



Thomas J. O'Brien Lock & Dam

(Chicago, Illinois)
Calumet River

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Construction: 1957-1960

Congressional District: IL-2

Description

Thomas J. (T.J.) O'Brien Lock and Dam is 326.0 miles above the confluence of the Illinois River with the Mississippi river at Grafton, Illinois. It is approximately 35 miles upstream of the Lockport Lock and Dam, in the southeastern portion of Chicago.

O'Brien is located at the entrance to Lake Michigan in Chicago. The facility is a unit of the Inland Waterway Navigation System and is one of eight such facilities between Chicago and Versailles, Ill. It is composed of a navigational lock, fixed dam, and controlling works.



O'Brien is a low-lift sector gate lock. It provides a maximum lift of five feet for traffic passing from Lake Michigan to the Calumet River. The lock chamber is 1,000-feet long by 110-feet wide. The dam is 296.75 feet long. The controlling works consist of four large vertical slide gates (10 feet square) located near the center of the dam to regulate water flow. There are also two sets of sector gates weighing 216 tons each at both the river and lake ends. These are unique on the Illinois Waterway and; consequently, there is no need for tunnels in the lock walls.

T.J. O'Brien Lock and Dam controls the movement of water between Lake Michigan and the Calumet River while maintaining navigation. The lock and dam are used for flood control and waterway flushing, and also function as components of the diversion control system.

History/Significance

The lock opened in 1960. The lock and dam elements of the complex were completed at a cost of \$6,954,700.

Annual Tonnage (20-Year Historical)

<u>Year</u>	<u>Tons</u>	<u>Year</u>	<u>Tons</u>	<u>Year</u>	<u>Tons</u>	<u>Year</u>	<u>Tons</u>
2016	4,250,588	2011	6,455,575	2006	9,479,767	2001	6,778,306
2015	4,560,643	2010	5,131,780	2005	9,048,078	2000	8,436,175
2014	5,915,856	2009	4,641,383	2004	9,674,528	1999	7,371,509
2013	5,257,864	2008	6,822,254	2003	6,975,080	1998	8,431,541
2012	5,910,675	2007	7,294,890	2002	7,618,898	1997	11,678,981

Commodity Tonnage (2016)

All Units (Ferried Autos, Passengers, Railway Cars)	-
Coal, Lignite, and Coal Coke	82,300
Petroleum and Petroleum Products	910,400
Chemicals and Related Products	245,705
Crude Materials, Inedible, Except Fuels	1,256,700
Primary Manufactured Goods	1,392,425
Food and Farm Products	323,600
Manufactured Equipment & Machinery	34,258
Waste Material	1,600
Unknown or Not Elsewhere Classified	3,600

Vessel & Lockage Data (2016)

Average Delay - Tows (Hours)	0.08
Average Processing Time (Hours)	0.21
Barges Empty	1,041
Barges Loaded	2,456
Commercial Vessels	1,600
Commercial Flotillas	1,490
Commercial Lockages/Cuts	1,490
Non-Vessel Lockages	-
Non-Commercial Vessels	84
Non-Commercial Flotillas	81
Non-Commercial Lockages/Cuts	81
Percent Vessels Delayed (%)	3
Recreational Vessels	8,653
Recreational Lockages	3,066
Total Vessels	10,337
Total Lockages/Cuts	4,637

The 9-foot Channel Navigation Project

The 9-foot Channel Navigation Project includes 37 lock and dam sites (42 locks) on 1,200 river miles in Illinois, Iowa, Minnesota, Missouri and Wisconsin. Constructed largely in the 1930s, it extends from Minneapolis-St. Paul on the Upper Mississippi River to its confluence with the Ohio River and up the Illinois Waterway to the T.J. O'Brien Lock in Chicago.

The maintenance needs of this aging infrastructure have surpassed annual operations and maintenance funding. This limited funding has adversely affected reliability of the system and has primarily resulted in a fix-as-fail strategy, with repairs sometimes requiring days, weeks or months. Depending on the nature of a failure and extent of repairs, shippers, manufacturers, consumers and commodity investors can experience major financial consequences. Additionally, today's 1,200'-long tows must split and lock through in two operations within the Project's 600' chambers. This procedure doubles and triples lockage times, increases costs and wear to lock machinery, and exposes deckhands to higher accident rates.

More than 580 facilities ship and receive commodities within the Project. Grains (corn and soybeans) dominate traffic; cement and concrete products are the second largest group. A modern 15-barge tow transports the equivalent of 1,050 semi-trucks (26,250 tons, 937,387 bushels of corn, or 240 rail cars). In 2015, the 9-foot channel project generated an estimated \$3 billion of transportation cost savings compared to its approximately \$246 million operation and maintenance cost.

UPDATE: April 2017