Southampton-Midlands Rail Corridor Loading Gauge Enhancement

Access to transport networks, infrastructure and nodes; Competitive aspects: collaboration (cooperation with competitors), prioritisation (priorities on infrastructure and in nodes); Communication between businesses and authorities: coordination, consultation; Transport management, fleet management; Interoperability and standardisation: vehicles, equipment, loading units, infrastructure; Data collection and statistics; Monitoring and benchmarking of processes

The objective of the initiative was to provide W10 gauge on the key rail corridor between the Port of Southampton (Britain’s second largest container port) and the main inland centres of demand. This gauge allows the carriage of high cube containers on standard height wagons, offering economic, environmental and social benefits as a result of:

(a) improving the efficiency of the rail freight operations and 
(b) encouraging a modal shift from road to rail.

What was the main problem, idea or motivation that led to the development and introduction of the new practice?
The growing absolute numbers (and share of the total container throughput) of high cube containers was posing an increasing challenge for rail freight, and rail was struggling to maintain its competitive position against road haulage.

What was the common practice before the implementation?
High cube containers had to be carried on specialised wagons with lower platform heights, which were more expensive and less efficient.

What was the purpose and the sustainability objective of the case?
This case involves the implementation of a solution that addresses both business and policy objectives (e.g. cost reduction, transport efficiency, environmental benefits).

There was a measurable increase in rail’s mode share of containers through Southampton from 30% to 36% within four months of the implementation of the project.

There is the potential to transfer this best practice to solve similar rail network problems.
The declining rail share of container throughput at the Port of Southampton has been reversed, and increased from 30% to 36% within 4 months. High cube containers are an increasing proportion of the container market, accounting for >40% of container traffic in 2011 and expected to rise to 50%-70% by 2019. Without this initiative, rail’s share would probably have continued to decline. The project had a Benefit Cost Ratio (BCR) of 4.21, demonstrating a Net Present Value of £374 million. The initiative is expected to take up to 50,000 containers per year off the road network, leading to a large reduction in CO2 emissions. DB Schenker reported that it was carrying 25% more containers by rail at Southampton six months after the completion of the gauge enhancement.

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Website: http://www.networkrailmediacentre.co.uk/News-Releases/COMPLETED-RAIL-FREIGHT-UPGRADE-BOOST-FOR-BRITAIN-1708.aspx#downloads

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More information:

Example of bespoke wagon required to carry high cube containers before the loading gauge enhancement.

Example of standard wagon carrying high cube container after the loading gauge enhancement.

Picture:

The proportion of container train services at Southampton that operate on W10 gauge routes has increased from 0% in 2007 to 70% in 2012. This has allowed specialist wagons to be redeployed to other routes with more restricted loading gauges, so there are broader benefits of this corridor initiative. Based on “before” (2007) and “after” (2012) surveys, average capacity per train has increased by 19% (from 57.93 TEU to 69.08 TEU), average train load factor has increased by 9% (from 66.73% to 72.74%), and average train load has increased by 28% (from 38.64 TEU to 49.34 TEU).

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