

# IS THERE ROOM FOR MORE GREAT LAKES FERRIES?

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**Christopher Wright  
President  
The Mariport Group Ltd.**

## ***ABSTRACT***

The Great Lakes has seen two auto/pax ferry projects established in 2004 and many other passenger and freight ferries mooted. How are the operating ferries performing and what are the prospects for new routes? The paper will address the history of ferries on the Lakes and look at the factors that are driving new routes and concepts. The paper will also discuss some of the institutional and perceptual issues that will need to be resolved if the proposed ferry services are to succeed.

## ***RESUME***

*Christopher Wright is the President of The Mariport Group Ltd, a specialized marine and port consulting company formed in 1989 and based in Cambridge, Ontario. He commenced his career in shipping with the Westinform Service in London (UK) in 1964, and after a stint with the Chamber of Shipping of the United Kingdom moved to the Bahamas where he was Senior Consultant and a Director of JBC in Nassau. A move to Canada in 1981 created new opportunities in passenger shipping and ferry consultancy, both in North America and internationally.*

*He is a member of the Chartered Institute of Logistics and Transport; The Society of Naval Architects and Marine Engineers and Interferry.*

*He has been involved in ferry projects from Shetland (UK) to South Korea, and has worked on several ferry studies in the Great Lakes. He is currently advising on a commuter ferry project in Halifax Harbour.*

## **INTRODUCTION**

The Great Lakes has had a long history of ferry services, both US and Canadian, as well as cross border operations. New services are being introduced, but many more are being seriously considered. All cross-lake services address the issue of growing road congestion in the US and Canada as well as delays at borders.

The paper will concentrate on ferries that compete with land routes, and will exclude ferries that serve islands as their primary role. It will be divided into four sections:

“*Yesterday*” will deal briefly with the history of lakes ferry activity; “*Today*” will look at current operations and how they are performing; “*Tomorrow*” will review serious developments as well as some blue sky thinking. The paper will wrap up with a brief review of constraints and barriers, some of which are unique to the Lakes.

## YESTERDAY

The Great Lakes used to be a hive of marine activity and it was said, that in the early part of the last century that there were more people asleep on the Great Lakes than on any ocean of the world. Many of those ships were the equivalent of today's Ro Pax ferries or ran day excursions.

However, this plethora of ships of all sizes, types and trades did not last: the Eisenhower Interstate System in the USA, major highway construction in Canada, and the post WWII boom in auto production changed the way people thought about travel and the marine mode. Just to give a flavour of the diversity of operations, following are a few of the ferry services that cover the history of the region.

**Lake Superior** The only ferry that meets the paper's definition is the *Incan Superior* rail car ferry that ran from 1974 until 1992 between Thunder Bay (ON) and Duluth (MN). Service was, reportedly, terminated because of the Harbor Maintenance Fee. She continues to operate today in British Columbia where she was built.

**Lake Michigan** Apart from rail car ferries, which were numerous and commenced service with the *Anne Arbor No. 1* in 1892, the best known was the *Milwaukee Clipper* which ran between Milwaukee and Muskegon from 1941 until 1970. In Chicago, an older vessel was the *Christopher Columbus*, which was the only whaleback built for passenger service. Operating between Randolph Street and Jackson Park during the Columbian Exhibition of 1893, she moved 2m passengers. There were many other long and short haul ferries that operated out of Chicago up to "cottage country" in Michigan, Mackinac Island and Door County. Two well-known ferries were the *Thomas Jefferson* which ran across the lake to St. Joseph, the ill fated *Eastland* and the overnight ferry *Alabama* operated by the Georgian Bay Line.

**Lake Erie** There were many overnight services between Detroit and Buffalo, the *SeeandBee* was one of the biggest and only four-funneller on the lakes. She also ran cross-lake excursions in the 1930 season. The *City of Detroit*, operating on the Detroit Buffalo run, was the first vessel, in 1913, to introduce verandah staterooms. The last ferry service was the *Aquarama*, which operated between Cleveland and Detroit between 1957 and 1963. It was a bold attempt to introduce a new ferry service, but timing was poor relative to personal driving opportunities on a parallel route.

**Lake Ontario** The mainstay of ferry activities on this lake was the many excursion steamers that ran from Toronto to Niagara. The one that lasted the longest was the venerable *Cayuga*, built in 1907 and eventually retired in 1957. In the mid-twentieth century the Rochester ferry went to Cobourg, and the *Ontario I and II* ran regular services hauling rail cars and passengers across the lake between 1915 and 1950.

