

MONTHLY

REVIEW

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FEDERAL RESERVE BANK OF MINNEAPOLIS

NOVEMBER 1965



Great enthusiasm prevailed in the states bordering the Great Lakes when the St. Lawrence Seaway was opened to traffic on April 25, 1959. Although a comparatively small tonnage of cargo had been shipped in small vessels between the Great Lakes and foreign ports since the days of early settlements, the completion of the 27-foot-depth channel from Lake Ontario to Montreal opened, for the first time, the Great Lakes' regional economy to world-wide markets by a direct ocean transportation route.

Tonnage of cargo carried on the Seaway during the first seven navigation seasons fell substantially below the projections on anticipated traffic made during the planning stage even though it rose significantly each year following the second. This latter development has justified optimism at Great Lakes ports to such an extent that new facilities are being constructed to handle larger volumes of freight in the future.

Growing use of the Seaway, as evidenced by growing tonnage figures, is gradually changing the route of the flow of commerce between United States, Canadian, and other foreign ports. Of spe-

cial interest in the Ninth Federal Reserve district is the change which has taken place in the movement of commodities through district ports.

Financially, the Seaway has been only a qualified success. Revenues have been less than anticipated and liquidation of indebtedness may take a longer period than was originally scheduled.

Tonnage on the Seaway

Before the Seaway was opened, the United States and Canadian toll committees projected the cargo tonnage to reach 33 million tons by 1961 and 50 million tons by 1968. Traffic on the St. Lawrence River between Lake Ontario and Montreal, consisting mainly of St. Lawrence canal vessels with a maximum draft of 14 feet, had reached 13.5 million tons in 1956; then it declined somewhat during the two shipping seasons immediately preceding the opening of the Seaway. According to the growth in the annual tonnage on the Seaway through 1964, as measured by the volume passing through the 27-foot channel from Lake Ontario to Montreal where the tolls are collected at the locks, the total may reach the 50-million-ton pro-

jection a few years later than anticipated. In 1961 tonnage totaled 23.4 million, nearly one-third short of the projected figure, but it increased in each successive year from 9 per cent to 27 per cent annually. Nearly double the tonnage of the first year (20.4 million tons) was carried through the locks in 1964 (39.3 million tons), the latest complete season of record (Table 1). In spite of the late opening of the Seaway in 1965 due to the late break-up of ice on the lakes, the tonnage shipped via the Seaway by the end of September had set a new record, 3 per cent above the comparable total for 1964.

Types of cargo

The commodities shipped over this new water route have been largely of the bulk type — principally grain and iron ore — as were those shipped on the St. Lawrence before the Seaway was opened. Since most Great Lakes ports, in preparation for the increased tonnage, were equipped to handle general cargo as well as bulk, port authorities have expressed disappointment with regard to the small volume of general cargo transported via the Seaway — particularly since its handling generates more income in a port area than do bulk cargoes.

Bulk cargo, which can be handled at relatively small cost, averaged annually about 90 per cent of the total tonnage carried on the Seaway from 1959 through 1964. In addition to the large quantity of grain and iron ore, this type of cargo included other minerals, liquids (principally petroleum, some grease, tallow, lard, linseed oil, etc.),

pulpwood, poles and logs, woodpulp, waste paper, iron and steel, scrap and pig iron.¹ General cargo included mostly crated goods, including machines and equipment, requiring special handling — cargoes which comprised annually only from 9 per cent to 11 per cent of the total tonnage.

Origin and destination

An examination of the kinds of commodities and of the growth in tonnage originating at Great Lakes ports, both in the United States and in Canada, reveals the importance of this direct ocean route into the central North American continent.

Exports. The products shipped from Great Lakes ports during the first six years of complete record, both from the United States and from Canada, were mainly agricultural products — principally grain plus a small quantity of animal products (Chart 1). Grain and grain products ranged from 70 per cent in 1961 to 81 per cent in 1964 of the total downbound tonnage; animal products another 1.5 per cent to 2.5 per cent. Most of the remaining tonnage consisted of manufactured products originating at U. S. midwest ports and some mine products such as coal originating at the eastern end of the Great Lakes region. The kind of products shipped from Great Lakes ports indicates that the Seaway route was utilized principally to place midwest agriculture, in both the

¹The toll committees established by the Seaway agencies of the United States and Canada have included domestic package freight of each country under the bulk category for the purposes of tolls.

TABLE 1 — ANNUAL TRAFFIC ON THE SEAWAY BY PRINCIPAL TYPES OF COMMODITIES, 1959-1964

Years	(thousands of cargo tons)							Total
	Grains	Animal Products	Mine Products	Manufactures and Misc.	Forest Products	Package Freight		
1959	7,375.3	128.1	8,153.7	3,896.3	295.1	503.1	20,351.7	
1960	8,220.5	224.8	6,476.5	4,549.4	284.4	554.9	20,310.3	
1961	10,674.3	277.2	6,089.9	5,553.9	206.3	616.1	23,417.7	
1962	11,333.8	307.4	8,190.0	4,887.9	252.4	622.2	25,593.6	
1963	13,814.0	404.9	10,307.8	5,551.4	310.7	554.1	30,942.9	
1964	16,940.6	540.0	14,172.7	6,694.3	336.5	625.0	39,309.0	
1965*	—	—	—	—	—	—	29,900.0	

