

Assessing Potential for Inland Port Success

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ABSTRACT

Many communities are pursuing economic development opportunities related to expansion of containerized trade. Four necessary conditions for success are postulated [value to shippers or carriers, major rail carrier commitment, capability of accommodating growth, and public agency support] and tested against seven cases, four judged successes, and three judged failures. Three cases in development are then assessed as to their likely success. Within the limited number of cases and the limited analysis completed the postulated conditions for success appear necessary.

Keywords: Inland port development, distribution center, multimodal terminals.

1. INTRODUCTION

Containerization has grown to become the dominant method of ocean transport for all but bulk goods. As we pass the 50th anniversary of the initial 1956 shipment, even relatively low-value grain, oilseed, and pulse exports are moving from bulk hopper car shipments to containers. As this trend in agriculture transportation emerged and as successful container ports were established in consumer and industrial goods markets, rural cities have begun to focus on the potential for success as inland container ports.

This paper examines the prospect for success by rural cities seeking to become inland ports in North America. Bulk agricultural commodities move in large volumes. If even modest portions of these volumes were to convert to container shipping, inland port capacity would require significant expansion.

This paper then has the perspective of regional economic growth. If this transition continued which locations are most likely to succeed? How can a city succeed? What separates the winners from losers where inland ports have been established for consumer and industrial goods? This paper starts with a hypothesis that successful establishment of an inland port requires meeting a set of necessary conditions:

- a. Offer clear and significant value to shippers or carriers
- b. Obtain clear commitment from a major rail carrier
- c. Offer a location that is capable of accommodating the growth envisioned by shippers and carriers
- d. Ensure public sector agency support and investment

Cases Considered

The ten cases examined with respect to the listed conditions in alphabetic order are:

1. Alliance Texas Logistics Park
2. California Integrated Logistics Center
3. County of Grande Prairie
4. Global III Intermodal
5. Joliet Arsenal Development Authority
6. Port of Huntsville
7. Port of Quincy
8. Richards Gebaur Inland Trade Corridor
9. Stark County Neomodal
10. Venture Kamloops

These cases fall into three types: successes, failures, and those in development where success or failure remains to be determined. All are inland ports. Some include air freight infrastructure and services thus making them multi-modal ports, while most are simply ports for train operations and container transfer to and from trucks.

2. SUCCESSES

The successful cases vary in terms of the scale of metropolitan markets, two are part of the Chicago metropolis of nearly 10 million people. Alliance Texas is located within the 6 million population Dallas Fort Worth area. The Huntsville area in contrast has a less than 200,000 population. The four cases in this group include:

- ✍ Alliance Texas Logistics Park
- ✍ Global III Intermodal
- ✍ Joliet Arsenal
- ✍ Port of Huntsville

Alliance Texas: Alliance Gateway, Forth Worth Alliance Airport, BNSF Logistics Park Alliance Texas

Alliance Texas may be considered the most successful of the cases studied. From a greenfield location about 20 years ago a \$multi-billion inland port, industrial park, and

air freight complex has grown. The catalyst for this success seems to have been the decision by the City of Dallas in the mid-1980s to purchase the inner-city rail yards of the Santa Fe [later the Burlington Northern Santa Fe, or BNSF] railroad for use as a terminal for the Dallas Area Rapid Transit system. BNSF then faced the need to relocate, choosing to build a modern new terminal at Roanoke about 20 miles away.

Roanoke was a favourable location due to the vision and property available through Hillwood, a Perot Company. Hillwood offered their 17,000 acre site with land for a rail yard along BNSF's lines north of Fort Worth, large scale industrial development to the east which would expand BNSF's customer base, and also land for a private freight airport, a first for a major North American city. The new BNSF facility, the industrial park, and the air freight facility opened a few years later in the late 1980s.

Now, 15 years later, the success of this venture, known as Alliance Texas is obvious. Alliance Texas reports that in 2005 the BNSF facility handled about 570,000 TEUs and the airport handled about 220,000 tonnes of air freight.

Fort Worth Alliance Airport is now an air freight sorting hub for both Southwest Airlines and FedEx. American Airlines operates a maintenance centre and the FAA has located a Flight Standards Office on site.