## TODAY

We have four ferries, all of which recreate older services, although with a twist in some cases. The most directly comparable ferry service is the one between Milwaukee and Muskegon, which was operated until 1970, by the *Milwaukee Clipper* and is now served by the *Lake Express*. The ferry started with a gangbuster season in 2004 between June and October, carrying 28,000 autos and 115,000 passengers. Seakeeping with just interceptors was a problem and a good many sailings in October were lost because of

rough weather. Installation of full ride control system prior to the 2005 season has been fully justified by enhanced comfort on board, significant reduction in lost sailings and increased ridership numbers. Traffic is up 15% in the main cabin, but business cabin traffic is up 27%.

***Milwaukee to Muskegon***

Distance	85sm
Transit time	2hr 30m
Round trips per day	3
Vessel	<i>Lake Express</i>
Speed	34kts
Capacity	46 autos, 248 pax
Off interstate driving	8sm

Another Lake Michigan ferry is the venerable *Badger*. Built in 1952 as an icebreaking rail car ferry it is still providing a seasonal link across the top of Lake Michigan between Ludington (MI) and Manitowoc (WI). As probably the last coal fired passenger ferry in the world it has had the luxury of being able to advertise no fuel surcharges. While they do not make passenger figures available, 2005 was much like 2004 with “over 100,000 passengers”. However, they have seen significant increases (20%) in their commercial traffic.

***Ludington MI to Manitowoc WI***

Distance	60sm
Transit time	4hr
Round trips per day	2/peak season
Vessel	<i>Badger</i>
Speed	15kts
Capacity	120 autos, 620 pax
Off Interstate driving	55sm

The Toronto-Rochester ferry has received considerable press connected with its 2004 debut and rapid demise. Now owned by the City of Rochester and managed by Bay Ferries, the service has been tuned to the realities of the market place and fuel costs. The ferry operates one round trip per day, five days a week. In this way fuel costs have been trimmed to U\$90,000 per week compared with U\$250-300,000 per week with the original schedule. The service still has other negative cost issues to contend with such as Pilotage and Canada Border Service Agency fees for customs and immigration services. Traffic to end August was 72,721 passengers, which was well below forecast, and losses appear to be higher than expected. No vehicle traffic information is available, and data has had to be derived from public sources. This is an induced traffic route, and will need a 5-year ramp up, compared with the more normal 3-year period.

***Rochester NY to Toronto ON***

Distance	98sm
Transit time	2hr 15m
Round trips per day	2
Vessel	<i>The Cat ex Spirit of Ontario</i>
Speed	43kts
Capacity	238 autos, 774pax
Off interstate driving	25sm

The Detroit-Windsor Truck Ferry offers a year round deck barge operation in the shadow of the Ambassador Bridge that serves the oversize/weight and Hazmat market between the US and Canada. Because of customs limitations in Canada (more of which later), it only operates 5 days per week, between 08:30 and 16:30hrs

**TOMORROW**

This section is divided into three components; serious projects that are currently under active development, possible projects that have been researched and may be introduced in the future, and some “blue sky” concepts that may be worth further evaluation.

**Serious Projects**

There are three serious projects for cross lake freight ferries, these are:-

***Cleveland OH-Port Stanley ON***

Distance	86sm
Transit time	3hr 30min
Number of vessels	2
Season:	10 months
Vessels	TBD
Speed	18kts
Capacity	75 trucks or 225 autos, 500 pax
Off interstate driving	19sm

The analysis by the Port of Cleveland, for truck/commercial traffic, was geared towards time savings primarily between the immediate Cleveland hinterland and the London/St. Thomas area in Ontario. Overall market projections for the service were in the range 20-25,000 truck moves per annum. The original concept was for a single Ro-Pax ferry with passenger capacity up to 1,200 persons. However, actual potential for this route, based on a combination of long and short haul business is around 1,000,000 truck moves per annum.

Cleveland selected Wagenborg to implement the service, and it would seem they also see the potential for enhanced truck traffic and a change in traffic mix, given the service characteristics that are now proposed. Commencement of service is not likely before spring 2007 because of delays on the Cleveland side in federal funding for the ferry terminal, and on the Port Stanley side with divestiture of the port of federal to local control.