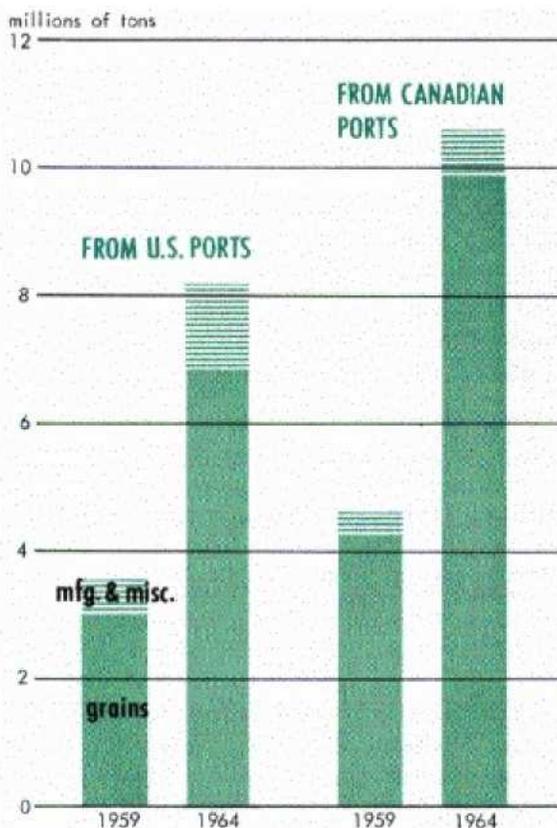
*Through September.

Source: For years 1959-1962, St. Lawrence Seaway Development Corporation Annual Reports; for years 1963 and 1964, Traffic Report of the St. Lawrence Seaway, 1963, p. 23 and 1964, p. 23.

United States and Canada, in a better competitive position in world grain markets. The export breakdown indicates, however, that manufacturers in the Great Lakes region did not utilize the route as an aid in opening up new foreign markets for their products.

The tonnage growth that took place during the first six navigation seasons of complete record indicates in some measure the benefit that the Seaway route had principally on agriculture in the Great Lakes region. For midwest agricultural products, this ocean route also changed the relative importance of the cargo destinations which fall

Chart 1 — Tonnage of the two principal products downbound on St. Lawrence Seaway from U. S. and Canadian ports, 1959 and 1964.



into three meaningful geographic regions: the eastern coast of the United States, eastern Canada, and overseas countries.

From the United States. Only a small part of the cargo originating at U. S. Great Lakes ports was shipped to the eastern ports of the nation — 24,600 tons in 1959, rising to 94,900 tons in 1962, and again declining in subsequent years. The principal commodities shipped were petroleum products and industrial chemicals. No grain, grain products, or other agricultural products were shipped following the 1960 establishment by railroads of lower export-import rates to coastal ports.

Most of the cargo was consigned either to overseas countries or to eastern Canada. The largest tonnage was shipped overseas, and this amount increased annually with the exception of one year, 1963, when there was a marked decrease in grain shipments. In all, from 1959 through 1964, the total tonnage of overseas consigned cargoes doubled, rising from 2,759,000 tons to 5,609,000 tons. Principal commodities shipped were grain and some wheat flour; and, although there was considerable fluctuation in the annual tonnage of grain shipped due both to the crops harvested in the Great Lakes region and to the demand in foreign countries, this tonnage nearly doubled between 1959 and 1964. A small tonnage of animal products, mostly edible packing house products, was shipped, reaching nearly 500,000 tons in 1964. Industrial products shipped to overseas countries, consisting chiefly of iron and steel scrap and manufactured iron and steel, ranged in volume from less than 500,000 tons in 1959 to almost 2 million tons in 1961. Small tonnages of food products, machinery, chemicals, and petroleum products were shipped annually. Shipments also included small quantities of mine products (clay, bentonite, and coke), in no year totaling much over 100,000 tons.

A substantial tonnage, although less than to overseas countries, was shipped to eastern Canada. Much of this cargo, again principally grain, was trans-shipped from open water ports to overseas

countries during the winter season when the St. Lawrence Seaway was closed. Less than 1 million tons (856,000) of grain were shipped in 1959, but as additional terminal storage facilities at ocean ports were completed, the tonnage increased rapidly to reach nearly 3 million tons in 1964, 2 million less than the quantity shipped directly to overseas countries. Mine products consisting of coal and coke and a small tonnage of clay, bentonite, and salt aggregating 838,000 tons in 1964, were also shipped to eastern Canada. The amount of industrial products shipped was insignificant — the largest total being 84,300 tons in 1964.

From Canada. Cargo originating at the Canadian Great Lakes ports was shipped almost entirely to eastern Canada and to overseas countries, only a very small amount to the eastern United States. Following 1959, these U. S.-bound shipments consisted almost entirely of newsprint.

By far, the largest shipments from Canadian Great Lakes ports were to eastern Canada. Since the primary purpose of the Seaway for Canada was to improve transportation between its Great Lakes and eastern terminal ports, the fact that total tonnage rose rapidly from slightly over 4 million tons in 1959 to almost 10 million in 1964 is not surprising. Grain, mostly wheat, constituted over 93 per cent of the total tonnage in 1964; the remaining less than 7 per cent was made up of manufactured goods consisting of petroleum products, chemicals, cement, tar-pitch, creosote, and salt. A small tonnage of package freight was shipped from the Canadian Great Lakes ports to eastern Canada aggregating nearly 400,000 tons in 1964.

The cargo originating at Canadian Great Lakes ports for shipment overseas grew slowly in contrast to the volume shipped to eastern Canada. The tonnage totaled 823,000 in 1959, rose to 1,387,000 in 1960, and remained close to that volume in subsequent years. Agricultural products only slightly exceed the volume of manufactured goods exported. In tonnage, wheat, the principal commodity, was followed closely by soybean oil,

coke, and meal. The principal manufactured goods exported were iron and steel scrap and iron and steel products. Other goods included a small tonnage of chemicals, synthetic rubber, and food products. The highest annual amount of manufactured goods exported was 579,000 tons in 1960 — thus, indicating no growth in the export of such merchandise.