The Alliance Gateway industrial park includes more than 40 clients including: LG Electronics, Ford, General Mills, Safeway, etc. The Union Pacific [UP] railway runs by on the east side but does not include a local rail yard like BNSF.

Alliance Texas reports that more than \$4B in private investment has occurred and that more than 18,000 direct jobs have been created. While they suggest only \$140M in public investment was required it is obvious that

significant investments in the highway infrastructure were required. And, as noted above, the City of Dallas investment in their DART system provided the impetus for BNSF's relocation to initiate the whole development.

The Alliance Texas case supports this paper's hypothesis. The action of the City of Dallas and the business offer from Hillwood provided a clear business case for BNSF to relocate and commit to develop a new facility. Hillwood clearly offered capacity to accommodate any reasonable prospect for growth by BNSF and its clients and the Dallas Fort Worth metro area. Given the scale of the development and the supporting infrastructure required it is obvious that local government, State agencies, and Federal agencies such as the FAA all facilitated and supported this development.

Global III Intermodal: UP Global III, CenterPoint Intermodal Center-Rochelle

The two cases in the Chicago area have similar backgrounds. Both the Global III facility operated by UP near Rochelle, Illinois and the Joliet Arsenal facility operated by BNSF near Joliet, Illinois were driven by rail road needs for intermodal terminal capacity. The Chicago metropolitan area includes more trade activity than any other inland City in North America and possibly the world. In addition to the traffic destined to and originating in the area, the two major western USA rail companies BNSF and UP interchange large amounts of traffic with rail companies operating in the eastern USA.

UP reports that the Global III "facility provides the capacity necessary to improve the efficient interchange of shipments to and from rail connections, and expedite the operations of over 25 trains and 3,000 containers/trailers daily. The consolidation of operational functions between the Rochelle Global III facility and Union Pacific's other Chicago-area intermodal facilities allows us to

greatly improve transit times and create competitive new services for customers, designed to better meet their international and domestic intermodal requirements."

The Global III name refers to the fact that Rochelle, Illinois was not the first but the third choice of UP in part because it is about 80 miles from the centre of Chicago. UP tried first to develop their Global I facility in West Chicago, or their Global II facility in Elburn, both centres closer to Chicago. When the public agencies in these cities proved unable to support expansion to handle future traffic, UP selected Rochelle which had worked for 20 years to capture such an opportunity.

Like Alliance Texas, Global III Intermodal development was led by a major property developer, in this case, CenterPoint Properties. CenterPoint reports they "managed the construction of the Union Pacific Railroad's 1,230-acre intermodal facility in Rochelle, IL, the largest intermodal facility in the Midwest. This project was completed in two phases in less than two years and was delivered ahead of schedule and under budget in August 2003."

Just north of Global III Intermodal, CenterPoint also manages a 365 acre warehouse and distribution park named CenterPoint Intermodal Center-Rochelle [CIC - Rochelle]. "Up to 5 million square feet" of total building space is available, CIC-Rochelle reports, and the park is located "inside Foreign Trade Zone 176 granted to the Greater Rockford Airport Authority."

CenterPoint also confirms the role of public agencies stating they "worked closely with the Union Pacific, the City of Rochelle, the Department of Commerce and Community Affairs (DCCA) and the Illinois Department of Transportation (IDOT) to secure funding for public improvements on and around the site."

Other property developers such as Martin, Goodrich and Waddell are also developing adjacent properties. Growth has just stated as UP reported 2005 traffic was only 103,000 containers.

Joliet Arsenal: CenterPoint Intermodal Center-Elwood, BNSF Logistics Park Chicago

As the name suggests this case involves a munitions facility. Joliet Arsenal was established for World War 2, then decommissioned in the mid-1970s and declared excess by the US Army in the early 1990s. The Joliet Arsenal Development Authority [JADA] was established by the State of Illinois to “help create quality job opportunities and boost economic development in the Will County area.”