***Erie PA-Nanticoke ON***

Distance	48sm
Transit time	3hrs 30min
Number of vessels	1
Round trips/day	2
Season	year round apart from scheduled downtime
Vessel	TBA
Speed	16kts
Capacity	5,900 lane feet, 0 pax
Off interstate driving	54sm heading west in Ontario 38sm heading east in Ontario

The route is proposed as a commercial ro-ro service that will complement a separate high-speed passenger vehicle ferry between Erie (PA) and Port Dover (ON). The analysis looked at trucking routes and, through a modelling process, predicted a percentage of traffic that could be captured by the ferry. In 2005 the potential volume of business was estimated at just under 100,000 truck moves/year. Survey work associated with the analysis indicated a high level of interest in the service for both ro-ro and drop trailer service. From a review of cross border truck movements, using MTO data, actual candidate traffic is in the region of 500,000 moves per year.

***Hamilton ON-Oswego NY***

Distance	166sm
Transit time	12hrs
Number of vessels	2
Round trips/day	.5
Season	Year round apart from scheduled down time
Vessels	TBD
Speed	16kts
Capacity	3,200 lane feet, 0 pax
Off interstate driving	11sm

The analysis, given the length of the routing, was targeted entirely at drop trailers and focused on comparative truck routings and costs either direct or via the ferry. This enabled a margin, before ferry charges, to be established based on current truck costs, border crossing costs and surcharges. An analysis of origin/destination pairs that met a minimum margin criteria was then used to help determine the catchment area, and potential traffic level. This showed a potential market of some 200-260,000 moves/year, at 1999/2000 levels. Ferry system capacity, at 100% occupancy was estimated at 15% of market or 3 % of all traffic. Marketing of the service is receiving an enthusiastic response from both shippers and truckers.

**Possible Services**

The above projects are all ones that have been well researched as to market and financial feasibility and are in active development. Turning to more speculative ventures, or ones which have been researched to different levels of detail but are on hold at present, the following are of interest:

***St. Joseph (MI)-Chicago(IL)***

Distance	60sm
Transit time	2.5hr
Number of vessels	1 possibly 2
Round trips/day	3 peak, 2 low
Season	Year round apart from scheduled down time
Vessels	pax only T Boats
Speed	30kts
Capacity	150 pax, economy and business class
Off interstate driving	not applicable

The service has been research, surveyed and ridership established.

***Niagara ON-Toronto ON***

Distance	29sm
Transit time	1hr
Number of vessels	2
Round trips/day	8 peak, 5 low
Season	Year round apart from scheduled down time
Vessels	pax only ferries
Speed	35kts
Capacity	3-400 pax, economy and business class
Off interstate driving	not applicable

The service, which includes a coach operation in Niagara, has been researched, but not surveyed. Estimated ridership over a very wide range of users, together with the interest of entities at both ends of the run suggests that a viable service could be established. Based on available information, the actual market is between 2-3m trips pa..

***Hamilton ON-Prescott ON***

Distance	244sm
Transit time	18hrs
Number of vessels	2
Round trips/day	5
Season	Year round apart from scheduled down time
Vessels	3,700 lane feet double deck ATB's
Speed	14kts
Capacity	70 drop trailers
Off interstate driving	2sm

The core market, based on 1999/2000 survey work by MTO is about 900 units/day in each direction between Quebec and Atlantic Canada and the immediate Hamilton area. Preliminary work has been undertaken, but temporarily shelved by the principals in favour of work on the Hamilton-Oswego route.

***Oshawa ON-Oswego NY***

Distance	120sm
Transit time	1 hrs
Number of vessels	1
Round trips/day	1
Season	Year round apart from scheduled down time
Vessels	small auto carrier
Speed	12kts
Capacity	450 vehicles
Off interstate driving	not applicable

Oshawa used to have a service into Oswego that ran for a time in the early 1980s. The Lakespan ferry was, however, in the wrong place to attract trucks as the locus of activity is west of Toronto – about 50 miles away. The concept here is to access GM’s assembly plant in Oshawa, shipping cars cross-lake and using Oswego’s direct rail access to get vehicles into GM’s distribution system.

