share and promote good practice for the operation, management and development of inland waterways for navigation and associated purposes. AINA has recently published a paper on freight entitled 'Decreasing Our Carbon Footprint – Moving More Freight onto the Inland Waterways of England and Wales'⁴ and has published a number of other reports on promoting greater use for freight. A list can be found at http://www.aina.org.uk/aina_outputs/.

o) **High Speed 1** (www.highspeed1.com)

Formerly known as the Channel Tunnel Rail Link, the UK's first purpose-built high-speed railway line has been designed to accept both passenger and freight traffic, and HS1 is currently developing proposals for freight access to the new line, to be published in Spring 2008.

p) **Linewatch** (www.linewatch.co.uk)

The purpose of Linewatch is to promote greater awareness of buried oil/gas pipelines and the safety precautions that are required when working near to them, therefore protecting personnel and the environment. Whilst not strictly a promotional group, the website provides details of the UK pipeline network.

⁴ <http://www.aina.org.uk/news/iwacfreight.htm>

q) **Network Rail** (www.networkrail.co.uk)

The company owns and operates the national rail network, and provides a number of sources of information, including:

- **Freight Route Utilisation Strategy (RUS)**: sets out the onward strategy for developing the rail network for freight, including industry forecasts for rail traffic growth
www.networkrail.co.uk/browseDirectory.aspx?dir=\RUS%20Documents\Route%20Utilisation%20Strategies\Freight&pageid=4449&root=\RUS%20Documents\Route%20Utilisation%20Strategies
- **Guide to Rail Freight**: general information for getting freight on rail
www.networkrail.co.uk/documents/3057_GuideToRailFreight.pdf
- **Guide to Freight Connections**: information on how to get a facility connected to the rail network
www.networkrail.co.uk/documents/3056_GuideToFreightConnections.pdf

r) **Port of London Authority** (www.portoflondon.co.uk)

The PLA is a self-financing public trust, responsible for navigational safety along the Tidal Thames, promoting use of the River and safeguarding the environment. A range of information is provided on freight traffic and wharves on the website at

www.portoflondon.co.uk/display_dynamic.cfm/id/547/site/port%20of%20london

Other industry associations and campaign groups

s) **Campaign for Better Transport** (www.bettertransport.org.uk)

Campaigns include reducing food miles and promoting rail freight.

t) **Chartered Institute of Logistics & Transport** (www.ciltuk.org.uk)

The organisation's Knowledge Centre provides a range of online and other data sources for members.

u) **Civic Trust** (www.civictrust.org.uk)

An independent, national organisation with charitable status, the Trust is the umbrella body for over 800 civic societies, dedicated to bringing vitality, sustainability and high quality design to the built environment.

v) **Freight Transport Association** (www.fta.co.uk)

Represents the transport interests of companies moving goods by road, rail, sea and air. FTA members consign over 90% of rail freight and over 70% of sea and air freight. Provides a range of member-only information services. FTA publications include 'Designing for Deliveries' to assist in design of facilities for goods vehicle deliveries, available for purchase by non-members from the website.

w) **Institution of Highways & Transportation** (www.iht.org)

Concerned with the planning, design, construction, maintenance and operation of land-based transport systems and infrastructure. IHT publications include 'Moving Freight - How to Balance Economy & Environment', available for purchase by non-members from the website.

x) **Institute of Grocery Distribution** (www.igd.com)

IGD brings together intelligence, opinion and experience from the food and grocery chain, working with consumers, companies and individuals throughout the food and grocery chain to provide information, research and best practice. IGD produces free factsheets and reports can be purchased by non-members.

y) **London Rivers Association**

Seeks to promote the development of a strategic plan for the river Thames and to provide a focus for public amenity. londonriversassociation@btinternet.com

z) **Rail Freight Group** (www.rfg.org.uk)

Represents over 150 companies, including rail freight customers, logistics providers, suppliers, terminal operators, ports and all freight train operating companies. The website provides a range of free publications to non-members.

aa) **Road Haulage Association** (www.rha.net)

Represents over 10,000 transport companies that operate within the hire-and-reward sector of the UK based logistics sector. Provides dedicated advice, information and business services to members.

bb) **Sea & Water** (www.seaandwater.org)

Promotes water as a commercially and environmentally-sustainable mode of transport for freight in the United Kingdom, to move more freight off the roads and onto the water. The website provides a series of free briefing papers available to non-members.