Imports. When the St. Lawrence Seaway opened Great Lakes ports to direct ocean transportation, it also opened them to foreign producers. A situation of increased competition thus presented itself, especially for producers of iron ore in the Lake Superior region who could conceivably find themselves competing in the lower-lake ore markets not only with eastern Canada but with overseas countries.

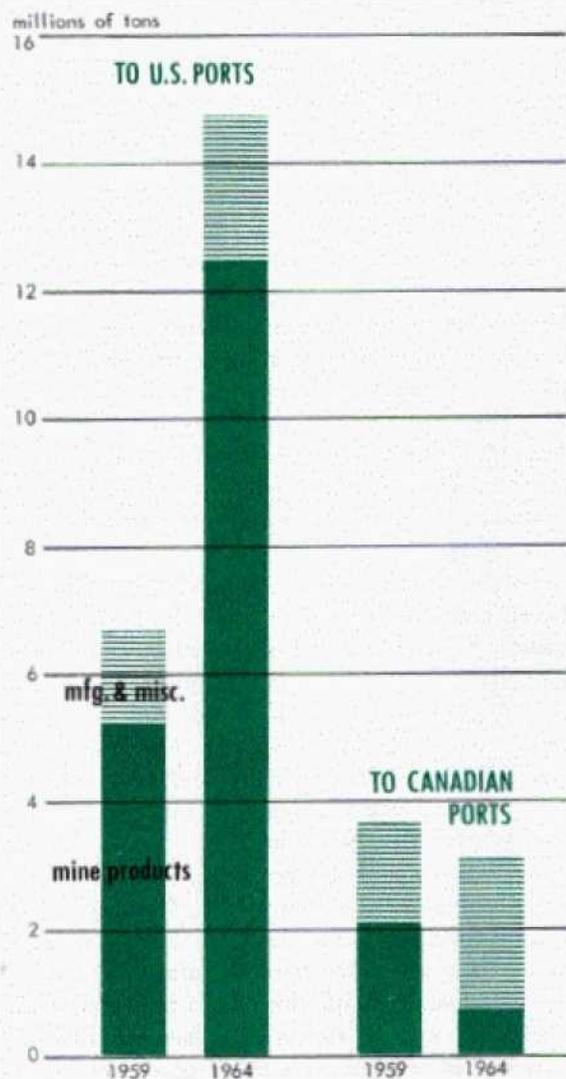
That foreign ore did indeed flow in is evidenced by the fact that the increase of imports at both United States and Canadian Great Lakes ports via the Seaway over the six-year period of complete record was mainly in mine products (Chart 2). This with manufactured goods aggregated from 93 per cent to 96 per cent of the total annual tonnage. The remainder was a small tonnage of grain, animal products, forest products, and Canadian package freight.

To the United States. Imports at U. S. lower Great Lakes ports were mainly iron ore from eastern Canada in 1964 aggregating 12,122,000 tons. Other commodities from eastern Canada included grain, sulphur, pulpwood, and manufactured goods. The latter category consisted principally of newsprint and a lesser quantity of pig iron and fuel oil. The tonnage, exclusive of the iron ore, totaled 770,000 in 1964.

At U. S. Great Lakes ports, the cargo originating at overseas ports grew slowly. The tonnage in 1959 totaled 1,053,000; in 1964, 2,051,000. The bulk of the shipments were manufactured goods, the principal items of which were iron and steel. Each year a wide variety of items, constituting only a small tonnage, were imported; for example,

mineral products, principally aluminum ore, aluminum ore concentrates, and sulphur, imported in 1964 totaled 214,000 tons. The importation of iron ore from overseas countries such as Venezuela, Liberia, and Sweden, which had been anticipated when the Seaway was opened, did not materialize.

Chart 2 — Tonnage of the two principal products upbound on St. Lawrence Seaway to U. S. and Canadian ports, 1959 and 1964.



An insignificant tonnage of incoming cargo at U. S. Great Lakes ports originated on the eastern coast of the United States. Shipments of petroleum products, the only item transported, in 1963 and 1964 constituted 58,000 and 54,000 tons respectively.

To Canada. Imports at Canadian Great Lakes ports were much smaller than at U. S. ports. In 1959, the first year of Seaway operation, the tonnage was slightly over 4 million. The total declined in the subsequent two years and then rose again to reach 3,530,000 tons in 1964.

By far, the largest Canadian tonnage up the St. Lawrence Seaway originated in eastern Canada. Such tonnage aggregated 3,143,000 in 1959 but was closer to 2 million in subsequent years. Over one-half of the tonnage in 1963 and 1964 consisted of refined petroleum products; the second largest, coal (389,000 tons in 1964); and a small tonnage of pulpwood. A decline occurred in the shipment of some products: iron ore shipments fell steadily from 1,180,000 tons in 1959 to 35,800 in 1964; crude petroleum, from 184,000 tons to none. Package freight aggregated 214,000 tons in 1959 and 230,000 tons in 1964.

Imports at Canadian Great Lakes ports from overseas countries in two years exceeded 1 million tons — 1,174,000 in 1960 and 1,188,000 in 1964. Manufactured products were the principal items — refined petroleum products, iron and steel, sugar, and some food products. In the mineral category, shipments consisted of small tonnages of crude petroleum, aluminum ore, and aluminum ore concentrates.

