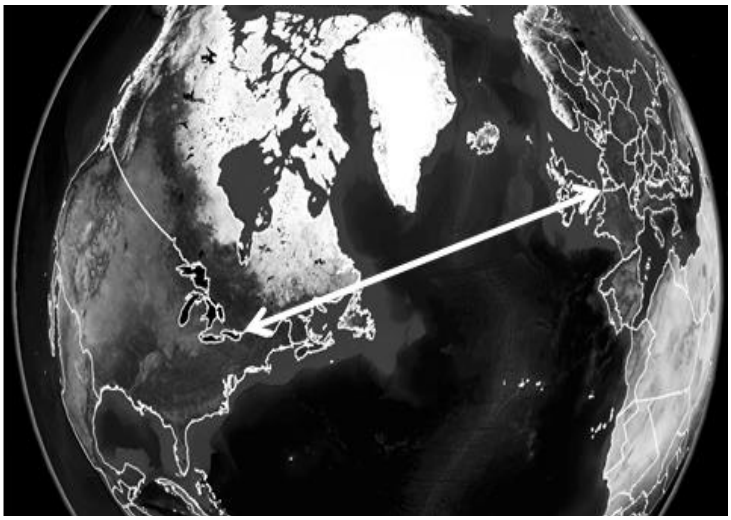
THE ALL WATER ROUTE EUROPE/GREAT LAKES: FACTORS FOR SUCCESS

Bradley Hull, John Carroll University

Introduction

Geographically, the St. Lawrence Seaway is a part of the minimum mileage route between the industrial centers of the Midwest and the two largest ports of Europe, Rotterdam and Antwerp. See Figure below:



MINIMUM MILEAGE ROUTE BETWEEN GREAT LAKES AND ROTTERDAM/ANTWERP

Satellite map courtesy of NASA World Wind

With the minimum mileage route being all-water, and with water being the least cost mode of transport, the Seaway promises to deliver low cost transportation between these two major world centers. Furthermore, being the direct route to the Midwest, the Seaway also promises to be the quickest. However, despite all its promise, Midwestern shippers primarily utilize the east coast ports for

import/export. The Seaway is rarely utilized for European shipments, partly due to seasonality and limited dimensions of the Seaway locks. Recent studies show that the Seaway route can be cost effective and timely, and new efforts to ship between the Great Lakes and Northern Europe are underway. This paper discusses the cost, service, and institutional factors that can further strengthen the competiveness of these and other ventures.

The paper is organized as follows: 1) a brief narrative of the existing Seaway commerce between the Great Lakes and Northern Europe and new efforts to initiate a scheduled container service, 2) a summary of recent competitiveness models, 3) a discussion of the cost and service dimensions of the route, and 4) a discussion of stakeholder contributions to a successful service. The paper ends with a summary of potential success factors which can increase the competitiveness of the Seaway.

Seaway commerce and new ventures

Since the Seaway opened in 1959, it has been utilized for grain and coal exports internationally, as well as for breakbulk shipments and project cargo. Some breakbulk shipments utilize the Seaway as well though most are overland to Baltimore and other east coast ports to be loaded to ocean going ships.

The primary user of the Seaway between Northern Europe and the Midwest has been, and remains, the steel industry, which transports specialty coils from Northern Europe to the Midwest. Upon delivery, the ships return to Northern Europe with a grain backhaul. The steel industry feels that all water transport is the most cost effective route primarily to cost but also due to the expertise of Great Lakes ports in handling coils. It builds storage for wintertime closure at Great Lakes ports. During the winter, the industry relies on storage and utilizes alternate routes. Typical winter routes are: 1) delivery to Pennsylvania/New Jersey with rail to the Midwest, and 2) delivery to the USGC with barge to the Midwest.

At this time, two additional services are nearing start-up. The first is potential commerce between Erie PA and the Port of Amsterdam, moving wood chips to meet demands for renewable fuel in the Netherlands. The second is the Cleveland European Express (CEE). The CEE is a partnership between the Port of Cleveland and the Spliethoff Group of the Netherlands. It plans to move cargos between Cleveland and Antwerp on a scheduled basis, beginning April 2014. The cargos will be a combination of containers, breakbulk, project, and bulk. The start-up phase will be a monthly scheduled service, with biweekly service possible as business grows. Year round service is also offered through terminalling arrangements at east coast ports.

Seaway competitiveness models

Several studies describe the significant potential for business growth on the Seaway. A Seaway competitiveness study, sponsored by Highway H2O in 2012, identifies potential sources of increased business. A PowerPoint presentation of the results appears in the references. Other studies have been completed by the Port of Cleveland in 2008, Martin and Associates in 2007 and 2011, and two Masters Theses in 2012 by Henri Verboon and Sjoerd Haazen of Erasmus University. Some of the studies focused on containers, some on other cargos, some utilized the direct ship model, and others looked at Montreal transshipment. All were positive about cost effectiveness. Since the Erasmus theses are public, a short summary of Henri Verboon's is provided.

In his thesis, Verboon gives a detailed quantitative analysis of the chemicals, auto parts, and high valued goods currently moving between Northern Europe and the Great Lakes cities. For numerous specific origin-destination pairs he calculates the cost of the existing routes taken, which includes overland legs from origin supplier to Rotterdam, ocean shipment via the primary steamship lines to multiple east coast US ports, then overland legs to destination customer. He then compares this cost with a direct ship route from Rotterdam to the customer, utilizing a Great Lakes port. Based on multiple case studies he concludes that especially chemicals and auto

parts can be significantly less costly (20% or more) but still time competitive utilizing the Seaway route.
Verboon's studies as well as others show that for many cargos the Seaway can be cost competitive with existing routes utilizing US and Canadian East Coast ports.

