

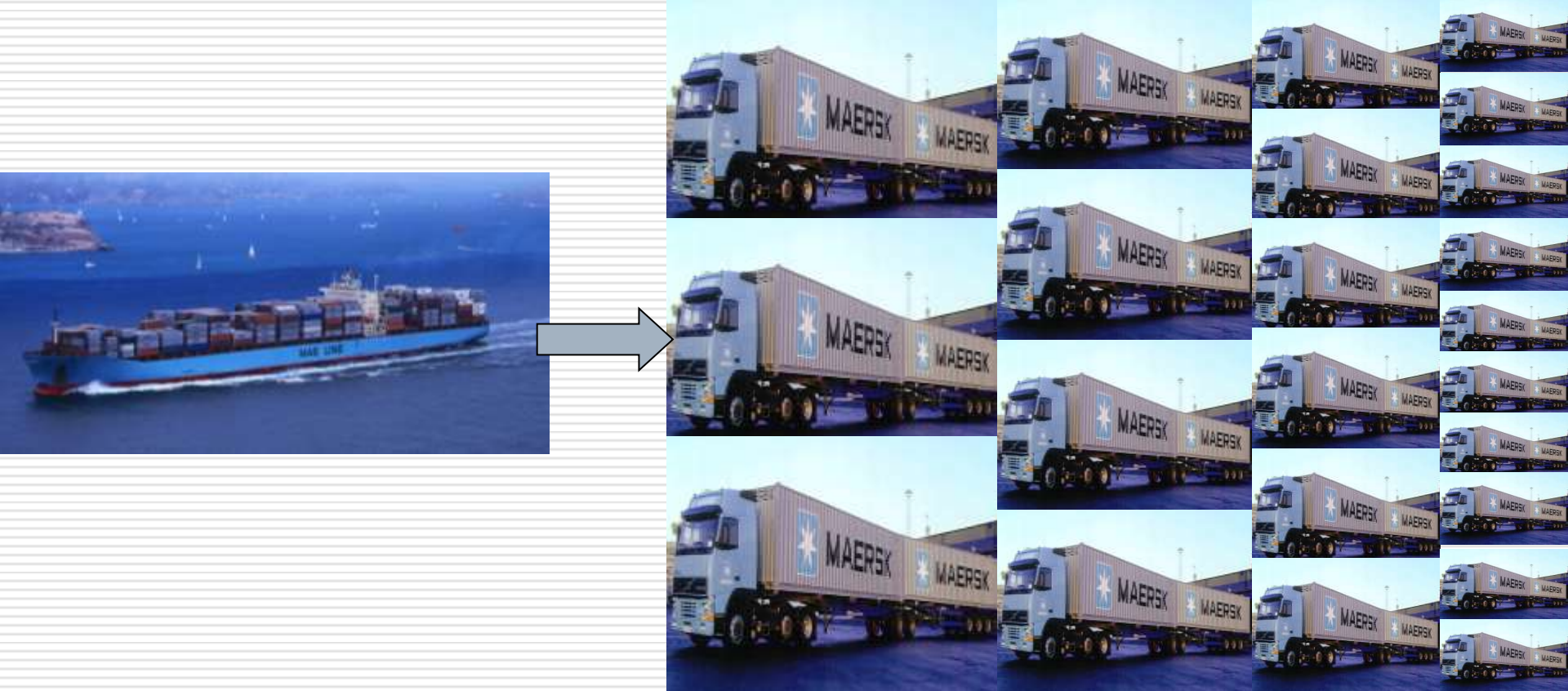
Developing dry ports for the port of Gothenburg The Case of the Falköping

