TRANSPORT RESEARCH INSTITUTE
EDINBURGH

A functional analysis of dry port systems: the case of Spain

Conference on Intermodal Strategies for Integrating Ports & Hinterlands
Edinburgh. 21 October 2010.

Jason Monios
Transport Research Institute

The Interreg IVB North Sea Region Programme

Investing in the future by working together for a sustainable and competitive region

DRYPORT

Research aims & questions

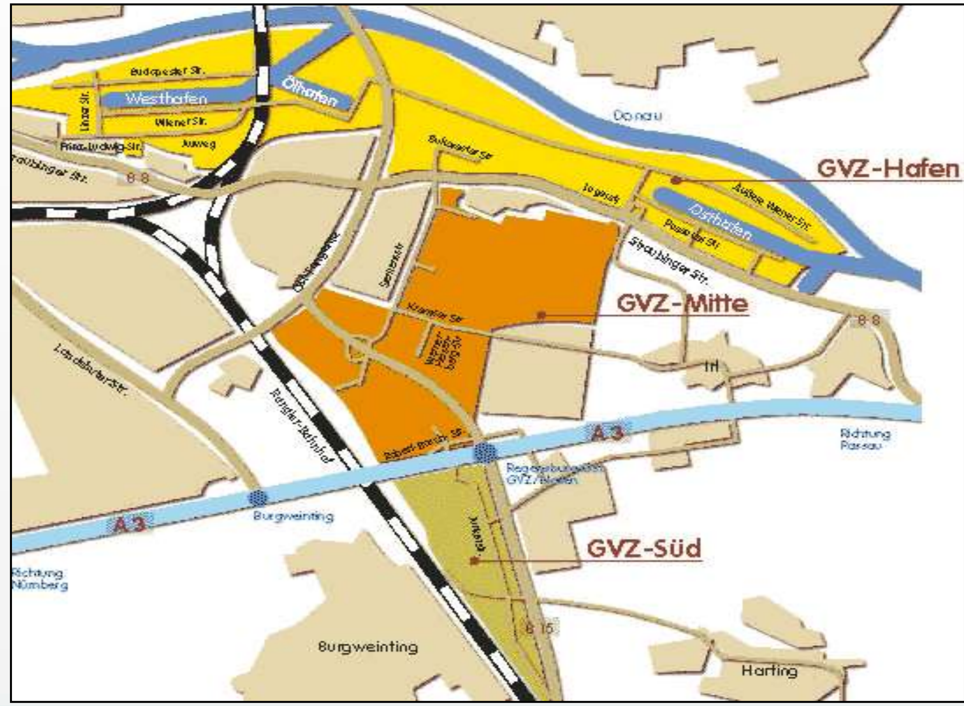
1. Build on previous work developing inland terminal taxonomies. What is a dry port? Theory vs practice.
2. Who drives dry port development?
3. What function do dry ports serve?
4. How integrated are the ports and terminals?
5. Are inland terminals altering the role of the port in the transport chain?

Background

- Increasing role of hinterland access in port development strategies. Fewer captive hinterlands – more competition. Regionalisation.
- Increasing academic focus on inland terminals.
- Terminology: intermodal terminals, ICDs, inland ports, dry ports, extended gates.
- Many facilities are calling themselves "dry ports". What do they mean by this?
- Early UN definitions: dry ports were inland sites with customs clearance, with special focus on benefits for landlocked countries.

A dry port concept? (Roso et al., 2009)

"A dry port is an inland intermodal terminal directly connected to seaport(s) with high capacity transport mean(s), where customers can leave/pick up their standardised units as if directly to a seaport."