***Monroe MI-Kingsville ON***

Distance	35sm
Transit time	2hrs
Number of vessels	1
Round trips/day	3
Season	Year round apart from scheduled down time
Vessels	TBD
Speed	18kts
Capacity	45 vehicles, 250pax
Off interstate driving	23sm

This would work best as a passenger vehicle ferry using one, possibly two, intermediate speed ferries. The Sea Transport stern loading ferries would probably be a good match for the route and would enable it to commence at reasonable cost. No specific traffic research has been done, but there are reported to be in excess of 1m visitors to Ontario from Ohio, and close to .5m Ontario travellers to Ohio. The route would save users 2-3 hours driving and border delays. Thus it could feasibly capture significant Ontario/Detroit traffic disenchanted with the Ambassador Bridge crossing.

***Alpena MI -South Baymouth (Manitoulin Island ON)***

Distance	85sm
Transit time	6hrs
Number of vessels	1
Round trips/day	1
Season	6 days per week, mid May to mid October
Vessels	Nindaweyma
Speed	16kts
Capacity	125 vehicles, 400pax
Off interstate driving	125sm

This ferry service was researched in 1994 and intercept surveys indicated that a seasonal ferry with similar passenger numbers to the *Badger* could be established. Growth in tourism in the region suggests that an interesting circle route could be offered, including both this ferry and either the *Badger* or the *Lake Express*.

### ***Erie PA-Port Dover ON***

Distance	55sm
Transit time	2hr
Number of vessels	1
Round trips/day	3 peak, 2 low
Season	Probably seasonal
Vessels	auto/pax K Boats
Speed	34kts
Capacity	46 vehicles, 250 pax, economy and business class
Off interstate driving	35sm

The route was served by the auto/pax ferries *Keystone, Silver Spray and Erie* in the 1920's. The proposed high-speed service has been researched, and surveyed. The ferry proposed would be very similar to the *Lake Express*.

### **Blue Sky Routes**

Ferry routes in the blue sky category are a couple of Ro Pax operations, one between Duluth and Thunder Bay, and one between Toronto (via Midland) and Milwaukee, and a freight ferry between Niagara and Toronto.

The Lake Superior route is an ideal overnight service on alternate nights, running at relatively low speed. Lake Superior has been very popular as a cruise destination, but there are limited opportunities to actually take a cruise. The 170nm run could work with an 18:00hrs departure and a 09:00 arrival at either port. The service could run six days a week and would appeal to drive tourists on a round Lake Superior trip; tour operators in the Minneapolis/St. Paul area; motor and mobile home tourists. The operation would be seasonal, so an alternate winter operation would need to be found, possibly across the Gulf of Mexico.

The run between Midland, on Georgian Bay, and Milwaukee would be targeted at travellers between Chicago and Toronto. Midland is a two-hour drive north of Toronto, but because of the geography of the region, saves at least 36 hours steaming from Toronto via the Welland Canal and Lake Erie. While Chicago would be a desirable terminus location, landing vehicles at Navy Pier is probably not an option, and Milwaukee is only 1.5-2 hours from the centre of Chicago. The run could be done in 36 hours at 14kts, or 24 hours at 18.5kts. Again, this route would be popular as a short cruise and as a different travel opportunity compared with the twelve-hour drive plus border delays. Mariport has received many enquiries for such a ferry service from tour and motor/mobile home groups. While the 36-hour run would probably be preferable from a cost and revenue perspective, only three one-way trips per week could be achieved. Investigation would be needed as to the number of round trip cruise passengers versus one-way travellers to see if this was acceptable.

The freight ferry between Niagara and Toronto would use five double-deck, high-speed ro-ro ferries.

This concept was triggered by the Ontario Government planning for a mid peninsula Highway that might connect a new Peace Bridge with the QEW in Burlington ON.

Estimated costs for such infrastructure are very high, with the new road and bridge possibly being in the \$4bn range. A marine operation that would provide a “floating highway” to Toronto would seem to make better sense and have some major benefits relative to environmental impact and road congestion on the QEW. Depending on port location in the Niagara area, the run would range 25-35sm compared with a highly congested 82sm by road.

Five double deck powered ro ro barges could offer an hourly departure schedule with a capacity of about 120 mixed tractor-trailers per hour in each direction, or 100% of current Niagara annual truck movements. Ideally the service would operate from the US side of the Niagara River, linking into the Robert Moses Parkway and serving a dual role as highway and bridge.

