



Rail Freight: A More Sustainable Transport Option

The COP21 agreement and the preparation of a National Mitigation Plan for Ireland have focussed attention on reducing emissions. The welcome return to economic growth has seen an associated increase in transport emissions and a return to congestion on key parts of the road network, both of which need policy consideration. While emissions are an economy wide issue, within the transport sector one option for reducing CO₂ emissions and relieving our congested road network is to support more freight traffic by rail.

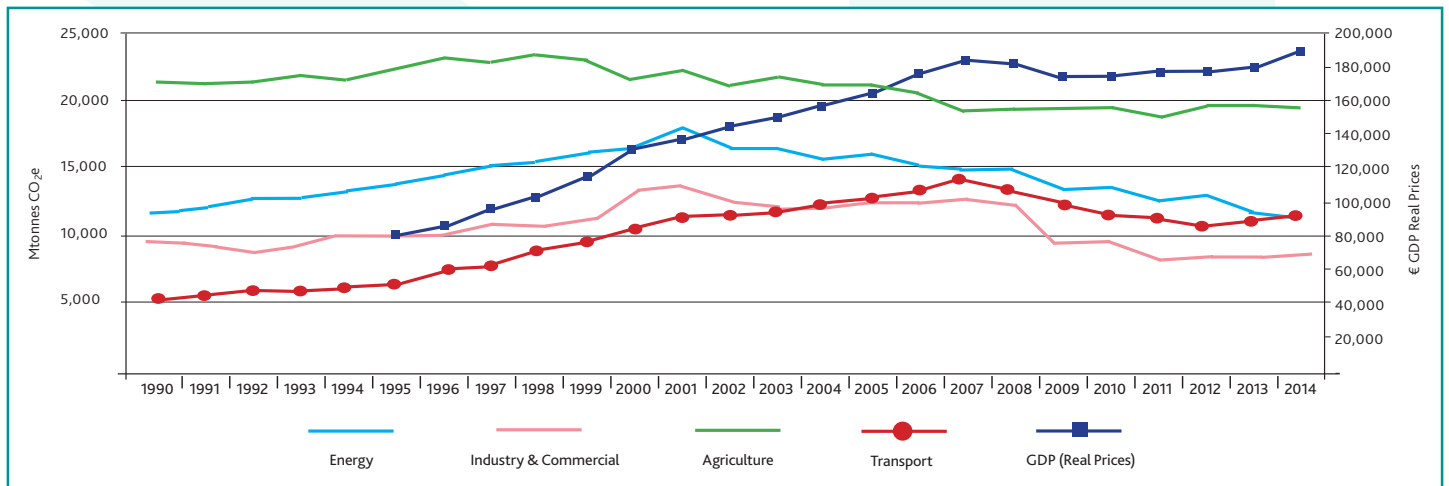
A report published in 2015 by the Western Development Commission (WDC), *Rail freight and the Western Region* notes that rail currently moves less than 1% of surface freight across Ireland. Most of this rail freight originates in the Western Region¹ with three of the four rail freight routes originating there.

Trends in Emissions by Sector

While agriculture is the single largest contributor of emissions in Ireland (33.3%), followed by transport (19.5%) and energy (19.1%)², in the last fifteen years (1990-2014), transport has shown the greatest overall increase in emissions – by 120.9% over the period, (see chart below).

The increase up to 2007 is attributed to general economic prosperity, an increasing population heavily reliant on private car travel as well as rapidly increasing road freight transport³. During the recession there were five consecutive years of decline in transport emissions primarily attributable to the economic downturn, improving vehicle standards and increased use of biofuels. Emissions from transport have increased – by 2.5% from 2013 to 2014 – associated with the return to economic growth. Shifting the balance between freight transport modes is one option to arresting the growth in transport emissions.

Emissions by sector: Mtonnes of CO₂e 1990-2014 and GDP at constant prices 1995-2014



Source: CSO, 2015, National Income and Expenditure Results GDP at constant prices (1995-2014), EPA 2015, see footnote 2.

