

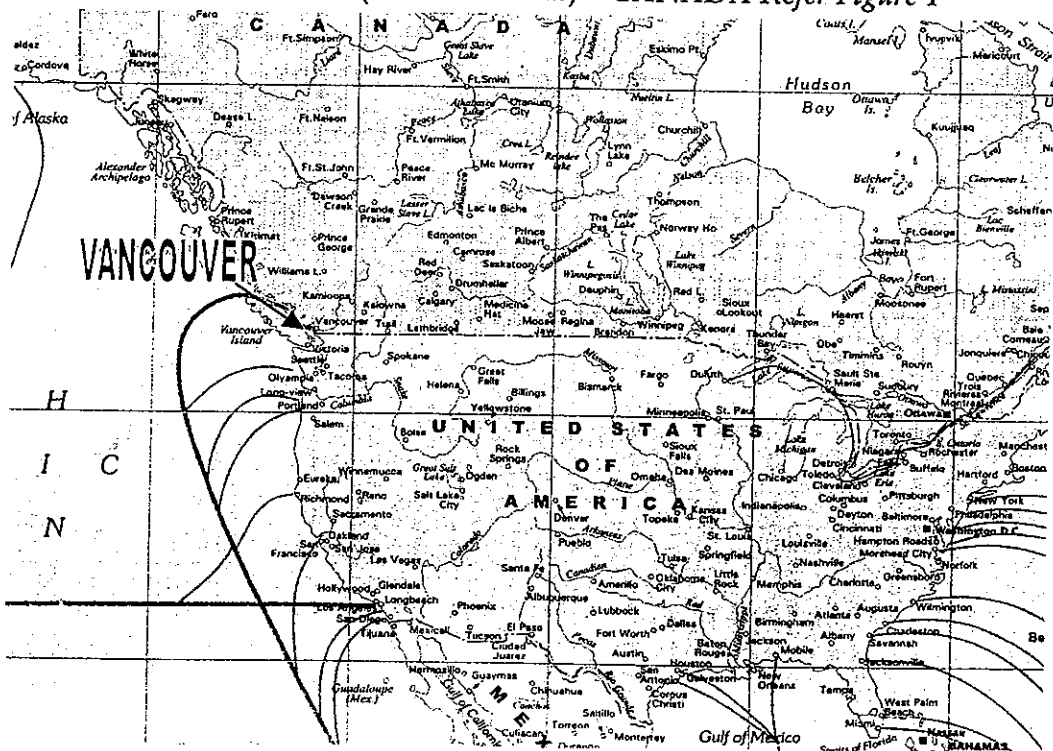
# RAILWAYS - CHANGING THE FACE OF MARINE TRANSPORT

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Railways are an important link in the supply chain for global trade. Marine trade looks towards the support of land transport on either side of its movement between origin and destination, for its success. Customer looks for seamless movement resulting in timely delivery.

For efficient delivery / evacuation of cargo to / from port, availability of rail link alone is not sufficient. Pact with port timely movement of cargo by railways alone can ensure this. Thus, the success of port will depend on proper participatory role by railways. Such a role can even outweigh the geographical advantages enjoyed by competitor / neighbouring ports. This is explained on the basis of 3 case studies. (Source: Strategies For Container Ports - a cargo systems report - by Paul Avery)

## CASE 1: VANCOUVER (DELTA PORT) - CANADA Refer Figure 1



Vancouver is Canada's western gateway port, sitting just north of the American port of Seattle and Tacoma. The geography and population distribution of North America gives its port structure a simpler look than the complex European and Asian networks. A limited number of ports including Montreal, Vancouver, New York/New Jersey, Halifax, Tacoma, Seattle, Los Angeles and Charleston compete as gateways to the inland markets of the US and Canada.

Historically, much of Canada's container traffic has been loaded at American ports. In 1990 almost half of Canada's imports arrived via ports in the US, including almost all the time sensitive cargo. Recently Vancouver and Montreal, seemingly spurred into action by being given their independence from a centralized port planning process and the privatization of the Canadian railways, have sought to grab a bigger share of Canadian bound trade and reinvent themselves as gateways to North America. They have had considerable success with several lines now using Vancouver and Montreal as their gateway port to North America. In July 1999, Lloyd's reported that only 16% of time sensitive Canadian imports arrived via US ports.

