

Rail Freight Resurgent

The optimum Zero Carbon
trunking mode

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Record Traffic Levels

Q1 & Q2 highest non-Coal freight on record

Data from 1982, so 40 year record – probably 60

Coal loss – energy policy not uncompetitiveness

Largest sector not bulk but **Consumer Goods**

Intermodal is 40% of all UK rail freight – Deep Sea

Big potential in Domestic Trunking & Short Sea/Ch Tnl

Construction 30% and growing fast – esp in Peak

Other bulk 30% – steel, biomass, waste, petroleum

Good TL potential in automotive and timber/board

Drivers of Rail Growth

Decarbonisation of Supply Chains

No longer empty words – real commitment

Press releases – ‘we use rail to reduce carbon’

Turbo charged by HGV driver crisis

Brexit loss of East European drivers – final straw

Building for many years – fewer ex Army drivers

Refusal of youngsters to do long haul tramping

Living, eating and sleeping in a cab for days

Requires new model of road haulage

New Model of Logistics

37t battery HGV - range of c.100 miles now in service
Ideal for local & regional distribution (61-74% of HGV tons)
Rapidly improving batteries and charging (85% in sight)
No credible road alternative to diesel HGV for trunking
ERS technically feasible, operationally a non-starter
Hydrogen – 3x the amount of energy to electric power

Trunk by Electric Rail + Distribute by Battery/(H) Truck

TDP recognises that modal shift to rail has a major role
Electric rail is the only proven, credible trunking option
2/3rds of 2000 mile core freight network already wired
750-800 route miles of wiring - 95+% freight coverage

The Scope for Modal Shift

General perception is that scope is (very) limited

Data source - DfT Road Freight statistics (CSRGT)

Data by commodity, by distance band, by (sub) region

Define rail addressable market based on current position

- what rail currently does now, day in day out:

1. Non-bulk freight (consumer goods etc) over 200km
2. Heavy bulk freight (steel, aggregates) over 100km

53% of all HGV tkms are generated in these bands

Trips broadly suited to rail – far higher than expected

Aggregating HGV loads is key

Not all HGV trips will readily switch to rail
Some origins and destinations lack critical mass
Agricultural products in remote rural areas challenging
Most HGV flows concentrated on the main corridors
Main rail routes parallel the motorway/trunk roads
Very few commodities not suitable – livestock, plant
Chilled, fresh and frozen move on a daily basis now
Tesco apart, very few have TL volumes - aggregation
28 Anglo-Scottish trains/day – Russell/Malcolm/PD Ports

1/3 (38%) of HGV tkms (15% tonnes) suited to rail

Key flow categories

Almost all very long hauls	> 300km
Deep & Short Sea boxes and Autos	200-300km
Some (not all) Domestic Trunking	200-300km
Heavy bulks (construction & metals)	100-300km
Other bulks (chemicals etc)	200-300km

Suggests realistic modal switch – 200m tonnes pa

100m Construction, Other Bulk 25m

Deep/Short Sea 35m, Domestic trunking 40m

Implications for rail network

'Rail couldn't cope with modal transfer', but...

2000t bulk trains, 775m intermodal trains = 50-80 HGVs

Converting tonnes to trains using current best practice

Bulk 2000t one way, return empty

Domestic Trunking 1000t each way

Deep/short Sea 1000t round trip (750 import/250 export)

18 hours per day – exclude 2 x 3 hour am/pm peaks

= 26 trains per hour across the network in each direction

Most Main Lines 1-2 extra freights/hour in each direction

Challenges and Solutions

WCML(S) +3-4 tph	HS2 frees up sufficient capacity
WCML(N) +3 tph	Flighting of trains plus new long loops
F2M&N +3-4 tph	Felixstowe & Soham-Ely doubling +Ely
Cross London +3 tph	London Freight strategy package

Grade separation of a few junctions, e.g. Didcot East
Use of currently unused freight paths – substantial reserve
Value of a Path (RDG/Deloitte £1.5m per freight path p.a.)
Fewer Inter City/long distance commuter trains post Covid
Need to get electrification costs down to BR/ECML levels
Freight and regional passenger 75mph – lower spec OLE

Terminals

Continued growth of SRFIs in Golden Triangle for **NDCs**
SRFIs in key **RDC clusters** – Wigan/Avonmouth/etc
Modal transfer points on edge of **urban areas**
Transfer smaller ‘city’ swap bodies - High St/Home Delivery
New urban bulk terminals – aggregates in/waste out
Connection of **major manufacturing plants** – food/cars
Store deliveries in **remote regions** – West Devon/Cornwall
Cost-effective siding connection by NR/GBR - FFG
Planning system is a key component in rail freight growth

Terminals are key to rail growth – intermodal/bulk

Conclusions

Battery HGVs regional distribution (61-74% of HGV tonnes)
Over 1/3rd HGV tonne kms (15% tonnes) well suited to rail
Together 90% of HGV trips with existing technology- no ERS
Modal switch of trunking to rail – additional 200m tonnes
+2 paths/hour most main lines, +3/4 on WCML and F2M&N
Latent spare capacity, fewer passenger trains post Covid
Grade separation of key junctions plus ETCS
HS2 capacity release WCML(S) – freight guarantee
F2M&N/WCML(N) capacity enhancement
750-800 route miles of (lower cost) freight electrification
All achievable if we start now – capacity and wiring