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Background

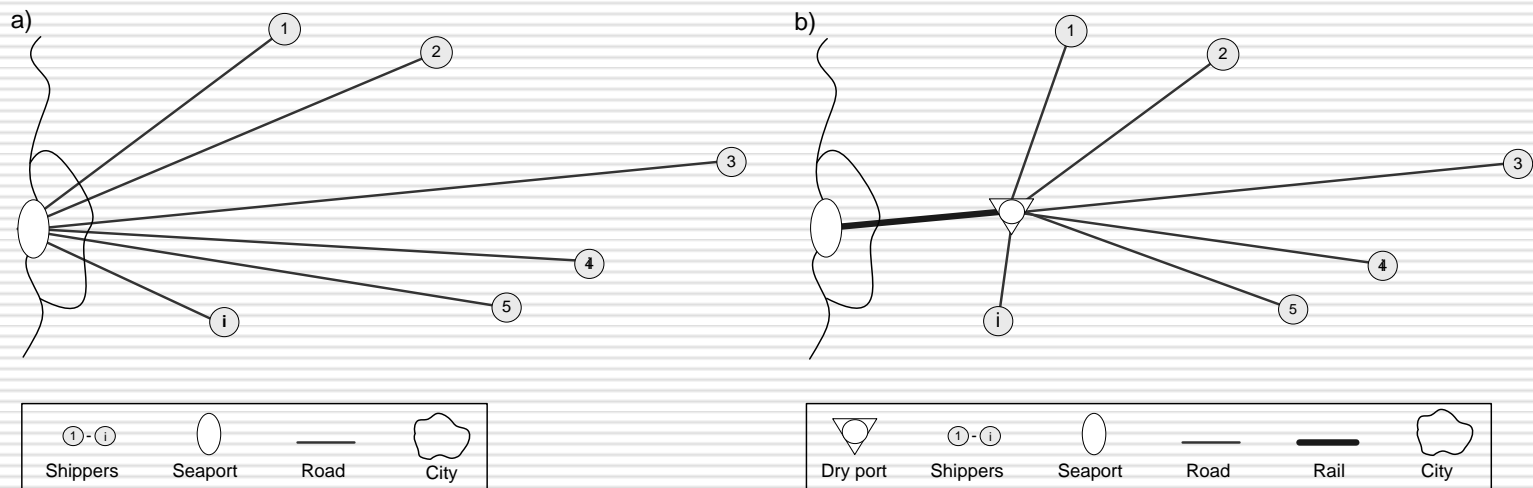


Background

- Hanappe (1986) - The first mention of dry port, in the context of intermodal transport in scientific journals. Hanappe relates to dry ports as multifunctional logistics centers with a variety of firms operating at the same site – it corresponds to concept of freight villages
- It took almost 20 years to revive the interest for the subject among researchers
- Beresford and Dubey (1990), in their survey of dry ports in Africa, define dry port as an Inland Clearance Depot

The dry port concept

“A dry port is an inland intermodal terminal directly connected to a seaport by rail, where customers can leave and/or collect their standardised units as if directly to the seaport”



The dry port concept

- ❑ Intermodal terminal
- ❑ Situated inland
- ❑ Rail connection to a seaport
- ❑ Offers service that are available at seaports (customs clearance, maintenance of containers, storage, forwarding, etc.)