An insignificant volume of cargo destined for Canadian Great Lakes ports originated at the U. S. eastern seaboard. For instance, in 1964 such shipments consisted of 15,000 tons of refined petroleum products and 6,700 tons of iron and steel manufactured products.

Ninth district Seaway traffic

The opening of the Seaway has brought changes in the movement of commodities through district

Great Lakes ports. Much of the surplus district grain, for example, is now shipped directly to overseas ports. On the other hand, the direct ocean route so far has not opened up export markets for district manufacturers as was anticipated; and also the Seaway has opened the market for iron ore at lower Great Lakes ports, historically supplied from Ninth district iron ranges, to imports from foreign deposits.

In the Ninth district, the overseas exports and imports have funneled through the port of Duluth-Superior, with the exception of iron ore pellets which were also shipped from Silver Bay and Taconite Harbor beginning in 1961.

Overseas commerce. The opening of the Seaway expanded direct overseas shipments from the Duluth-Superior port. According to the Seaway Port Authority of Duluth, exports rose from 17,600 tons in 1958 to 1,981,000 tons in 1959, the first year of the Seaway operation. In subsequent years, exports gradually increased, reaching 3,222,000 tons in 1964. The largest volume of exports by far was grain. Each year a large number of ocean vessels arrived without cargo to load grain for delivery at foreign ports (overseas shipments of grain ranged from 1.2 million tons in 1963 to 2.1 million tons in 1962 and 1964). To date the volume exported has depended largely on the demand for U. S. grains in overseas countries: the midwest has had a surplus supply of grain each year. Also, a drought in Europe stimulated an unusual demand for U. S. grain in Europe in 1959.

Imports received from overseas countries at the Duluth-Superior port continue to total far below the tonnage shipped out to those countries. Receipts of overseas tonnage prior to the opening of the Seaway was only 2,700 tons in 1957 and 3,800 tons in 1958. This tonnage figure rose to 11,700 in 1959, the first year of Seaway operation, and in subsequent years rose slowly reaching 44,600 tons in 1964. The principal commodities received from overseas ports were iron and steel, aluminum ores, food products, liquors, and wines.

Canadian commerce. Along with the increased exports to overseas countries, the exports from Duluth-Superior to Canadian ports on the Great Lakes and on the eastern seaboard also grew. In 1959, 1,711,000 tons were exported to Canada, and this total rose to 2,930,000 in 1960 and to 2,982,000 in 1963.

A portion of these exports was grain shipped to eastern Canadian ports for overseas shipments, the annual tonnage aggregating considerably less than 1 million with the exception of one year, 1963, when it rose to 1.3 million. Other commodities exported to Canada have been iron ore, iron ore concentrates, and some crude petroleum.

Imports from Canada were very small consisting mostly of salt and woodplup.

Intra-Great Lakes commerce. Shipments from the Duluth-Superior port to other Great Lakes ports declined slightly with the opening of the St. Lawrence Seaway. Grain shipments to Buffalo for rail shipment to Baltimore, a traditional route, declined from approximately 2.5 million tons to about 2 million tons. In addition to grain, the principal commodity shipped out of Duluth-Superior to Great Lakes ports historically has been iron ore and the annual tonnage has varied substantially. In 1957 the total rose near the high for the 1950s to 46,593,000 tons, but in 1962 it was down to 18,860,000 tons.

From the record, it is evident that the opening of the St. Lawrence Seaway had some effect on the tonnage totals and types of commodities shipped through other Ninth district ports. As the import of iron ore from eastern Canadian ports increased, the shipments of Lake Superior ores declined. Now the demand for iron ore concentrates has strengthened and shipments from the Lake Superior region will increase as new facilities are placed in operation for the mining and beneficiation of the abundant low-grade ores.

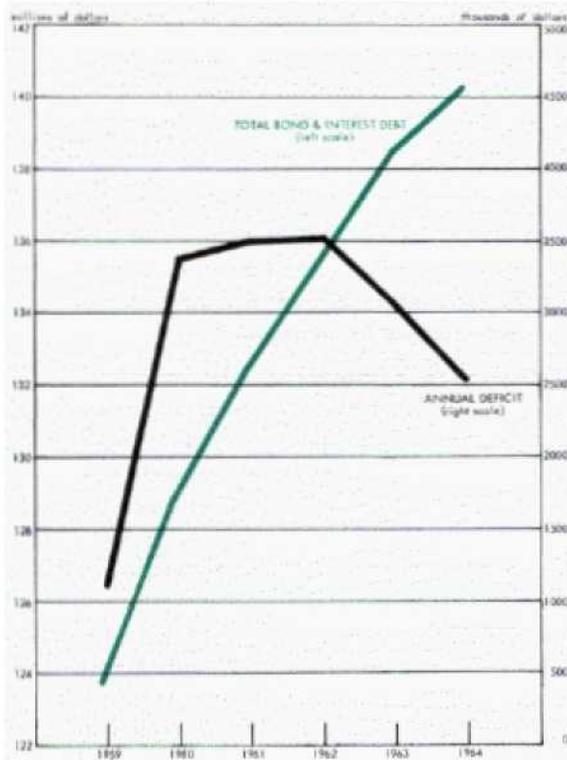
Seaway toll revenue and indebtedness

The St. Lawrence Seaway Development Corporation was established by Congress to administer the

construction and operate the Seaway in cooperation with the St. Lawrence Seaway Authority of Canada, the comparable agency established by the Canadian Government. The United States' agency was created as a self-sustaining and self-liquidating enterprise, and the construction of the United States' portion was financed by the proceeds from revenue bonds issued to the Secretary of the U. S. Treasury. The tolls charged were to be sufficient to cover all operating and maintenance costs, to pay the interest on the bonds, and to repay the principal within a period of 50 years. With the deferred interest charges, the debt to both the Canadian and United States Governments at the end of 1964 was over \$460 million (Table 2 and Chart 3).