Service components of a Northern Europe/Great Lakes voyage

Once it has been shown that the Seaway route can be cost competitive with the existing routes, additional factors need to be considered before service can begin. In particular the Seaway must also compare favorably based on the logistics service components of freight demand. These are 1) transit time, 2) reliability, 3) direct market access, 4) capability, and 5) security. (Coyle, et all, pp. 14-16)

1. Transit time. Spliethoff estimates that shipping to Midwestern customers via all-water from Antwerp through Cleveland area customers is 4-6 days faster than transshipping through the Port of New York/New Jersey. Other calculations suggest similar figures. Faster delivery, coupled with lower cost is a further inducement to utilize Cleveland and other Great Lakes ports.
2. Reliability of transit time. Two components of Seaway reliability are lock operations reliability and seasonality. Seasonal closure of the Seaway interrupts a scheduled service. Shippers and carriers must have reliable alternatives. Spliethoff, in particular, plans to redirect its ships to other east coast ports where it has existing business. Lock operations can infrequently pose interruptions, but these are minimal, since the Seaway is underutilized, and since the US and Canadian Seaway authorities have extensive maintenance programs underway.
3. Direct market access. The Seaway is the most geographically direct route to Midwest markets from Europe. Transshipping through east coast ports is more circuitous and can involve additional cargo handling at greater cost, time, and greater risk of damage. As example, a container from an east coast port can require a rail movement to an intermodal yard, then truck to Midwest

destination, versus a short dray from the Port of Cleveland. Also, certain industries are "headquartered" along the Seaway, such as the polymer industry, where Cleveland/Akron/Canton area is known as "polymer valley" due to the number of polymer companies that grew up surrounding the tire industry. This allows direct access to Rotterdam and Antwerp which are the chemical centers of Europe. The auto parts industry is "headquartered along the Seaway as well.

4. Capability to handle the products and volumes. The Seaway moves oversize and overweight cargos effectively, while such cargos can damage the highway and rail infrastructure. Water transportation is also more adept at handling temperature controlled cargos, versus rail, since ships provide a smoother ride versus the vibrations inherent in rail. Since Great Lakes ports do not presently handle containers, they do not typically have container cranes (Toledo being an exception), making container unloading slower than at east coast ports which do. This lack of container cranes and handling facilities makes container loading/unloading slower and more expensive at Great Lakes ports – but can be easily overcome with the addition of container cranes as volumes increase.
5. Security. Water is simply the safest transport mode. This gives it a benefit for most cargos, and ideal for hazmat cargos which otherwise likely be routed overland through multiple population centers between the east coast and the Midwest. Seaway ships are accompanied by a pilot in addition to the captain, adding safety to the voyage.

In sum, the Seaway matches up quite well for many products on time, cost, and the service components of freight demand. However, even with these components in alignment, further external factors can significantly contribute to the success of new Seaway ventures. This is the topic of the next section.

External Factors

Three external factors are singled out that can result in the startup of a service for which cost, time, and service are favorable. They are:

1. Great Lakes port authorities. To initiate a scheduled service, both carriers and shippers must be committed. Carriers, being risk averse, are reluctant to initiate a promising new service without assurance that shippers will guarantee cargos so that their ships run relatively full. Shippers, also being risk averse, are reluctant to offer such guarantees unless they know that the carrier offers a consistent high quality service, which doesn't exist yet. This "chicken-and-egg" phenomenon can delay or destroy the potential for a new service. A Great Lakes port, though, can offer incentives through their economic development role for the region they serve. The incentive can take the form of either a subsidy to the carrier to initiate service, or a time charter of the vessel(s) the carrier provides. Some sort of incentive may be necessary to break through the "chicken-and-egg" phenomenon. Cleveland, Toledo, Erie, and Hamilton port authorities are all be active in encouraging new business and have the ability to offer financial support.
2. Seaway management authorities. The St. Lawrence Seaway Management Corporation (SLSMC) manages the Canadian Seaway interests the the St Lawrence Seaway Development Corporation (SLSDC) manages the US interests. These organizations work together closely and both work toward increased traffic. They have created a third organization, Highway H2O to market the Seaway's availability to both domestic and international companies. Highway H2O identifies parties on both continents who have congruent commercial interests. It has also sponsored the Seaway Competitiveness Study mentioned above, to identify commodities which "best fit" the Seaway. It offers an invaluable resource for potential new shipping opportunities.
3. Independent efforts. Independent efforts can also have a positive effect on initiating a new service between the Great Lakes and Europe. As a case in point, John Carroll

University of Cleveland and the Dutch Consulate working together, hosted a series of conferences in Northeast Ohio on Seaway opportunities. Later, they developed a partnership with Erasmus University of the Netherlands, which resulted in two Dutch Masters students spending four months in the Midwest while finishing their theses. Their results, highly positive on Seaway opportunities from a Dutch perspective, complement the other studies from a North American perspective. This academic partnership resulted in further conferences and a trade mission to the Netherlands. The effort, culminating in the Cleveland Europe Express extended over eight years.

Summary

To date no scheduled services of containers, breakbulk, or project cargos operate between the Great Lakes and Northern Europe. Beginning in April 2014, though, the Cleveland Europe Express will begin a monthly scheduled service between Cleveland and Antwerp. Many other opportunities exist to begin additional scheduled services. Such services can be competitive with east coast routings based on cost, time, and service components. However even if all such factors are aligned, initiating such a service is typically dependent on support from the Great Lakes port involved, and can also draw strength from Highway H2O as well as independent efforts.

References

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