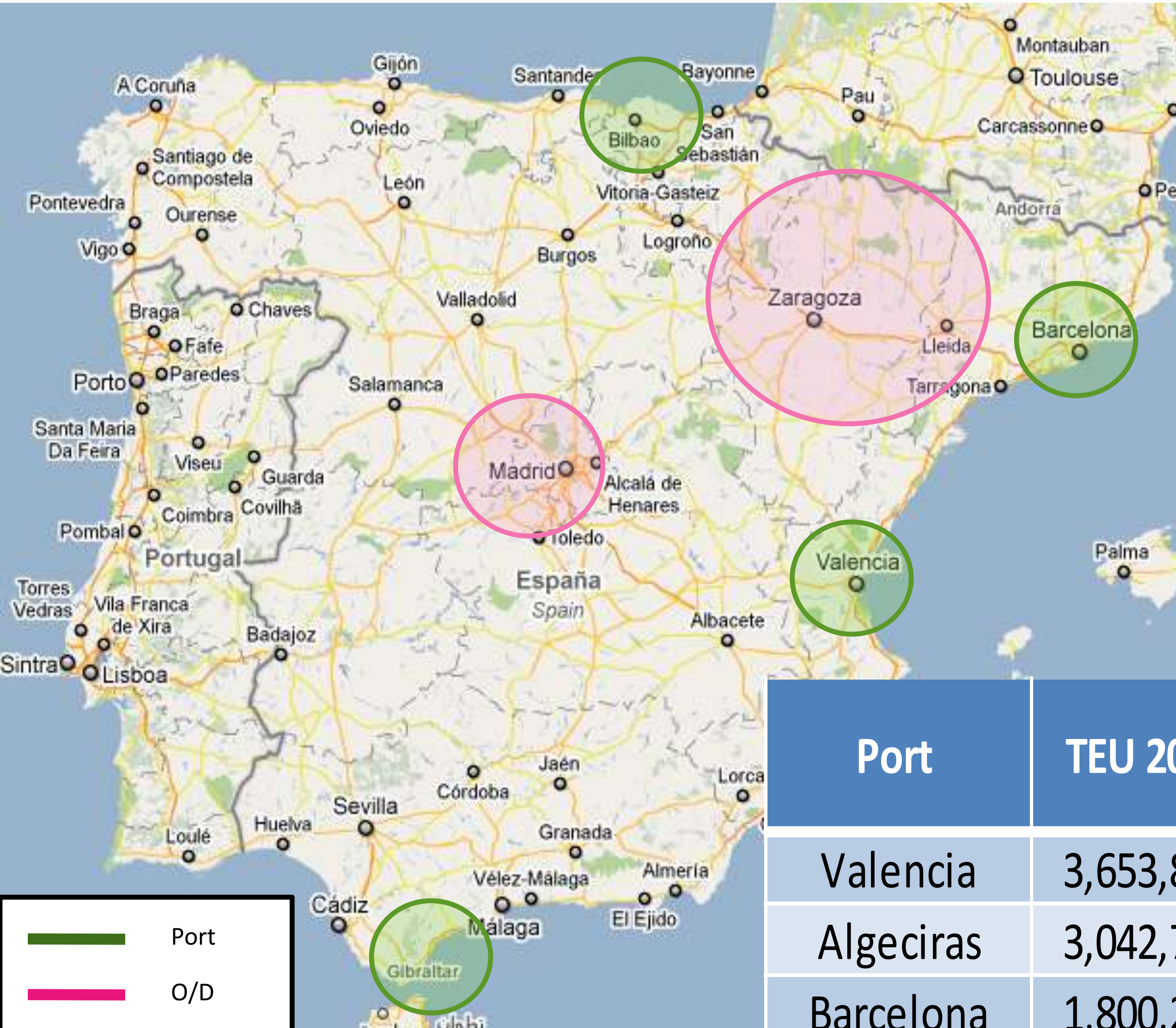


"used much more consciously"

"for a fully developed dry port concept the seaport or shipping companies control the rail operations"

DRYPORT

Locations of Spanish ports & inland O/Ds



Port	TEU 2009	TEU 2008	TEU 2008 (hinterland)
Valencia	3,653,890	3,602,112	2,000,000
Algeciras	3,042,759	3,324,310	100,000
Barcelona	1,800,213	2,569,550	1,600,000
Bilbao	443,464	557,355	

Puertos del Estado

- National port body, created in 1992 to separate port management from ministry.
- Ports are run on a landlord model – private terminal operators.
- 46 ports, 28 port authorities.
- Annual plans of each port are approved each year by Puertos del Estado (PdE).