An agreement was entered into by the St. Lawrence Seaway Development Corporation of the United States and the St. Lawrence Seaway Authority of Canada, that, initially, toll revenues collected for passage through the Montreal-Lake Ontario section would be divided in a ratio of 29 per cent to the Corporation and 71 per cent to the Authority. These percentages were based on the ratio of gross revenue the two Seaway agencies anticipated they would require to pay for operation and maintenance expenses, interest on bonds, and repayment of bond principal. This division of revenues applied only to a complete transit through all seven locks in the Montreal-Lake Ontario section; for other transits, each agency received tolls for transit through locks in its own country.

Chart 3 — Total bond and interest debt and annual deficit, St. Lawrence Seaway.



In establishing the rate for tolls, the toll committees of the two Seaway agencies anticipated a 10-year developmental period extending to 1968 during which interim the revenues might not be

TABLE 2 — ST. LAWRENCE SEAWAY DEVELOPMENT CORPORATION STATEMENT OF REVENUE, EXPENSES, AND INDEBTEDNESS,* 1959-1964.

(Selected items from "Statement of Financial Condition," and "Statement of Revenue and Expenses")

Years	Expenses					Total	Net Loss for the Year	Accumulated Deficit	Total Bond & Interest Debt
	Total Revenue	Operation & Maintenance	General Administration	Depreciation	Interest on Investment of U. S. Govt.				
1959	\$3,204,494	\$ 690,067	\$ 261,166	\$ 744,578	\$2,604,353	\$4,300,164	\$1,095,670	\$ 1,095,670	\$123,778,523
1960	3,115,040	887,026	337,874	1,135,548	4,129,179	6,489,627	3,374,587	4,470,257	128,899,467
1961	3,407,461	958,614	350,381	1,166,760	4,432,759	6,908,024	3,500,563	7,970,820	132,516,737
1962	3,700,259	1,084,740	370,732	1,215,164	4,550,655	7,221,291	3,521,032	11,491,852	135,492,392
1963	4,443,683	1,124,493	376,082	1,196,811	4,666,262	7,363,648	3,053,999	14,545,851	138,561,270
1964	5,591,401	1,251,250	400,094	1,672,593	4,792,257	8,116,194	2,519,176	17,065,027	140,379,662

*United States portion of Seaway.

Source: St. Lawrence Seaway Development Corporation Annual Reports.

sufficient to meet all of the annual financial obligations. The "Memorandum of Agreement" made in 1959 provided for a review of tolls after five complete seasons of navigation had elapsed. Toll committees were appointed in 1963 in both Canada and in the United States and on the basis of the review, they recommended to their respective governments that the schedule of tolls in effect be extended by two years, to the end of the 1966 navigation season. At the end of the two-year extension, the toll revenues again will be reviewed in relation to the financial requirements of the two Seaway entities.

The St. Lawrence Seaway Development Corporation, the U. S. entity, expected to meet all operating and maintenance expenses but not all interest due on bonds during the first five years of operation. It was anticipated by 1968 that the revenues would be sufficient to pay the interest that had been deferred and in the remaining 40 years liquidate the indebtedness.

The toll revenues accruing to the St. Lawrence Seaway Development Corporation in the first six years of operation have been sufficient to cover all operating and maintenance expenses, general administration, depreciation charges, and part of the interest due on the indebtedness. The annual deficit in meeting all financial obligations rose from \$1,095,000 in 1959 to \$3,521,000 in 1962. Beginning in 1963, the deficit declined and in 1964, it was down to \$2,519,000. The accumulated deficit at the end of 1964 was \$17,065,000 raising the total indebtedness to the United States Government from \$123.9 million in 1959 to \$140.4 million. Thus, revenues from the tolls assessed may not be sufficient to liquidate, within a period of 50 years as was scheduled, the cost of the Seaway construction and the deferred interest charges. The toll collections have covered operating expenses but only a part of the interest and principal payments due on the debt up to this time.

General evaluation

The traffic on the Seaway route has fallen below

the projections on tonnage made during the planning stage of the project because during the development period more obstacles have confronted shipping on the Seaway than had been anticipated. While some difficulties remain, many have been solved.

The biggest physical obstacle to expanded traffic was the shallow depth of connecting channels and of some Great Lakes ports. The deepening of connecting channels near Detroit and at Sault Ste. Marie was completed in 1962 and the dredging of a majority of ports to the 27-foot depth necessary to accommodate larger vessels was finished in 1964. Bulk cargo shippers have benefited most from the uniform 27-foot depth throughout the Great Lakes. Grain boats can now take on larger loads at lake ports and then top-out with less additional grain at lower St. Lawrence River ports. Double handling of grain is reduced, and rates on the Great Lakes are beginning to reflect the saving.

Competition from competing transportation media has been stiff and rates between these media are now appearing in the differentials of costs. Competition has come principally from railroads, barge lines, and Atlantic and Gulf Coast ports. Railroads in 1959 established lower export-import rates on profitable long-haul traffic to coastal ports but did not reduce rates on short hauls to Great Lakes ports. The rate structure, however, is gradually being equalized. A few western railroads have established lower export-import rates to Great Lakes ports and the Chicago and North Western has been active in seeking new traffic for the Great Lakes ports it serves. Barge lines established lower rates after the Seaway was opened and have taken some potential cargo from the Seaway, principally grain produced west of the Mississippi River. These rates, too, are being stabilized.

