

to Lake Ontario. Thus is increased the river's vital role of providing low-cost water transportation so essential to the economic development of Canada, enlarging the industrial areas of the east and stimulating the primary producing areas of the west. By connecting the oceans of the world with the rich industrial, agricultural, mineral and forested areas of North America, the enlarged waterway will increase Canada's ability to compete in overseas markets and also facilitate trade and foster closer economic relations between Canada and the United States. It is fortunate that both countries have a mutual interest in the Seaway as a common highway and transportation outlet for the industries and trades located in their respective territories.

The Seaway is a lasting monument to Canadian and American engineering skill and enterprise. The very magnitude of the project is well illustrated by the following facts: more than 140 separate major construction contracts were made; the project required excavation of 51,000,000 cu. yards of earth and the removing of another 18,000,000 cu. yards in dredging operations; more than 2,000,000 cu. yards of cement were mixed from 10,000,000 bags of dry cement; 58,000 tons of steel were used; the project provided at one time or another employment for nearly 61,000 persons whose earnings benefited various trades and towns along the St. Lawrence River; the total cost amounted to \$470,000,000 of which Canada's share was \$330,000,000; the relocation of towns required the evacuation of about 6,500 people and required an expenditure of \$30,000,000. The major part of the construction work, initiated in 1954, was completed by the spring of 1959 and the St. Lawrence Seaway was opened to commercial traffic on Apr. 25 of that year; the official opening by Her Majesty Queen Elizabeth II and President Eisenhower of the United States took place on June 26, 1959.

A number of factors contributed to the early difficulties encountered in the first year of operation of the Seaway. Lack of proper equipment on some foreign ships, unfamiliarity with procedures, inadequate loading and unloading equipment, an insufficient number of qualified pilots to ensure smooth flow of traffic, etc., delayed ships in their passage through the canals, particularly through the Welland Canal, and the cost of having a ship idle amounted to from \$1,000 to \$3,000 per day. However, these difficulties are gradually disappearing and, in time, ship operators will be able to maintain service on schedule.

The impact of the Seaway on other means of transportation and on the over-all national economy will become clearer as time progresses. It is believed that the immediate effects will cause some loss of traffic and revenue to the railways but that, in the long run, the industrial expansion and larger markets resulting from the enlarged waterway will more than compensate for the short-run loss. It is also likely that long-haul truck traffic will experience some reduction but that short-haul truck traffic will suffer no adverse effects. Although the potential volume of Seaway trade and the growing obsolescence of the present Canadian inland merchant fleet will ultimately require the addition of new and modern ships, it is not generally expected that the Seaway will have any perceptibly beneficial effect on the Canadian shipbuilding industry. A few new vessels for Seaway trade have been constructed and the building of additional large lakera, not designed to be ocean-going should provide some work for Canadian shipyards in the future. Work has already resulted from the conversion of small canallera into larger lake ships, though further conversion is unlikely. The volume of ship-repair business will depend on the number of inland merchant vessels using it, including perhaps foreign ships, but there will likely be little repair work with respect to foreign ocean-going ships because of the high cost of such work at Canadian shipyards.

Historical Background.—The Great Lakes-St. Lawrence waterway is a natural westward extension of the important North Atlantic sailing route, carrying it some 2,300 miles into the middle of the North American Continent. The Seaway proper extends from Montreal to Lake Erie and includes the Welland Ship Canal which bypasses Niagara Falls between Lakes Ontario and Erie. The first canal system and locks built to overcome natural barriers to navigation in the St. Lawrence River and in the waters connecting the Great Lakes were completed in 1700. By the middle of the 1800's, nine-foot canals had been completed in Canada and by 1900 the regulating depth was 14 feet.