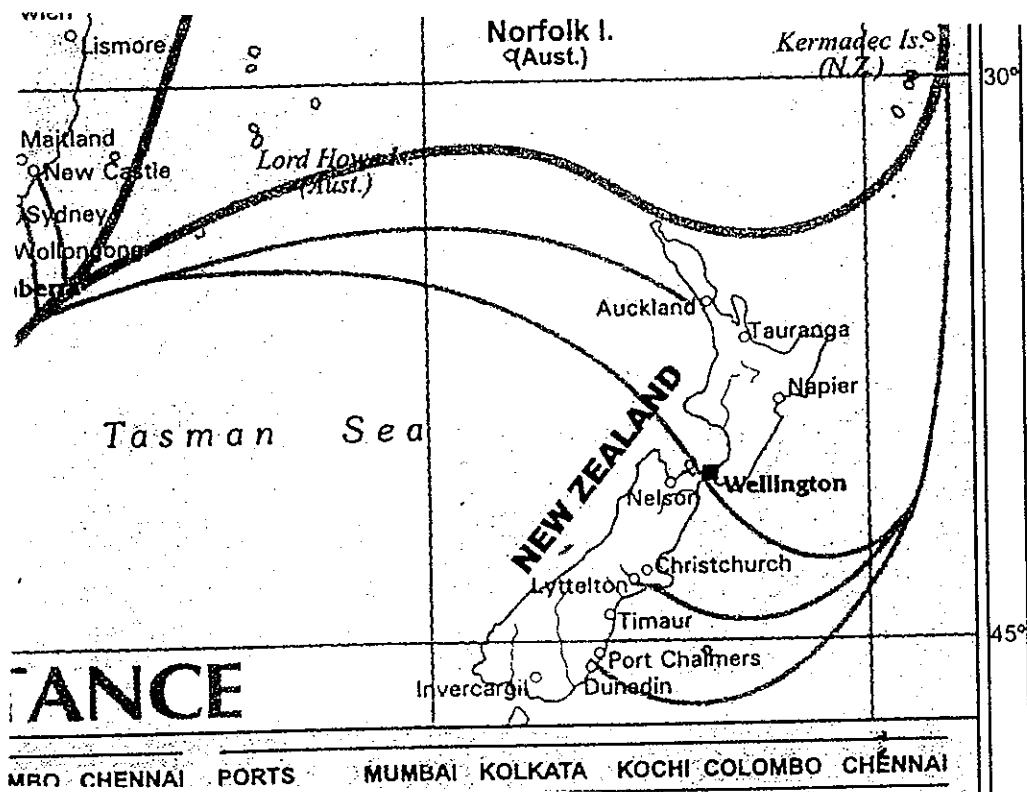
Delta port was one of the first to use multi-trailer system for the transfer of containers from ship to rail. Each train is up to five trailers long. The Morris container positioning system is used to land containers correctly on the chassis first time. The end result is an efficient machinery system that enables a double stack train to be loaded in 11 hours. This can be achieved without ever having to ground the containers. To put the importance of intermodal link in perspective, half of the containerized traffic leaves Vancouver by rail.

To compete as a North American West Coast gateway port, efficient intermodal links all the way to Chicago are a prerequisite. While Vancouver is geographically very close to the ports of Seattle and Tacoma, achieving an efficient and cost effective intermodal link took considerable time. Prior to privatization, the Canadian railways were in much the same shape as many European networks are now; inefficient and costly. After privatization in the early 1990s, Canadian National and Canadian Pacific are now much leaner organizations with a strong customer focus. They are able to compete on price and service with American operators for traffic into the American hinterland. In partnership with these two railway companies, Vancouver has been reported as offering better intermodal rates to the eastern half of the US than its US competitors. No doubt Vancouver is aided in respect by the lower value of the Canadian dollar relative to the American. In terms of service, extensive network mean the containers off-loaded in Vancouver can be in Chicago in 70 hours. This is comparable to the time it takes cargo to arrive at the same destination from Tacoma or Seattle.

Integrating customs procedures within the terminal is something that few terminals actually do well, despite all the talk of a 'seamless service' at so many ports. Customs are usually allocated a facility out of the way of the container yard, often requiring containers to be transported to customs and then back to the yard at cost to the customer. Because customs procedures cause delay, most terminals go to great lengths to separate their operations from customs. This may help when it comes to laying blame for any delays, but it does not actually help the shipper. Vancouver's approach recognizes the importance of integrating a potential delay in order to minimize it, rather than just passing the problem on to someone else.