Shippers have complained about poor service at Great Lakes ports, but it is improving. Stevedoring, while not yet up to coastal port standards, is getting better. Nearly all ships handling general cargo on the Seaway now operate under uniform conference rates and shippers face less bargaining

over ocean rates. At the principal ports, ships run closer to schedule with fewer costly delays as captains have gained experience in navigating the Seaway's narrow channels and tricky currents.

Port cities are competing for both general and bulk cargo and are building new facilities and allocating funds for promotional activities. For instance, a new 5-million-bushel grain elevator recently was completed at Superior, Wisconsin.

The tonnage on the Seaway in recent years has been depressed as a result of a shift in the source of industrial raw materials. The importation of eastern Canadian iron ore has lagged as steel producers have turned to a wider use of low-grade concentrated ore from the Lake Superior region which reaches mills in the lower Great Lakes region without going through the Seaway. While detrimental to greater utilization of the Seaway, this development, of course, has stimulated greater activity in the ore mining regions of the Ninth district. Furthermore, a reduction in ocean shipping rates has made it more practical to continue the shipment of ore from overseas countries to eastern steel mills through Atlantic ports instead of through the Seaway.

That the Seaway route is partially fulfilling the original objective is evident by observing the growth of Canadian traffic. As indicated, the Canadian purpose in constructing the Seaway was to improve transportation between Great Lakes ports and eastern coast ports — and, indeed, the tonnage between these ports has risen materially. In the United States the objective was to provide a better link for mid-continental agriculture and industry with overseas markets. The Seaway has provided an improved outlet for midwest agricultural grain; and although it has not proven to be an outlet for industrial products, it has opened the midwest industrial region to foreign raw materials which will be needed in ever larger quantities in the future.

Although the problem of liquidating the indebtedness incurred by Canada and the United States within the originally planned 50 years still persists, according to the growth figures on annual tonnage the Seaway, over a longer period of time, may yet prove to be the sound financial adventure originally projected.

—OSCAR F. LITTERER

Current conditions . . .

Business activity in the Ninth district continued its favorable upward trend during the third quarter of 1965 — much as it has been trending since the first of the year. District industrial production as measured by the indexes of industrial use of electric power and of production worker man-hours advanced strongly in each of the first eight months.

Employment gains, too, were consistent with

the forward push, with nonagricultural employment averaging an annual growth rate of 2.6 per cent. The level of help wanted advertising in the district rose sharply during the first eight months, indicating a brisk demand for labor. Part of the employment gain can be attributed to construction activity in the taconite industry. As might be expected from observation of industrial production and employment records, the district unemploy-

ment rate dropped substantially: it averaged between 3.7 and 4.2 per cent during the first eight months of the year, a somewhat better record than that recorded for the nation. The better record is due in part, however, to a sluggish rate of growth in the district's labor force.

Another indication of brisk economic activity is the high level of district bank debits, which increased since the first of the year at an annual rate in the order of 10 per cent. Retail sales, too, expanded, reflecting a higher level of consumer incomes and spending (as indicated by the debits figures) and a significant increase in consumer credit use.

Measured by the statistics on employment in construction, it is estimated that construction activity may have increased approximately 5 per cent during the first eight months of 1965. This is in line with the high volume of construction contract awards let during the previous year. During 1965, thus far, however, contract awards and new building permits have fallen off somewhat and this may later be reflected in reduced construction activity.

Ninth district member banks experienced an unusually heavy loan expansion during the first half of the year. Outstanding loans (not seasonally adjusted) rose 9 per cent during this period compared with a 5 per cent advance during the comparable period of 1964. This relatively larger expansion was primarily the result of an unusually sharp upsurge at city banks in business loans, and, to a lesser extent, in consumer loans. The heavier dependence of businessmen on external financing and the step-up in consumer purchases of durable goods were the major factors behind these changes. During the third quarter member bank loans continued to rise at an above-seasonal pace. Unlike the first half of the year, however, country banks provided most of the push: loans advanced by nearly twice as much as compared with the third quarter of 1964. City bank loans registered only a mild rise.

The income of district farmers, as reflected in

cash marketing receipts, displayed significant improvement. During the first eight months of the year cash receipts totaled \$2.16 billion, 6 per cent above the corresponding period of 1964. Sharply higher livestock receipts accounted for the entire gain; crop receipts changed little. A large part of this difference can be attributed to changing price levels: livestock and livestock produce prices were well ahead of prices a year earlier throughout the first three quarters of the year and provided major strength to the farm economy. Crop prices exhibited mixed trends, but were generally below those of 1964.

The following selected topics describe particular aspects of the district's current economic scene:

Bank loans advance

Outstanding loans at district member banks rose at an above-seasonal pace during 1965's third quarter and into the first part of October. Country banks provided most of the impetus: loans rose at \$61 million in the July-September period, nearly double the advance made during the same quarter in 1964. Loans at city banks were up only \$6 million, not markedly different from the seasonal pattern.

In the first two weeks of October, country bank loans were up \$6 million, about normal for the period. Data covering three weeks in October for city banks indicate a \$31 million expansion in outstanding loans—a period which ordinarily produces only a slight increment. Business loans and consumer loans accounted for most of the October advance—the latter, perhaps, reflecting the introduction and brisk sales of 1966 model automobiles.

Deposit inflow at district country banks was unusually heavy during the third quarter. Demand deposits rose \$32 million, slightly above the usual advance for the 3-month period; time deposit inflow totaled \$84 million, double the normal expansion for the July-September span. Deposit inflow at city banks during the third quarter was somewhat below average for the period.