1. WDC counties: Donegal, Sligo, Leitrim, Mayo, Roscommon, Galway and Clare.
 2. EPA 2015, Ireland's Provisional Greenhouse Gas Emissions in 2014. Industry and Commercial sector (15.5%), Residential sector (9.8%), Waste (2.7%).
http://www.epa.ie/pubs/reports/air/airemissions/GHG_1990-2014_Provisional_11122015.pdf
 3. EPA, 2015, see footnote 2



Benefits of Rail Freight

Rail freight, where available, offers several advantages over road transport. It generates less than a quarter of the emissions of road haulage, removes heavy goods traffic from the roads (each trainload can remove at least 18 truckloads from the road network) and it can provide an alternative and efficient route to market for business, avoiding congested routes and availing of the existing rail network. The availability of rail freight also provides a region with a locational advantage for those companies who need a transport mode that is reliable, cost effective and with lower emissions. Rail is particularly suited to high volume freight, carried over relatively long distances and for import/export via the ports.

The WDC report identifies traffic which could be transported by rail and notes that Irish Rail plans to increase the rail freight modal share from 1% to 4% within four years. This projected 4% modal share by 2020 would reduce combined emissions from road and rail freight in Ireland by 3% or a reduction of nearly 35,000 tonnes CO₂e⁴. The Environmental Protection Agency (EPA) forecast that transport emissions will increase by 12-22% on current levels up to 2020⁵. Therefore even a relatively modest increase in the modal share of rail freight would make a meaningful contribution to reducing growth in emissions and probably more than any equivalent initiatives that road haulage could achieve in the same timescale (e.g. improved load factors, fuel efficiency and fuel mix).

Policies to Support Rail Freight

For rail freight use to increase and become a viable alternative for more businesses, a clear policy focus is essential. This should include:

- A policy framework for freight transport which identifies opportunities as well as barriers to increasing rail freight.
- Rail access into ports needs to be safeguarded and enhanced. Dublin and Waterford Ports have played an important role in the recent growth of rail freight. Investment in other ports such as Shannon Foynes and Galway, will be needed to reduce potential congestion in Dublin.
- Government should investigate the options for supporting new rail freight services based on the wider environmental benefits of rail freight. There are successful examples of these from the UK and elsewhere across the EU⁶.
- Other options include maximising the use of the existing rail network by using longer trains, operating at night and increasing the volume carried.

Conclusions

In Ireland the Government needs to de-carbonise the economy. The transport sector represents a major contributor to energy emissions which is forecast to increase further in line with economic growth. Greater use of rail freight would help reduce congestion on the road network.

The Department of Transport is considering how rail freight can play a greater role. *Building on Recovery: Infrastructure and Capital Investment 2016-2021*⁷ contains a commitment to a feasibility study examining the options for expanding rail freight. This will provide a clear opportunity to focus on the potential nationally and identify the supports needed for expansion.

While rail freight will continue to play a relatively small role compared to road, increasing rail freight volumes will capitalise on our existing rail network and will deliver wider societal benefits in terms of lower emissions and reduced traffic on the road network.

The detailed report *Rail freight and the Western Region* can be downloaded from <http://www.wdc.ie/publications/reports-and-papers/>

4. CO₂e, or carbon dioxide equivalent, is a standard unit for measuring carbon footprints. CO₂e rates for road and rail source UK Government 2015, DEFRA website <http://www.ukconversionfactorscarbonsmart.co.uk/>

5. Climate Change Mitigation: Preparation of Low-Carbon Roadmap for Transport, Issues Paper for Consultation, DTTAS December 2013.

6. The EU Marco Polo programme provided grants to offset the costs of starting up new rail freight traffic routes. This was based on its societal advantage over road, (estimated at €0.004 per tonne km). The Marco Polo programme closed in 2013 and a successor is being considered. In the UK most of the rail freight services have received revenue support grants.

7. Department of Public Expenditure and Reform, *Building on Recovery: Infrastructure and Capital Investment 2016-2021*, 2015