The real measure of the success of Vancouver's strategy is that three shipping lines have chosen the port as the first port of call on a North American Service. This means that this time sensitive cargo is offloaded at Vancouver and moved via rail or truck to the American or Canadian hinterland.

CASE 2: PORT OF TAURANGA - New Zealand Refer Figure 2

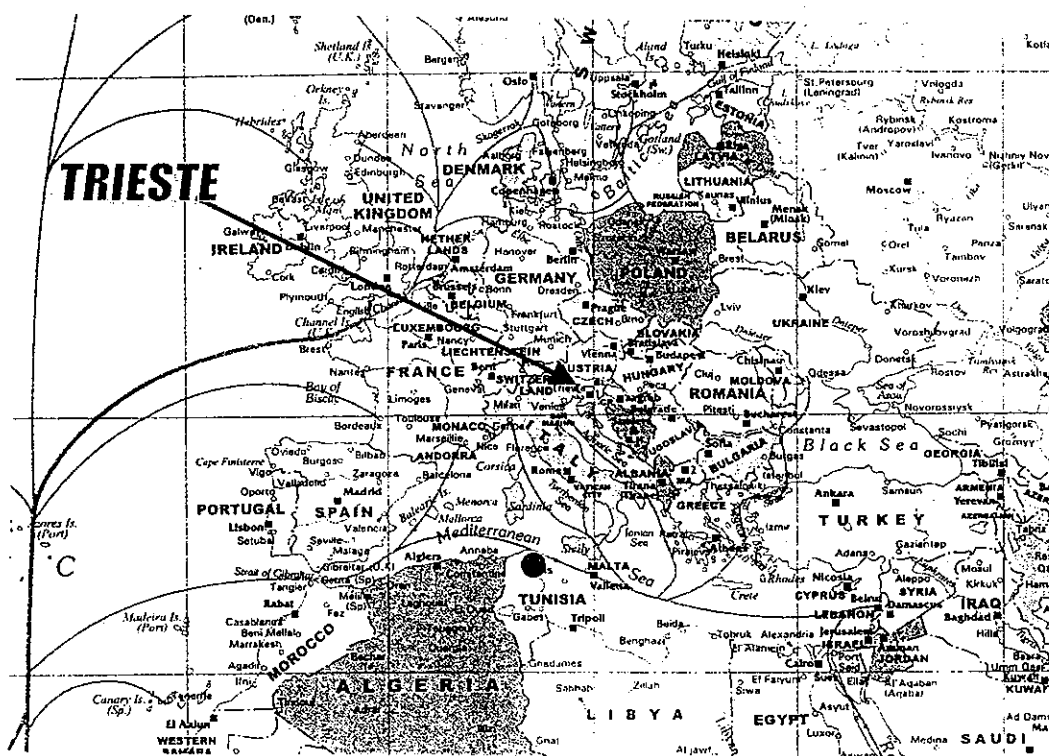


The port of Tauranga is in the bay of plenty, south east of New Zealand's largest city Auckland. The Port of Tauranga has taken a financially prudent and carefully thought out approach to developing its services based around consulting customers on what they actually require and developing services to meet those needs. In doing so it has bucked the trend of using Auckland as a hub port. Tauranga's business manager describes the North Island market as one in which Auckland "is the established service provider - we have to do everything better in order to persuade the lines to change the way they operate."

In late 1998, the port developed Metroport; an intermodal terminal in the Otahuhu industrial area of South Auckland. The aim was to help shipping lines balance their New Zealand service by providing a competitive service for imports into Auckland. Imports can be landed at Tauranga and rail freighted to Otahuhu in South Auckland in a seamless service. The Otahuhu location was chosen because, as well as being the industrial center of Auckland, it enables containers to be easily transferred to Tranzrail's southern service.

To persuade shipping lines to use a port 200 kilometers further from the final destination of import cargo, Tauranga had to demonstrate that rail link could provide the same level of service as using the Port of Auckland. It is less than 25 Km from the Port of Auckland to the Otahuhu industrial area in South Auckland. Road congestion is now so bad on Auckland's roads that a rail journey of 200 Km from Tauranga is a competitive option, one that the port is using to its advantage. One major edge that it has over Auckland is that Tauranga can guarantee delivery time to Otahuhu.