3 case studies of dry ports in Spain

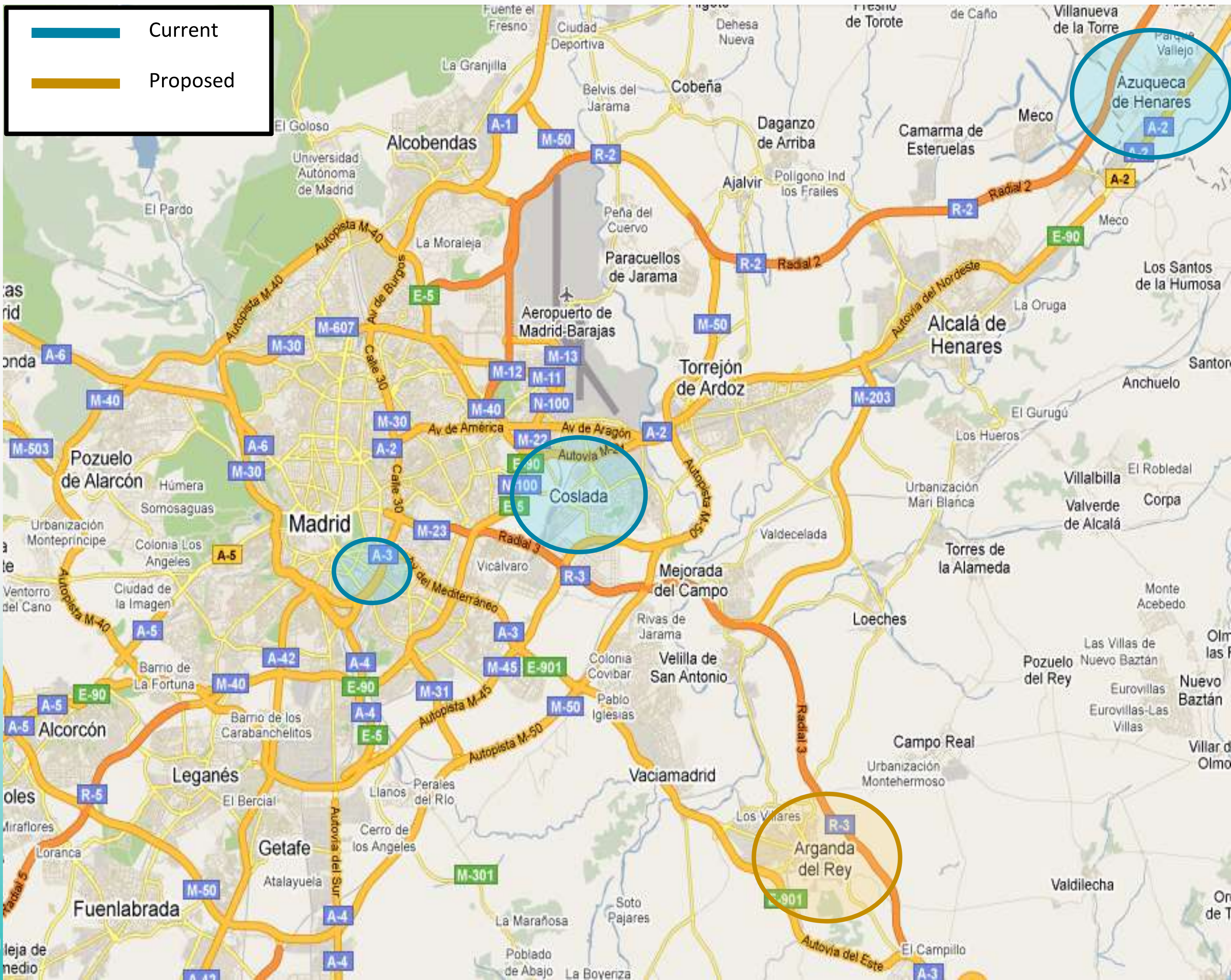
1. [Azuqueca de Henares]
- Opened 1995.
- Ownership 75% Gran Europa.
- 2009 throughput 15,000 TEU (down from 25,000 in 2008)

2. [Coslada (Madrid)]
- Opened 2000.
- Ownership 51% split between Puertos del Estado, Barcelona, Valencia, Algeciras, Bilbao. 25% Madrid Regional Govt.
- 2009 throughput 45,000 TEU (down from 60,000 in 2008)

3. [Zaragoza]
- Opened current terminal in 2009.
- Ownership 56% ZAL Mercazaragoza, 21% port of Barcelona, 20% Region of Aragon.
- 2009 throughput 24,000 TEU

The greater Madrid area

1. Azuqueca
2. Coslada
3. Abroñigal
4. Arganda del Rey?



Traffic share from each port

- Coslada: 100% Valencia (was 80% before)
- Azuqueca: 50% Barcelona, 40% Bilbao, 10% Valencia
- Zaragoza: 100% Barcelona
- Most traffic from Valencia to Coslada is from Dragados terminal. Dragados also owns 50% of ConteRail which has the dry port operating concession.
- Future for Madrid: Barcelona/Azuqueca vs Valencia/Arganda del Rey? What about Coslada?

Rail infrastructure & operations

- Low market share (3%): Val: 69,000 TEU, Bar: 52,000 TEU
- Benefits of liberalised market beginning to be seen.
- Competition on key routes e.g. Valencia to Coslada.