Industrial activity strong

Industrial activity in the Ninth district maintained a strong posture during the summer months and into the early fall. Compared with 1964, two indexes, those measuring the industrial use of electric power and production worker manhours, registered significant gains in each one of the first eight months.

In August the index of industrial use of electric power reached a seasonally adjusted level of 167 (1957-59=100), 9 per cent above the year-earlier level and the largest year-to-year gain recorded for 1965 (the smallest was June's 3.3 per cent). Further, most of the major components of the index indicated gains similar to that of the whole. The leading component, nonelectrical machinery, was up 21 per cent; the lowest, food and kindred products, showed only little improvement over August 1964.

Also in August the index of production worker manhours registered at a seasonally adjusted level of 107 (1957-59=100). The corresponding index for the nation registered at 108 for the same period. The industry breakdown of manhours was similar to that of the power index with the machinery component here registering the largest gains, and food and kindred products again remaining more or less static.

Farm receipts up

Cash receipts from the marketing for district farm output during the first eight months shot ahead of the pace set in 1964. Receipts through August totaled \$2.16 billion, up 6 per cent from the same period of 1964, and the highest 8-month total registered over the past 10 years. As shown in the table, gains in income, as estimated by the U. S. Department of Agriculture, were greatest in North Dakota and Minnesota; South Dakota registered only a slight increase; Montana registered lower. Too, the relative improvement in district agricultural income is shown as somewhat stronger than that occurring throughout the U. S.

The advance in district farm receipts came

primarily during the latter part of the second quarter and during July and August. Cash farm receipts during the first quarter of 1965 lagged those of 1964 by about 4 per cent. By the end of June 1965 receipts moved nearly 2 per cent ahead of a year earlier and the July and August receipts pushed the total to the 6 per cent gain.

DISTRICT CASH FARM RECEIPTS, JANUARY-JUNE

	1964	1965	% change
	(millions)		1964 to 1965
Minnesota			
Crops	\$ 247	\$ 255	+ 4
Livestock	675	727	+ 8
Total	922	983	+ 7
Montana			
Crops	98	91	- 7
Livestock	83	86	+ 4
Total	181	178	- 2
North Dakota			
Crops	217	246	+13
Livestock	119	122	+ 3
Total	336	368	+10
South Dakota			
Crops	117	93	-20
Livestock	312	340	+ 9
Total	429	433	+ 1
Ninth district			
Crops	697	694	0
Livestock	1,351	1,474	+ 9
Total	2,048	2,168	+ 6
United States			
Crops	8,330	8,509	+ 2
Livestock	12,658	13,610	+ 8
Total	20,987	22,119	+ 5

*Includes 26 counties in Wisconsin and all of Upper Michigan.

Sharply higher livestock receipts during the first eight months of the year accounted for the entire gain in the total figures. Those receipts, which totaled \$1.5 billion at the end of August, were up 9 per cent from 1964. All of the district states shared in the gain in livestock receipts with relative increases ranging from 9 per cent in South Dakota to 3 per cent in North Dakota. Gains in livestock receipts in Minnesota and Montana for the January-August period amounted to 8 per cent and 4 per cent respectively.

District crop receipts were about even with those of 1964 on the January-August comparison, reflecting for the most part, the impact of marketings of the drouth-ridden 1964 crop more than that of this year's good one. South Dakota and

Montana registered decreases of 20 per cent and 7 per cent respectively in crop receipts over the 8-month period, Minnesota and North Dakota increases of 4 per cent and 13 per cent respectively.

Livestock feeding continues low

Except for one state, district livestock feeders continued reduced feeding patterns of the previous year as the fall of 1965 began, according to U. S. Department of Agriculture reports. The October 1 inventory of cattle and calves on feed indicated a district increase only 2 per cent over the number reported October 1, 1964. For South Dakota, one of the district's two most important feeding states, the increase was 15 per cent; for Minnesota, the other state, feeding operations remained static. Declines were reported for North Dakota and Montana (Table 1).

For the 32 major feeding states in the United States, the reported increase in livestock feeding was 7 per cent.

Fed cattle marketings for the district in 1965 are expected to fall 3 per cent short of the 1964 total number while total marketings in the entire feed belt are expected to exceed those of 1964 by 3 per cent.

According to the October 1 inventory, district farmers continued to reduce hog numbers. The

TABLE 1 — CATTLE AND CALVES ON FEED, OCTOBER 1

	1964 (thousand head)	1965	1965 as a % of 1964
Minnesota	301	301	100
South Dakota	196	225	115
North Dakota	85	72	85
Montana	50	48	96
4 States	632	646	102
32 States*	6,908	7,359	107

*Major cattle and calf feeding states.

TABLE 2 — NUMBER OF HOGS ON FARMS, OCTOBER 1

	1964	1965	1965 as a % of 1964
Minnesota	3,426	2,828	83
South Dakota	1,838	1,581	86
10 States*	42,555	37,128	87

*Major hog producing states.

total number of hogs on farms in Minnesota and South Dakota, the only district states included in the survey, were down from the year earlier (Table 2). In South Dakota the 14 per cent cutback applied equally to both breeding stock and market hogs, but in Minnesota the number of hogs for breeding was down only 6 per cent as compared to the drop in the number of hogs for marketing which was down 17 per cent.

The total July-September pig crop in the ten major producing states was down 13 per cent from the year earlier; the number for breeding purposes, 4 per cent.

A new service for member banks

For several years the Federal Reserve Bank of Minneapolis has calculated selected operating ratios for member banks and has published averages of these ratios for banks in various size categories. By comparing these ratios for his bank with the average ratios for his size group, an individual banker has been better able to understand why his bank earns more or less than others. But the value of the operating ratios study as an explanation of differences in profitability among banks is quite limited for a number of reasons.

