

Dry Ports

Number 33, 2012

1 Comparing maritime containers and semi-trailers in the context of hinterland transport by rail

Woxenius J & Bergqvist R
Journal of Transport Geography 2011
Volume 19, Number 4, pages 680-688

The primary purpose of the article is to investigate why rail transport is not used to move semi-trailers from sea ports into the hinterland as a standard practice in contrast to the current practice of road transport. The Port of Gothenburg and its network of dry ports throughout the Scandinavian region are used as a case study. Calculations from the case study demonstrate that rail transport would be more cost-effective, environmentally friendly and take less transit time than road transport to move semi-trailers between sea ports and dry ports.

2 A consideration for developing a dry port system in Indochina area

Do N-H, Nam K-C & Le Q-L N
Maritime Policy & Management 2011
Volume 38, Number 1, pages 1-9

A survey of the Indochinese dry port, sea port and inland distribution hubs is undertaken, with the current transport infrastructure of roads and rail. A network of dry ports is proposed. The proposed dry port system would allow current regional sea ports to become international hub and transit ports. Continuing investment in transport, sea port and dry port infrastructure and container handling equipment is required.

3 The dry port concept: connecting container seaports with the hinterland

Roso V, Woxenius J & Lumsden K
Journal of Transport Geography 2009
Volume 17, Number 5, pages 338-345

The dry port concept is to shift the freight volumes from the seaport to an inland intermodal terminal connected by rail to the seaport. This concept is extended to define dry ports to three categories: close, midrange and distant. Traffic congestion can be removed from the seaport and the city. In all categories of seaports, rail connections to the seaport would remove the traffic congestion at the seaport and city.

4 The extended gate concept for container terminals: expanding the notion of dry ports

Veenstra A, Zuidwijk R & Van Asperen, E
Maritime Economics and Logistics 2012
Volume 14, Number 1, pages 14-32

The extended gate concept is presented as a further development of dry ports. Focusing on the sea ports and supply chains in the Netherlands, the authors elaborate how the extended gate concept is integrated with multimodal transportation networks and movement of containers beyond hinterland terminals in supply chains. Using the extended gate concept, sea ports in the Netherlands will revert to nodes for cargo handling and transshipment while hinterland terminals will face the operational challenges in multimodal networks that have been experienced by sea ports.

5 Financial and environmental impacts of a dry port to support two Finnish seaports

Henttu V, Lattila L & Hilmola, O-P
Research report 224, 2010
Lappeenranta University of Technology, Department of Industrial Engineering and Management, Kouvola Research Unit
141 pages
ISBN 9789522149510
Online [accessed 28 June 2012]. [Click here](#) to view

Within Europe, the transportation sector is experiencing increased external costs due to environmental issues such as road congestion, carbon dioxide emissions, noise pollution and accidents. The aim of this research was to determine if a dry port is financially and environmentally feasible in the Finnish city of Kouvola. A cost model was created to compare internal and external costs in both road and rail transport. A simulation model was also applied to road transport and dry port implemented transport. A range of Finnish cities are possible as dry ports depending on the transport mode used, and if freight from Russia is also taken into account.

6 How to reduce the impact of container flows generated by a maritime terminal on urban transport

Ambrosino D & Sciomachen A
In C A Brebbia (ed.), Sustainability Today, 2012
WIT Transactions on Ecology and the Environment. Vol. 167
Pages 79-88
WIT Press (Wessex Institute of Technology), Southampton UK
ISBN 9781845646523

This paper evaluates the optimal location of a midrange dry port from the sea port and its hinterland in order to reduce the impacts of container transport on urban mobility within a city. The paper employs plant location algorithms for determining optimal locations and applies the modelling to the Italian city of Genoa.

7 Importance of hinterland transport networks for operational efficiency in seaport container terminals

Daduna J

In J W Bose (ed.), Handbook of Terminal Planning, 2011

Chapter 19, pages 381-397

Springer, Berlin

ISBN 9781441984074

Seaports are an interface between different sea and hinterland transportation of freight, in particular intermodal container transport. Dislocated terminal structures such as satellite terminals are presented as a solution. Transport systems linking these terminals are discussed such as automated vehicles and rail freight transport.

8 Location analysis for dry ports based on FCM

Change Z, Lu J & Qi Z

Applied Mechanics and Materials 2011

Volume 97-98, pages 1022-1026

This paper analyses the factors that influence dry port locations and employs the Fuzzy-C Means (FCM) qualitative model to choose the optimal location for dry ports. The model is applied to the Chinese sea port of Tianjin, and Beijing is the optimal location for a dry port.

9 On balancing supply chain efficiency and environmental impacts: an eco-DEA model applied to the dry port sector of India

Haralambides H & Gujar G

Maritime Economics & Logistics 2012

Volume 14, Number 1, pages 122-137

Carbon dioxide emissions from road and rail transportation of freight have not previously been factored into the measurement of dry port efficiency. This article analyses different methods to incorporate carbon dioxide emissions as variables in data envelopment analysis (DEA) models. These methodologies were applied to sixteen dry ports (publicly and privately owned) in the north central region of India. A new eco-DEA model is proposed that can evaluate desirable and undesirable outputs in the service and industrial sectors of the economy.

10 Port-centric logistics, dry ports and offshore logistics hubs: strategies to overcome double peripherality?

Monios J & Wilmsmeier G

Maritime Policy & Management 2012

Volume 39, Number 2, pages 207-226

Scotland faces physical location and political/institutional maritime transport policy issues in its access to freight networks in the European Union. Using economic geography and political geography, the authors present the concepts of port-centric logistics, dry ports and offshore logistics as spatial fixes for efficient freight movement. This requires the restructuring of transport chains through new corridors for the movement of containerised freight.

- 11 A review of dry ports**
Roso V & Lumsden, K
Maritime Economics & Logistics 2010
Volume 12, Number 2, pages 196-213

This article reviews the concept of dry ports as a means to reduce congestion at seaport terminals. A literature review is presented on dry ports, and a survey of the various implementations of the dry port concept. An analysis of seaport hinterland access with dry ports is provided and the intermodal transport chain relationships.

- 12 The transportation sector of India's economy: dry ports as catalysts for regional development**
Ng A K Y & Tongzon J L
Eurasian Geography and Economics 2010
Volume 51, Number 5, pages 669-682

Dry ports in northwest India are reviewed for efficiencies. These dry ports are a mixture of publicly and privately owned terminals. The dualistic policies in India have not enhanced efficiencies to keep pace with accelerated economic growth. Port operators have been discouraged from long-term planning and investment. This has impeded dry ports between regions being fully integrated with multimodal supply chains.

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