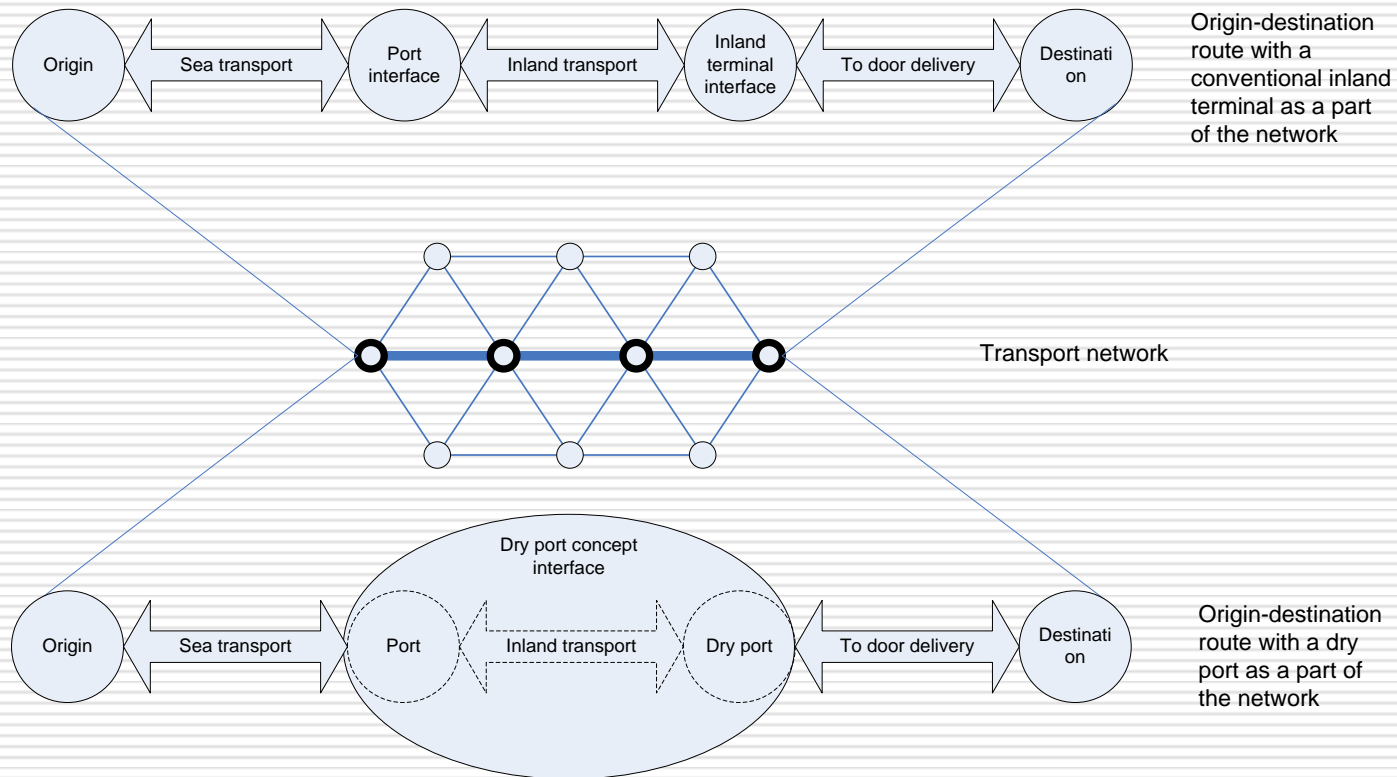
Benefits from a dry port

- ❑ Increases seaport capacity
- ❑ Increases seaport productivity
- ❑ Reduces congestion at seaports
- ❑ Reduces congestion in seaport cities
- ❑ Reduces risk for road accidents
- ❑ Reduces road maintenance cost
- ❑ Lowers environmental impact
- ❑ May serve as a depot
- ❑ Improves seaport's access to areas outside its traditional hinterland

Benefits for the actors of the system

	Distant	Midrange	Close
Seaports	+Less congestion +Expanded hinterland +Interface with hinterland	+Less congestion +Dedicated trains +Depot +Interface with hinterland	+Less congestion +Increased capacity +Depot +Direct loading ship-train
Seaport cities	+Less road congestion +Land use opportunities	+Less road congestion +Land use opportunities	+Less road congestion +Land use opportunities
Shipping lines and forwarders	+Improved service	+Improved service	+Improved service
Rail and intermodal operators	+Economies of scale +Gain market share	+Day trains +Gain market share	+Day trains +Gain market share
Road operators	+Less time in congested roads and terminals	+Less time in congested roads and terminals	+Less time in congested roads and terminals +Avoiding environmental zones
Shippers	+Improved seaport access +“Environment marketing”	+Improved seaport access	+Improved seaport access
Society	+Modal shift +Less infrastructure +Lower environmental impact +Job opportunities	+Modal shift +Less infrastructure +Lower environmental impact +Job opportunities	+Lower environmental impact +Job opportunities