In 2000, JADA received the first transfer of land for development of the CenterPoint Intermodal Center – Elwood, which they describe as “One of the largest private developments ever undertaken in the United States, it encompasses 2,200 acres with a total investment approaching \$1 billion.” The major companies in CIC-Elwood are Wal-Mart, DSC Logistics, Georgia Pacific, Potlatch, and Sanyo.

The largest part of the CIC-Elwood project became the 625 acre BNSF Logistics Park Chicago. Opening in 2002, traffic has grown steadily to a reported 450,000 containers in 2005 and almost 700,000 in 2006.

Public agency support was critical in this case. CenterPoint reports “the redevelopment of the former Joliet Arsenal, brought together virtually all levels of government, more than a dozen public agencies and private industry to benefit the community under a common plan.”, and “Significant improvements have been made not only to area infrastructure, but also to the region's environment. Through \$35 million in grants, new water and sewer systems have been constructed to clean up

contaminated water in the community and serve park tenants and area residents. Similarly, \$125 million is being used for essential roadway components of the development and other infrastructure.”

These two cases can be judged successes. Facing strong growth in global container traffic both UP and BNSF sought an opportunity to build greater capacity into their systems. Based on this value, development agencies in Rochelle and Joliet had committed railways and a development partner in CenterPoint Properties and other smaller players. In both cases the developers attest to the important role played by public agencies.

Port of Huntsville : Huntsville International Airport, Jetplex Industrial Park, International Intermodal Center

This case is similar in structure to Alliance Texas with the combination of Class I intermodal terminal, airport, and industrial land development. Both were initiated nearly 20 years ago, however, Huntsville is not located near a major metropolitan center and took far longer to develop.

The public agency role is perhaps most important in this case. In the early 1960s, the City of Huntsville and Madison County established the Huntsville & Madison County Airport Authority as a government corporation to manage relocation of the Huntsville airport and to develop industrial business on 3000 acres of cotton field.

For the next 20 years development efforts prove difficult. Then beginning in the mid-1980s auto makers begin to invest in the region. Norfolk Southern [NS] chose not to invest in an intermodal center in anticipation of this growth, but did agree to operate if the Airport Authority financed construction. The International Intermodal Center opened for rail traffic in 1986. Air freight development was also pursued with limited success until

Panelpina, the Swiss freight forwarder choose the Port of Huntsville in 1991.

This case appears to refute proponents who favour “build it and they will come” strategies. Development occurred many years later. The Port of Huntsville success did not occur until after auto makers established plants and then hundreds of associated businesses developed to supply and service these leading companies. The Alabama Automotive Manufacturing Association reports more than 200 plants were operating in Alabama by 2005.

This is a case where public agencies invested without a clear market need but survived to take advantage of opportunity that arose 20 years later. Once growth in manufacturing was established NS became a committed partner. Then Panelpina committed as a major air freight carrier. The Port of Huntsville certainly offers industry scope for expansion with 4000 acres in the Jetplex park alone.

3. FAILURES

The cases judged failures following analysis are distinctly different; each of the cases listed below is in an area with a unique geography and economy:

- ✍ California Integrated Logistics Center
- ✍ Port of Quincy
- ✍ Stark County Neomodal

California Integrated Logistics Center

The Tioga Group, a transportation and logistics consultancy has completed significant work for the Southern California Association of Governments and is the source for information on this case. Tioga reports that the cities of Stockton and Fresno studied the feasibility of establishing inland container

ports and concluded there was insufficient market need to offer prospect of success.

The City of Shafter on the other hand proceeded without formal feasibility analysis on the argument that they were adjacent both BNSF and UP lines, near the source of cotton, citrus, almond, and pistachio exporters, and near the import and distribution centres for Target, IKEA, Walmart, and Sears.

The City of Shafter tried to float a revenue bond to finance construction of an intermodal terminal. Lacking adequate sources of revenue or the support of either BNSF or UP this initiative failed. Tioga reports that the City of Shafter now has about \$5M in State support to finance building a siding on the BNSF in an attempt to establish the nucleus of their vision.

Despite proximity to significant export and import flows along two railways and two interstate highways, the City of Shafter has not established a compelling value proposition for any major carrier or shipper. Certainly there is plenty of room for growth, but despite the support of City and State agencies, failure is the outcome in this case.