CASE 3: PORT OF TRIESTE - ITALY Refer Figure 3



Northern European ports are in a strong position of being the major gateway to Central Europe. With the exception of Spain, the vast majority of central European cargo winds its way into the interior from a northern European port, despite the fact that Italian and French ports are, in some cases, over 2000 miles closer to the final destination of container coming through the Suez Canal. This is largely a product of the Italian and French ports having a reputation for inefficiency and slow operations, as well as the lack of intermodal links into central Europe. Although much progress is being made developing these areas, Mediterranean ports still have a long way to go if they are to establish a position as a gateway to central Europe and threaten the dominance of the north.

A look at the recent activities of ECT and Eurogate shows that they are now gearing up to compete more on the basis of the logistics networks than trying to establish an advantage in infrastructure and productivity.

ECT is, in fact, already aggressively implementing plans to build up a series of terminals throughout Europe. Its well-established Venlo terminal on the Dutch/German border is already a success and was followed by the opening of the new ECT Trieste terminal in Italy. This facility is viewed as being a gateway to markets in eastern, central and southern Europe. Trieste considers itself 'Italy's main rail port', with connections spread throughout Europe and on-dock rail on all quays. Trieste's main advantage is its proximity to the Suez Canal, which the port Authority claims makes it over 2,000 miles closer to the far east than other European ports. In terms of distance from major rail centers, Trieste calculates that it has the following advantages:

## COMPARATIVE RAIL DISTANCES

	Munich	Salzburg	Vienna	Slovenia	Budapest	Croatia
Trieste	350Km	395 Km	568 Km	139 Km	616 Km	287 Km
Northern European Ports	723 Km	863 Km	1092 Km	1150 Km	1393 Km	1308 Km

(Source: port of Trieste)

ECT and the Trieste Port Authority are clearly banking on Trieste's rail connections to start attracting more traffic. As a further carrot to shippers, the Port Authority has reached an agreement with the Italian Railways for autonomous management of both the rail traffic at the free areas and the maintenance and improvement of plants. This means that goods transported to or from the Free Port of Trieste by rail, on passing through customs, are regarded as leaving from their stations of origin.

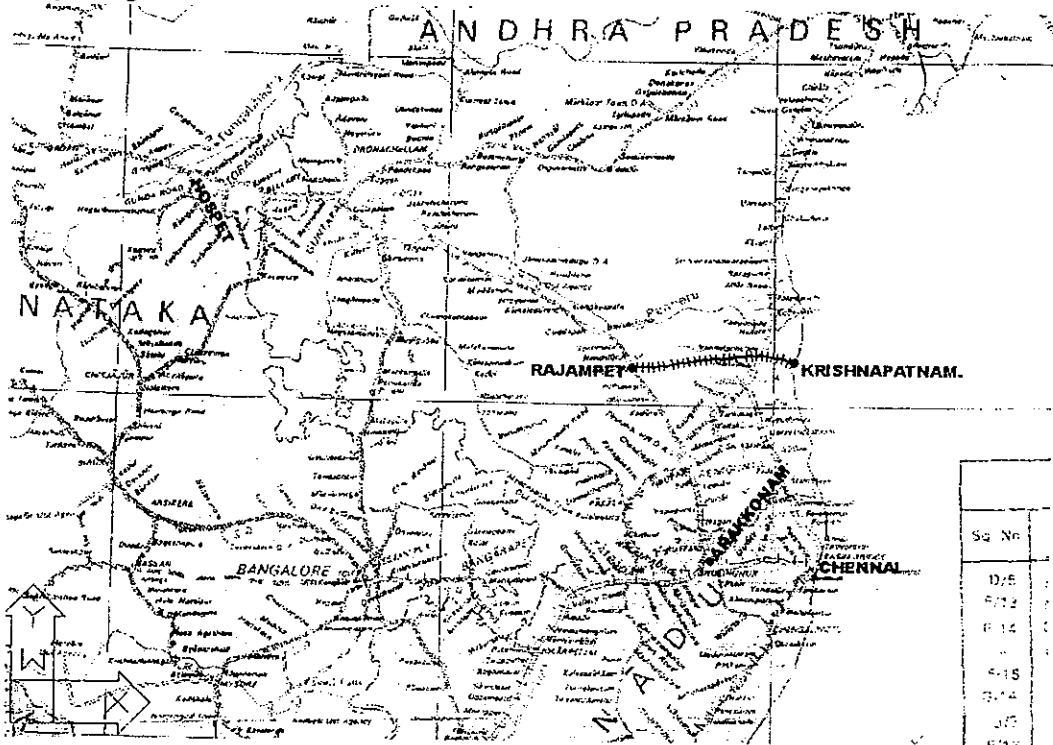
In all the three cases cited above, it is the role of railway that has turned the corner.