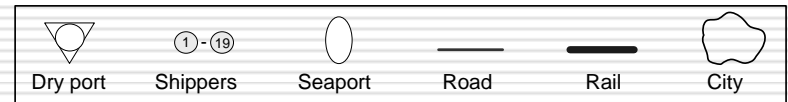
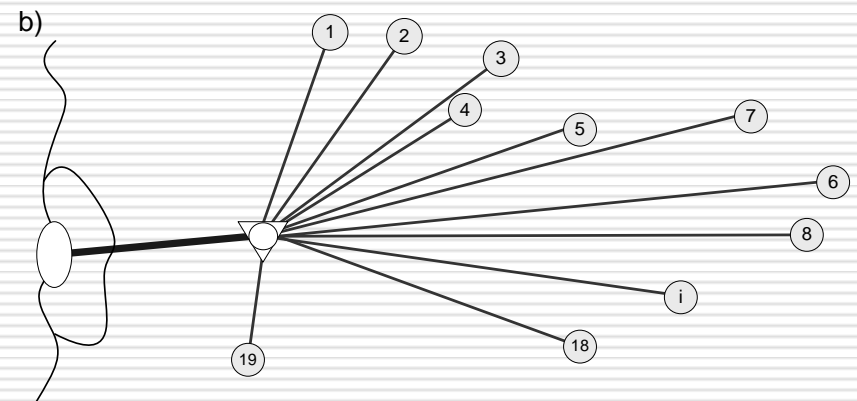
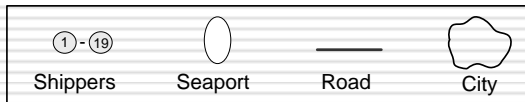
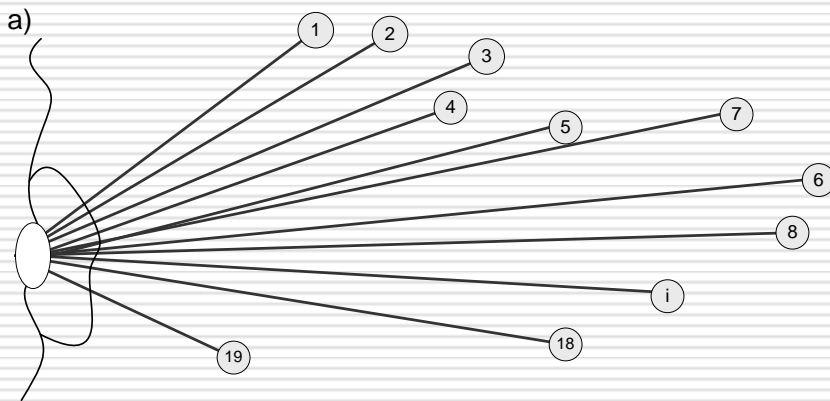
The Dry Port Concept



Environmental evaluation

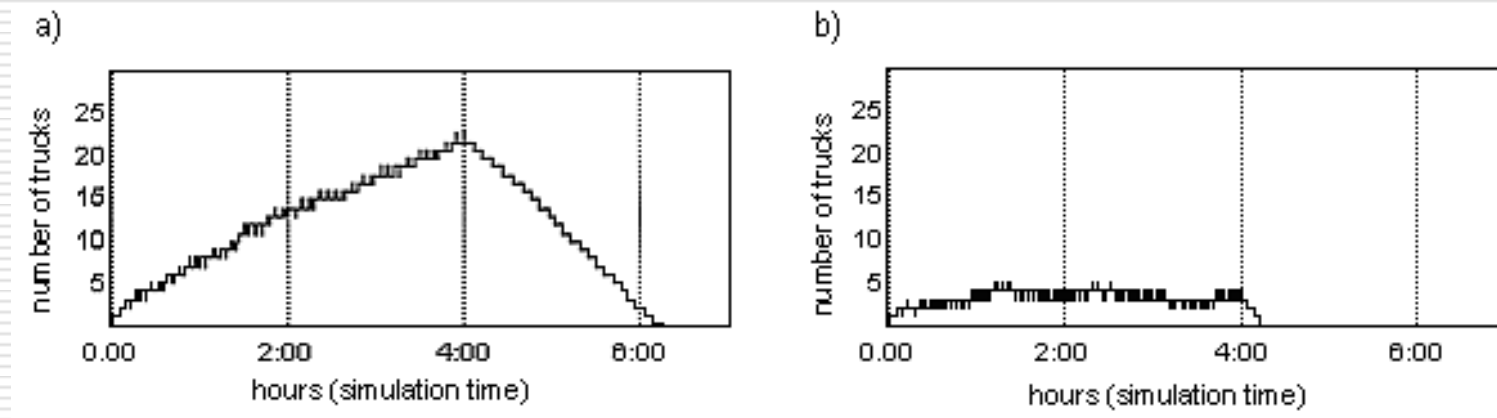
Reference situation -
without the dry port