Overall bank profits are the sum of the profits or deficits realized by each department (or function) of the bank and the operating ratios study does not measure departmental (or functional) income and expense. And even where overall (rather than departmental) performance is the major concern of the banker, he would prefer to compare his bank with other banks not only of the same size but also with approximately the same proportion of time deposits since this proportion has an important bearing on earning capacity. The operating ratios study provides group averages of ratios for banks of similar total deposit size, but not necessarily of similar deposit mix.

Meaningful comparisons of departmental profitability among banks are virtually impossible because of differences among banks in the way they allocate income and expense. Thus, two banks identical in all respects including departmental profitability might nevertheless independently gather cost figures which indicate otherwise simply because one bank estimated X per cent of the rent should be charged to a particular department while the other bank estimated Y per cent of the rent should be charged to that department. Such estimates are to some degree arbitrary and hence can invalidate functional cost comparisons among banks.

Another problem of comparison among banks is the arbitrary nature of the asset mix assigned to different sources of funds. It is not uncommon for a banker in calculating the profitability of time deposits, for example, to attribute mortgages or municipal bonds or some other assets to time deposits in predetermined proportions. Yet, the bank across the street might simply attribute the same asset mix to every source of funds. Were these bankers to compare profits on the time-deposit business they might find differences where in fact none exist.

In view of these and other cost analysis problems, the Federal Reserve Bank of Minneapolis has announced a new service to the member banks, the "Functional Cost Analysis Program," which will vastly enlarge the information available to the individual member banker for comparing his functional income and expense with the functional income and expense in other banks of *comparable function size*.

Computer processed

Each member bank participating in the Functional Cost Analysis Program will supply the Federal Reserve bank with income and expense data, certain item counts, and asset and liability averages, all on forms designed by the Federal Reserve bank to promote uniformity of reporting among banks. This data will then be processed by a computer which will print out a different report for each participating bank. The 25 tables included in this report compare various aspects of the individual bank's operating experience, by function, with the average experience of a group of participating banks selected by the computer for similarity of function size. A degree of comparability will be achieved which has never before been available to the banker seeking a "benchmark" for assessing his operations.

Other features of the Functional Cost Analysis Program which add comparability among participating banks include uniform "asset mix" allocations to different sources of funds and uniform methods for allocating indirect or "overhead" type expense. Allowances are also made for book-keeping practices which represent differences among banks in form but not in substance.

Costs and income are allocated among loans and investments, demand and time deposits, trust and safekeeping departments. The loan function is further broken into installment, real estate, and others; demand deposits into regular and special checking accounts.

The Functional Cost Analysis Program is being offered to member banks in the Boston, New York, Philadelphia, Cleveland, Chicago, St. Louis, and San Francisco Federal Reserve districts. An individual participating member banker in the Ninth district will receive a report comparing his bank with a group of comparable banks selected from Ninth district participants, whenever possible. Where too few comparable banks are available within the district to constitute an adequate comparison group, comparable participating banks from outside the district will be used for the averages against which the individual banker will measure his functional performance. Since the Ninth district includes few very large banks, large district banks who participate will be compared with a group of comparable large banks selected from any or all districts where the Functional Cost Analysis Program is offered.

Confidentiality to be maintained

Another feature of the program which may appeal to the participating banker is the fact that the figures he reports to the Federal Reserve bank, although they will be added to figures reported by other participating banks for the purpose of calculating group averages, *will be strictly confidential*. Participation in the Functional Cost Analysis Program will in no way conflict with a banker's determination to keep the affairs of his bank confidential. Not the least item of appeal, is that this service will be provided by the Federal Reserve Bank of Minneapolis, as an additional service without cost to its member banks.

The President of the Federal Reserve Bank of Minneapolis has already written to every member bank in the Ninth district calling attention to the value of the program and announcing its availability for use in assessing 1965 operations at the member banks. Meetings will be held by the Federal Reserve bank throughout the Ninth district in late 1965 and early 1966 for the purpose of explaining the program to representatives of member banks and to provide them with forms for reporting necessary data.

The Federal Reserve bank is a natural agency to provide this service which requires a uniformity of reporting and a degree of participation (to provide "benchmark averages") among banks not otherwise available to the banker. In those districts where the service has been available, its use has been an invaluable tool to the performance-conscious banker.

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Economic Briefs



1. Photographic firm schedules expansion

Construction has been scheduled for a 135,000-square-foot addition to the headquarters and main factory of Pako Corporation in Golden Valley, Minn. The \$1 million project, expanding facilities of the photographic equipment firm by 70 per cent, is slated for completion by October 1966.

2. Ground broken for shopping center

Ground was broken this fall for a new \$4 million shopping center in the Burnsville-Eagan area on the south bank of the Minnesota River. The new development — "Cedarvale" — will include 400,000 square feet of store space, and will feature an air conditioned mall linking the stores. All structures will be of contemporary design.

3. Water research facility for Duluth

Construction of a \$2.5 million national water quality standards laboratory is underway in Duluth, Minn. The facility, one of two national installations, will be concerned with the study of fresh water; another on the east coast will be built for the study of salt water. When completed, the Duluth laboratory will employ about 135 scientists.

4. Taconite equipment plant planned

American Brake Shoe Co. has announced plans to establish a \$3.2 million plant at Two Harbors, Minn., for the manufacture of castings for taconite mining machinery. According to plans announced in October, the facility will occupy lands and buildings of the Duluth, Mesabi & Iron Range Railway, and at peak capacity, will employ about 200 persons.