### INDIAN SCENARIO

Coming to scenario in India, emergence of private players in port sector with underlying theme of integrated logistics solutions to customers across India, instead of just being content with gateway port status, has made the presence of rail link a critical success factor for these ports, so much so that they have opted to construct the rail linkages at their cost, directly or through SPV's. Mundra and Pipavav has been pioneer in this development.

While port connectivity to hinterland is a must, increased competition also demands that customer is able to haul goods to the port through the shortest available route, both in terms of distance and time taken. Thus ports will benefit by developing newer rail linkages to their hinterland on a continuous basis. The new rail linkages can be in terms of gauge conversions or short cut new tapings from BG network. Mundra Port will benefit by BG conversion of Gandhidham - Palanpur rail linkage whereas Krishnapattnam port in Andhra Pradesh will benefit by taking a tap-off from Rajampet to Krishnapattnam, avoiding the congested Chennai - Arkonam corridor for export of Fe ore from Hospet.

Refer Figure 4.



These new rail linkages are planned for execution through SPV route with railways and beneficiaries as partners. Ample scope for such additional infrastructure links through SPV route is foreseen in future.

The growth and therefore the need for movement of container cargo will leap frog in future for which adequate rail / road facilities are required apart from handling facilities at the port head. In this context, presented below is a table for port traffic in western region extracted from traffic study done by RITES for VISION 2020 for Ministry Of Surface Transport.

**COMMODITY WISE SUMMARY OF PORT TRAFFIC  
(WESTERN REGION)**

(In Million Tones)

Sr. No.	COMMODITY	2001-02	2006-07	2011-12	2016-17	2019-20
1	Liquid Bulk	91.03	147.80	226.80	304.92	339.46
2	Dry Bulk	22.57	25.94	23.68	21.68	22.35
3	Break Bulk	42.13	69.90	108.04	152.83	184.62
	<b>TOTAL</b>	<b>155.73</b>	<b>243.64</b>	<b>358.52</b>	<b>479.43</b>	<b>546.43</b>

Even if one assumes that liquid bulk in future will go by pipeline, the break bulk which predominantly consists of containers is expected to grow more than 4 fold and almost 70% of containers out of the above are generated in the land locked northern states from where the containers are to be moved by more than 1000 Km by land to reach the port

head. This requires a properly planned blue print, followed by timely execution of the requisite number of lines (gauge conversions, doubling etc.) for handling the traffic.

One important area where railways can double their capacity is to plan double stacking for movement of containers. Since, fortunately the western corridor is hauled by diesel engines (with no height limitation due to electric traction), the railways can plan the Gandhidham - Palanpur conversion straightaway for movement of containers by double stacking. This can also be extended practically close to Delhi by converting the road over bridges and bridge restrictions, if any. It may not warrant a big cost to do it where as benefits are enormous. Needless to mention that conversion of Bhildi - Samadhri - Luni in future, will also have to be planned for double stacking which will pave way for taking the containers up to Bhatinda. I am told that Konkan Railway Corporation has planned their tunnels for double-decker container movements.

Refer Figure 5.



To summarize, the name of the game today is lowest landed cost to customer which includes marine freight, port charges and rail / road haulage. It is pertinent to note that depending on the cost of rail transport in this chain (not a small % typically), rail has the potential to change the Port of call for a cargo as has been happening all over the world. Key issue for port planners and developers here is to develop a port with complete integrated railway facility from day one, so that the customer enjoys benefits of lowest landed cost of their cargo. On part of railways the service level needs to be improved and re-orient from transaction -based approach to relationship-based approach.

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