Port of Quincy

The Port of Quincy is a cooperative venture by local governments in the vicinity of Quincy, Washington. Three commissioners govern the Port and in the mid-1980s proposed an intermodal facility, completed a feasibility study in the mid-1990s, and purchased 320 acres for industrial develop adjacent to the BNSF rail line in 2001. By 2005, the Port of Quincy was successful in obtaining more than \$5M in Federal and State assistance to build or upgrade the needed infrastructure.

BNSF has not invested in expanding their facilities or pursuing the use of Quincy to relieve container system congestion in the Tacoma-Seattle port.

The regional advantage of low-cost electricity helped attract Microsoft and Yahoo to establish new server-farm facilities, but this is unrelated to development of an inland port. Despite establishing Northwest Container Services as the operator, no significant warehouse or distribution investments have occurred.

As with the City of Shafter example, available land and strong public agency support has proved inadequate. All three levels of government have invested significantly over the last decade to no avail. Lacking a compelling value proposition or a willing carrier failure is the outcome.

Stark County Neomodal

The Stark County Development Board is part of NEOTEC, a regional economic development partnership including Ashtabula, Columbiana, Mahoning, Portage, Stark, Summit and Trumbull counties. Stark County Development Board began pursuit of an intermodal terminal in the late 1980s. By 1995, they were successful in building a new 28-acre intermodal facility with financial support from the Federal Highway Administration and the Ohio Department of Transportation. NEOTEC administers Foreign Trade Zone 181 which includes the Neomodal facility.

No Class I railway has committed to use the facility although Canadian National [CN] did use the facility intermittently. Neomodal is served directly by the secondary company Wheeling & Lake Erie Railways. Class I railway commitment seems unlikely given rail company investments in the other four major cities in the region: Cleveland, Pittsburgh, Columbus, and Toledo.

Lacking a clear market value proposition Neomodal has no committed Class I railway, and no significant interest from major warehouse or distribution companies. Hence

despite the support of agencies from three levels of government, failure is the outcome.

2. Ports in Development

Three significant initiatives were discovered in various stages of development. Although judgment of success or failure would be premature, the following cases are offered for assessment in light of the above conclusions drawn about success and failure:

- ✍ County of Grande Prairie
- ✍ Richards Gebaur Inland Trade Corridor
- ✍ Venture Kamloops

County of Grande Prairie

Grande Prairie is a city located in farming and forestry land in northwest Alberta. The County of Grande Prairie began pursuit of an intermodal terminal in the 1990s by first setting aside more than 100 acres for construction of a facility. The local rail line was abandoned by its Class I carrier but acquired by an ambitious short line operator. Alberta Infrastructure reports they provided \$9M in 2001 for intermodal terminal infrastructure on the County site.

Based on this support the County next applied to the national agency Western Diversification for funding to support implementation. In 2006 CN bought back the branchline from the short line operator. The County of Grande Prairie sought letters of support from shippers indicating willingness to convert from transloading elsewhere to direct container loading at Grande Prairie based on CN service. The major shippers are pulse and grain processors as well as Weyerhaeuser, Canfor, and Ainsworth in the forest products industries.

Implementation funding from Western Diversification awaits confirmation of shipper support.

Richard Gebaur Inland Trade Center

This case involves the conversion of a World War 2 air force base about 20 miles south of Kansas City. Whereas the conversion of the US Army facility at Joliet, Illinois had the broad cooperation expressed above by CenterPoint Properties, this Kansas City case is one of protracted legal battles and community dissension. The Air Force converted the base to reserve status in the mid-1970s and declared about 1300 acres surplus. The Port Authority of Kansas City Missouri was established in 1977 to, among other things, pursue development of the Richards Gebaur site as an industrial park and transportation hub.

In 1985, Kansas City was ceded the airport property for development of a public airport. Over the next decade about \$12M in Federal airport development support was provided but the venture consistently lost money. Facing these losses, Kansas City decided to redevelop the airport and adjacent property as a logistics park. Newspapers record the ensuing civil litigation and community dissension since.

