



*This marks our second note in a series focused on the global choke points in marine transportation. In an economic market where ton-mile demand is weighed against vessel supply, any alteration in the ability to use these choke points--be that expansion or closure--would greatly affect the sea-borne trade map and corresponding freight rates.*

Situated between the Mediterranean and Red Seas, the Suez Canal has turned Egypt into an economic power despite its lower, relative oil production as compared to neighboring countries. Revenues from over 21,000 vessel transits in 2008 totaled nearly US \$5.4 billion. By shortening shipping distances between the Northern Atlantic and Indian Oceans, this waterway and its accompanying pipeline (the Sumed) have made international trade more far more efficient. For many of the world's tankers and dry bulk ships, this resource can save a great deal of time that would otherwise be spent navigating south of the African Continent.

In 1869 the Suez Canal was completed and opened for navigation. It was the first artificial canal in the world open for traffic and trade, cutting significant travel time vice sailing around the Cape of Good Hope situated in South Africa (See Table 1 for sample voyage distances). On July 26, 1956 Egypt nationalized the Canal. Today, when more than 80% of world trade volume is transported by waterway, the Suez Canal sees approximately 8% with about 50 vessels making the 10-14 hour transit per day. Over 4 million barrels of oil per day transit the Suez, with about 87% of that going northbound into the Mediterranean.

**Table 1 - Voyage Distances, One-Way (Nautical Miles)**

Point of Departure	Destination	Via Suez Canal	Via Cape of Good Hope	Distance Saved
Singapore	Rotterdam	8,304	11,862	<b>3,558</b>
Ras Tanura	LOOP	9,598	12,361	<b>2,763</b>
Jamnagar	Rotterdam	6,221	10,899	<b>4,678</b>

The Suez Canal has expanded over the years so as to accommodate advances in the size of ships. When first built in 1869, the length of the canal was 102 miles and the water depth 32.8 feet, facilitating vessels with a maximum



Source: NASA, Earth Orbit

22 foot draft and 5,000 deadweight (Dwt) cargo carrying capacity. Since then, this waterway has expanded in capacity seven times to its current length of 118 miles and depth of 73.8 feet. Vessels with a 62 foot draft and 220,000 Dwt can now utilize the canal. These draft restrictions force larger VLCCs to lighter crude into the Sumed pipeline in Ain Sukhna before traveling through the Canal where the cargo is re-loaded at Sidi Kerir in the Mediterranean.

The Sumed Pipeline consists of two 42-inch lines running 200 miles east to west from the Gulf of Suez to the Mediterranean taking approximately 30-52 hours to transit. The Sumed has a maximum capacity of 2.5 million barrels per day, and has allowed some larger tankers to also benefit from the time and money savings affiliated with utilizing the Canal, as seen with bunker savings in Table 2 for an Arab Gulf to US Gulf voyage.

**Table 2 - Ras Tanura/LOOP, One-Way via Canal / Cape (Approx. Costs in US \$000, at \$390/ton bunkers)**

Vessel	Canal Costs, Laden Voyage	Bunkers Via Canal	Bunkers Via Cape	Bunkers Saved, Canal
VLCC	508	988	1,271	<b>283</b>
Suezmax	454	629	830	<b>201</b>
Aframax	358	456	608	<b>152</b>
Panamax	270	395	509	<b>114</b>



### 65 mmt, CPP – Jamnagar / Rotterdam

We took a look at the voyage economics of moving 65,000 tons of clean product from Jamnagar to Rotterdam, comparing an LR1 (coated Panamax) voyage via the Cape versus the Canal. We calculated canal costs using a Suez Canal Net Tonnage of 39,766 to represent a typical-sized LR1 for this voyage. Under normal Worldscale voyage terms, and at a rate of WS 100, the charterer's freight costs amount to just under US \$2.0 million via the Suez Canal (having included a \$425,161 round trip canal cost), versus \$2.55 million around the Cape—a savings of 28%. Furthermore, the Canal will save 9,356 miles of transit, roughly 24 days, and about US \$375,000 in bunkers at \$390 / ton. At first glance, this appears a win-win move for both the charterer and owner, and one would expect these attractive voyage economics would translate well across the tanker sectors.

However, the Suez Canal has seen a 70% drop in VLCC usage from last year as owners seek to avoid piracy and cut costs such as insurance premiums. To access the canal vessels must first travel through the Gulf of Aden and the narrow Bab El Mandeb where pirates are known to operate, having preyed heavily on oil tankers in the last year as their low freeboard and slow speed make them soft targets.



Source: Mr. Christopher Menezes

The Suez Canal Authority is planning to expand the draft of the maximum ship size from 62 feet to 66 feet by the end of 2009, allowing even more of the tanker fleet to travel through the canal. And further plans being discussed are for the canal to eventually facilitate vessels with drafts nearing 72 feet. This would allow 99% of the tanker fleet to utilize the Suez Canal, and would reduce the requirement and time for larger tonnage's utilization of the Sumed pipeline. But as the slipping, global demand for oil is met by a growing tonnage oversupply, freight rates remain suppressed and hefty canal costs make up a larger percentage of the overall voyage. Furthermore, with piracy persistent in the area, and maritime insurance rates reflecting the risk, the potential for the ton-mile savings of the Suez Canal may never be fully realized.