Scenario -
with the dry port



Results of the simulation regarding queues at the terminals

- a) Without DP: 23 trucks – 85min average waiting time
- b) With DP: 5 trucks – 13min average waiting time



Results of the simulation regarding CO₂ emission

Simulation for 35 trucks:

- The calculated CO₂ emissions are approximately 25% lower in the model with the dry port
- Road-kilometres reduced: approximately 2000 road-km a day

Port of Gothenburg rail shuttle system



- the largest container seaport in Scandinavia, handling more than 840000 TEUs a year
- about 40% of all containers is transported by rail to inland destinations
- the port works on increase of its container rail volumes
- today there are 24 rail shuttles for different destinations that run daily services from/to the port
- the port does not own, operate or finance those shuttles or terminals

Swedish inland terminals

- From small loading/unloading platforms, handling no more than 2000 TEU/year, to large freight centres offering a wide range of transport related services
- Most of Swedish inland terminals are owned jointly by a municipality and commercial actors within the transport system, such as rail operator or shipper.

Falköping terminal

- 124 km direct rail distance to the port of Göteborg
- 4 shuttles a week in 2008
- offers services such as: transshipment, storage, distribution and limited maintenance of containers
- handled 11 000 TEU in 2008



Falköping terminal

From the idea to the implementation

- In early 2000 came a proposal from the municipality for implementation of an intermodal terminal in the area due to existing volumes already being transported to the port by trucks
- The very first problem was a suitable location for the terminal and the competition with the neighboring municipality
- At the end of 2006, when Swedish biggest forest products company, StoraEnso, showed interest in establishing a terminal in the area, that tangible work on building the terminal started
- In 2007 the location was chosen and the terminal built

SWOT analysis

<p>Strengths</p> <ul style="list-style-type: none">• Lower environmental impact• Suitable location• Infrastructure is in place• Direct rail link to the port• Fast service• Operator/owner is very determined• Creates new jobs in the area• Short distance to the port	<p>Weaknesses</p> <ul style="list-style-type: none">• Insufficient marketing• Lack of awareness about new customers• Coordination between the actors• Dependence on the sole port traffic• Short distance to the port
<p>Opportunities</p> <ul style="list-style-type: none">• Increasing interest in intermodality• Potential volume growth• Higher shuttle frequency• New customers in existing market• New markets• New services for new markets• New services for the port	<p>Threats</p> <ul style="list-style-type: none">• Overall economic crisis• Port of Göteborg facing ownership issues• Another terminal in the vicinity

Conclusion

Although implementation of a dry port into a seaport's hinterland could bring numerous benefits for the actors involved, the same depends on existing infrastructure, institutional systems, regulations, actors relations and customers attitude.

The lack of cooperation between the actors of the system resulted in temporary closing down of rail container transport between the terminal and the seaport.

It is rather evident that the strengths and opportunities are very strong and numerous while weaknesses are relatively easy to overcome. The main strength is environmental benefit coming from dry port implementation resulting from use of electrically powered rail instead of only trucks, as well as regional development due to improved logistics services.

Thank you for your attention!

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