Potential environmental and social benefits of such a service were estimated in 2003 at about \$10m annually.

## **WHAT ARE THE BARRIERS?**

### *US Issues*

- *Harbor Maintenance Fee*, being a value based fee on all goods unloaded in US ports, it acts as a major deterrent to new freight operations targeted at getting trucks off the road, as their cargo tends to be fairly high value. There have been some approaches in the US to remove this fee from application to freight ferries. However, they do not appear to be drafted in such a way as to be revenue neutral or to apply to NAFTA partners, as well as within the USA.
- *The US Oil Pollution Act (OPA 90)* inadvertently made the Lakes a compulsory Pilotage area by requiring non-US Flag ships to have a pilot on board when in US waters. On the ocean coasts this means three miles, but in the Lakes the border goes down the middle of lakes and channels. There is an exclusion for Canadian Flag vessels in the Lakes, but this does not necessarily help a ferry operator looking to bring in a non-North American Flag vessel to run a seasonal operation. The result is a Pilotage cost of around US\$1,500 per one-way trip.
- *US Customs and Immigration Services*. It can take at least 18 months, even with political assistance, to get services in place to handle a ferry operation and there are stringent infrastructure requirements. However, unlike in Canada, at least the service does not cost the operator.
- *Security*. Although the situation has not been formally tested as yet, there are strong suggestions that a freight ferry would be considered to be a cargo ship, and more stringent (and slower) security procedures would be implemented. As a ferry terminal is essentially another border crossing, we cannot see why the same procedures that are in place at a land crossing cannot be used.
- *Johnson Act* This is a holdover from the Al Capone era, and prevents the transportation of gambling equipment across state lines on the Great Lakes. As many

ferry operators would like to introduce slot machines for added revenue, this reduces opportunities for on board revenue, and keeps fares high<sup>1</sup>.

- *Certificate of Compliance and USPH* These are only a barrier if foreign flag vessels are introduced into cross border passenger service. The Certificate of Compliance is a USCG document that is provided following plan review and inspections regarding fire safety, smoke routes and life saving. It can take at least 6 months. US Public Health has very strict structural requirements in ship's galleys that far exceed IMO requirements. Most none US flag ships, if not built for US trade will not meet the standards. Operators may have to strip out and rebuild galleys, or abandon hot food service. US operators have similar, but not quite as severe problems in moving an intrastate ferry into interstate service, and meeting USFDA regulations on food service.

### ***Canadian Issues***

- *The Canadian Coasting Trade Act* has two provisions that impact ferries, one is the duty provision of 25% on value if you want to put the vessel into Canadian Flag. While there is not the same duty provision for US Flag, both jurisdictions have a non-tariff barrier of requiring upgrades to current regulations. On the whole, we have found it easier negotiating with USCG than with Transport Canada.
- For passenger operations, the same act has a peculiarity for operations west of Montreal and east of the Fraser River in British Columbia. That is, a round trip from a Canadian port is considered to be a domestic voyage, even if it touches a foreign port. This is not an issue for the freight ferries, but it is a real problem for cross-lake passenger ferries.
- *Canada Border Services Agency* will provide services promptly at any new ferry operation, but only with full cost recovery. This is very costly and as an example, the Detroit-Windsor truck ferry has to pay \$50,000/year for a single officer 5 days/week, 8:30-4:30pm, while on the bridge above them multiple officers provide service at no direct costs to the user

### ***General Issues***

Merchant Banks in North America seem to be very happy to extend facilities to dubious operations in energy, telecoms and real estate, but they will not even countenance a marine risk, even with extensive shareholder equity and a solid business plan in place. The perception seems to be that a boat is a hole in the water into which one pours money, not a potential revenue earner with a solid resale value.

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<sup>1</sup> Ryan Air in Europe has recently suggest not charging for flights as they feel that gambling revenue would bring in enough revenue to pay for operations.

### *Conclusion*

While we may never see the level of passenger and ferry activity on the Lakes that existed through the 1950s, we could, with some flexibility by bureaucrats on both sides of the border, see a remarkable array of new services that could:

- Reduce border congestion by diverting at least one million crossings a year
- Reduce road traffic on high use urban highways in both Canada and the USA by potentially three million trips a year
- Reduce accidents and improve the quality of life in border states and provinces
- Enhance tourism opportunities in the region by providing an original experience.