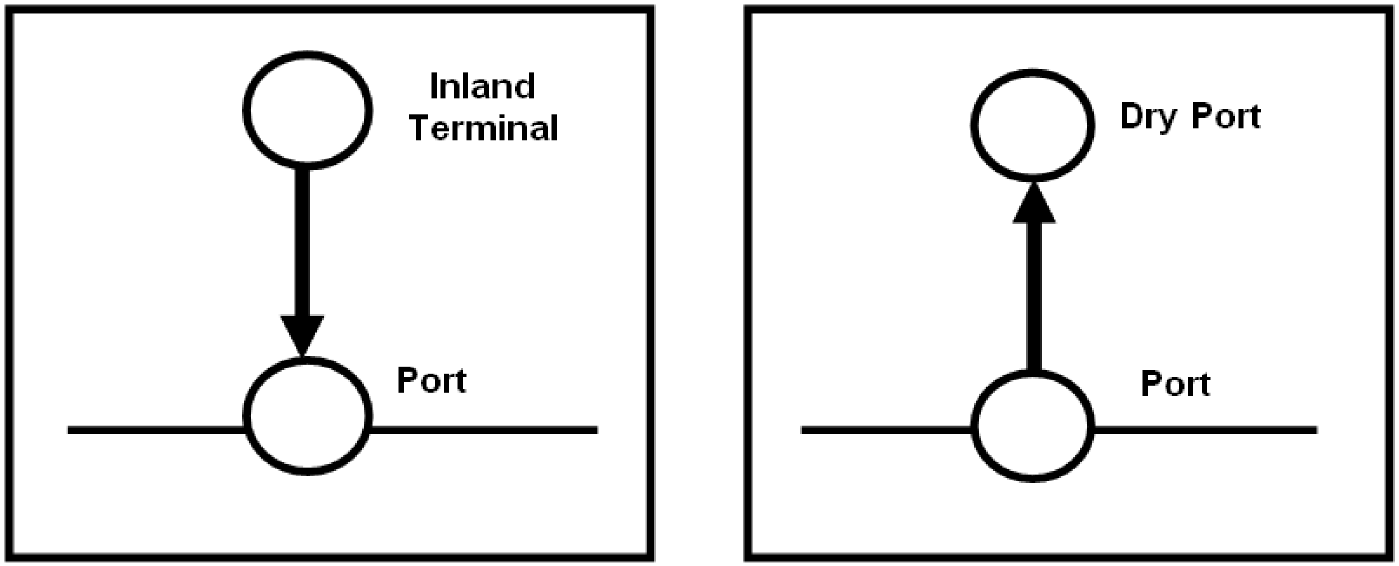
- Still improving infrastructure, connections to main line.
- PdE requires ports to give 20% discount on port dues for containers shipped by rail.

Each site performs similar functions

- Customs clearance, road/rail, load centres, warehousing facilities in the immediate area.
- Low level of integration between port/rail/terminal. Each does their own job. But greater IT cooperation is being pursued.
- Valencia and Barcelona are developing logistics zones onsite. So dry ports are not necessarily taking these activities.

DRYPORT

Direction of development



(a) Inside-Out

(b) Outside-In

- Land-driven vs sea-driven (Wilmsmeier et al., 2010)
- Industrial organisation: forward/backwards integration

Drivers of development

- Outside-In development, driven to a large degree by the port authorities.
- But all are open-user facilities run by independent organisations, in none of which does a port own the majority shareholding.
- New developments: Inside-Out. Public-sector-driven. This is seen in many countries.
- Change over time: market-driven Outside-In development can spark public-driven Inside-Out. Is this optimism justified?

Beware of over-simplification

- Complex process involving partnerships between ports, rail, terminals, 3PLs, local and regional govts, communities, etc. Customs/legal issues, e.g. Venlo.
- Further research: how does each stakeholder measure potential benefits and thus decide their investment?
- Developing such infrastructure allows container flows to be bundled on high capacity links so that private operators can then bid on this consolidated traffic.

Compare with other "dry ports"

- Dry Port Muizen: Terminal operator separate from train operations. No port involvement.
- Dry Port Mouscron/Lille: Terminal operator controls train operations. No port involvement.

- TCT Venlo: ECT Rott. owns port and inland terminals. Runs services and manages flows. Not called "dry port" but "extended gate".

Dry ports? Theory and practice

1. Dry port: original (land-accessed/landlocked) definition. What about waterway or even coastal access?
2. Inland port: generally a large gateway site such as is prevalent in the US (see Rodrigue et al., 2010). Applicable in Europe?
3. Extended gate: an integrated service offering such as in Venlo. This is perhaps closest to the Roso et al. (2009) definition of the dry port concept.
4. Intermodal terminal: traditional road/rail interchange point. The most common in Europe? Dry/wet/???

TRi TRANSPORT RESEARCH INSTITUTE

THANK YOU

j.monios@napier.ac.uk

The Interreg IVB North Sea Region Programme

Investing in the future by working together for a sustainable and competitive region

DRYPORT