The Port of Kansas City Missouri does have the support of a Class I railway, Kansas City Southern [marketed as “NAFTA”, which is Kansas City Southern and three acquired railways], but no investment from Kansas City Southern is forthcoming to date.

Pressing on despite legal hurdles, the Port of Kansas City Missouri chose CenterPoint Properties to acquire, invest \$200M and develop the site. The latest status as expressed in a Kansas City Star article on Feb 1, 2007 was “further negotiations over price and costly environmental cleanup issues have stalled final approval by the City Council, which a few weeks ago had been scheduled to vote on the matter.”

Venture Kamloops

Venture Kamloops is the economic development agency for the City of Kamloops in British Columbia. Witnessing the growth of container movements in the nearby port of Vancouver, and observing that many local shippers truck their product to port for transloading into export containers, Venture Kamloops decided to assess the feasibility of constructing an intermodal terminal to facilitate container loading locally and to encourage those trucking into distant USA markets to use rail container services instead.

The feasibility study completed in 2006 concluded “an opportunity exists to develop an intermodal container facility” designed as “a mixed-use facility” for “lumber reload from truck to railcar for North American markets” and for “containers to export markets.”

Both CN and Canadian Pacific Railway [CP] operate main lines through Kamloops. Venture Kamloops reports that neither CN nor CP has committed to a new facility citing lack of shipper support. In response, Venture Kamloops is “forming an industry steering group of community leaders and stakeholders to plan, partner and promote the inland intermodal container facility in Kamloops.”

Based on the lessons learned from the previously described four successes and three failures what can be said of the prospects of these three cases in various stages of development?

Grande Prairie appears to have all the necessary conditions for success except the most important. If shippers chose to load containers locally instead of transloading at distant points, and if this imbalanced export trade could competitively access empty containers, modest success seems possible. No large scale port development appears in any way feasible.

Venture Kamloops is in the same position as Grande Prairie regarding the need to provide a proposition that compels shippers to load containers directly rather than truck to Vancouver and USA destinations. They also suffer the same trade imbalance that makes sourcing empty containers difficult.

However, Kamloops may have an additional advantage. It is well located to act as an inland train assembly location to relieve congestion at the Port of Vancouver. Either success at convincing local shippers to convert to container use, or success at providing inland intermodal services to Vancouver interests could be sufficient to launch a successful venture.

Kansas City reports they are among the top three truck or rail terminal locations in the USA. Given the Kansas City Southern connections into Mexico and CenterPoint's successes at Rochelle and Joliet, and given the apparent resolution of legal impediments, the Richards Gebaur project is near to having all four necessary conditions for success.

4. CONCLUSIONS

The four cases judged successes clearly met the four postulated necessary conditions. The three failures seem clearly due to inability to offer significant value to shippers or carriers. Could this be explained by scale problems? Are the three failures cases located in centres simply too small to succeed?

Certainly rail traffic is essential as Huntsville demonstrates. Huntsville had the infrastructure in place for many years before success occurred as a result of the growing auto plant economy in the region.

Huntsville is an ideal example to address Field of Dreams proponents ["build it and they will come"], as the traffic that eventually led to success arose due to business factors independent of Huntsville's infrastructure availability.

All four cases of success involved offering considerable scope for expansion. Even with the growth to date at these successful locations more land is available.

It does not appear that the communities and interests involved in the three failures could have done anything different to assure success. No amount of promotion or provision of infrastructure can overcome lack of a compelling value proposition to shippers or carriers. Assessment of this fact would have saved what appears to be unrecoverable infrastructure investments.

The three cases of projects in development all seem to suggest potential for success. The Richards Gebaur case being distinctly different from the two smaller Canadian cities.

In all three cases, the missing condition is adequate shipper or carrier commitment. The Richards Gebaur case also addresses the question of succeeding based on shipper or carrier support without public support. Public agency support seems essential. The Global III Intermodal case in Rochelle succeeded only because UP's earlier efforts in other communities closer to Chicago failed due to lack of public agency support. Where a community and its leaders oppose an inland port project, the lesson is investment moves to other competitive locations.