



A Short History of the Suez Canal

Russell Twomey

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https://commons.wikimedia.org/wiki/File:Capesize_bulk_carrier_at_Suez_Canal_Bridge.JPG

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<https://commons.wikimedia.org/wiki/File:DeLesseps.JPG>

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A Few Interesting Suez Canal Facts

Arabic Name: Qanāt al-Suways

Current Owner: Suez Canal Authority (Egypt - since 1956)

Original Owner: Compagnie Universelle du Canal Maritime de Suez

Construction Commenced: 25 September 1859

Construction Completed: 17 November 1869

Original Canal Length: 164km (102 miles)

Current Canal Length: 193.3 km (120.1 miles)

Average Transit Time: Approximately 11 hours, but can vary

How Many Vessels Transit Per Day: Average of 49

Canal Average Depth: Between 23 - 24 metres (75 - 79 feet)

Canal Average width: Between 205 - 225 metres (673 - 738 feet)

Maximum Permitted Vessel Length: Not Specified

Maximum Permitted Vessel Width: 77.5 m (254 ft)

Maximum Permitted Vessel Draft: 20.1 m (66 ft)

Maximum Permitted Air Draft: 68 m (223 ft)

Number of Vessel Transits in 1st Year of Operation: 486 vessels

Number of Vessel Transits in 2018: 18,174 vessels

Average Canal Toll per Vessel: US\$465,000

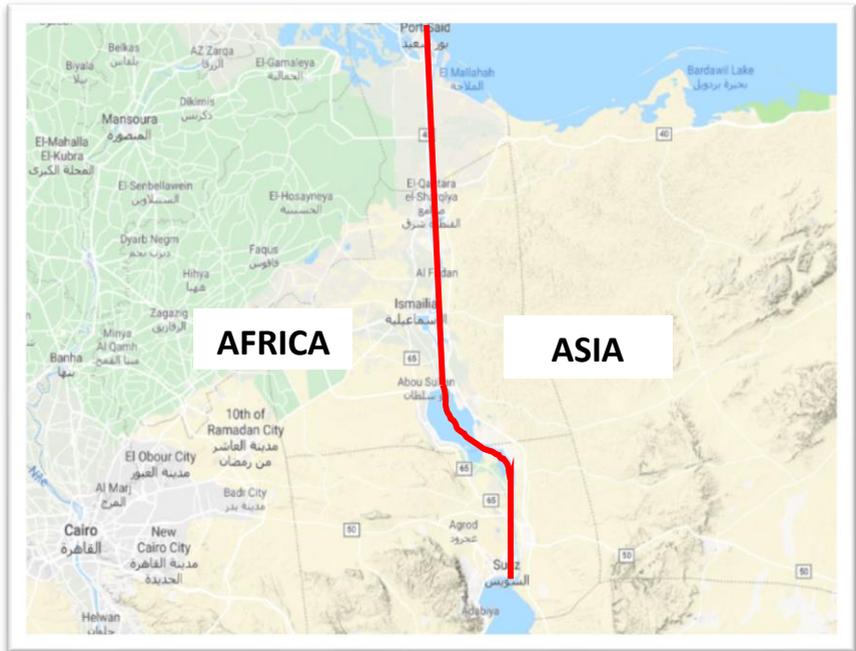
Total Toll Revenue 2018: US\$5.6 billion

Target Toll Revenue by 2023: US\$13 billion



Regional Geography

Today we know the narrow strip of land between the Mediterranean and Red Seas as the Isthmus of Suez, approximately 121kms (75 miles) at its narrowest point. For practical reasons this was not the course selected for construction of the Suez Canal, the course of which actually extends much further for 193.3kms (120.1 miles) and makes use of natural geographical features such as the land depression that became the Great Bitter Lake. The course of the Canal is now generally considered to be the official boundary dividing both the African and Asian continents.



This view can be muddled by arguments that the position of tectonic plates along the west side of the Sinai Peninsula should instead be considered the natural boundary between the two continents, but popular opinion prevails. Again, Egypt can also be described as a trans-continental country because it spans across the boundary of both the

African and Asian continents, but that culturally and politically, Egypt is aligned to the Middle East.

Originally the two great continents of Africa and Asia were one, before a large fault line running north-south roughly along the area we now know as the Red Sea caused upheaval and subsidence between 66 million years and 2.6 million years ago, eventually allowing the ingress of waters from the Arabian Sea, part of the much larger Indian Ocean. This body of water stretched up to the southern boundary of the present-day Gulf of Suez, at the point where at the same time the upheaval caused water to flow up along the Gulf of Aqaba.



View of the Red Sea (foreground), Gulf of Aqaba (r) and Gulf of Suez (l) and the River Nile flowing to the Mediterranean (top left) - NASA

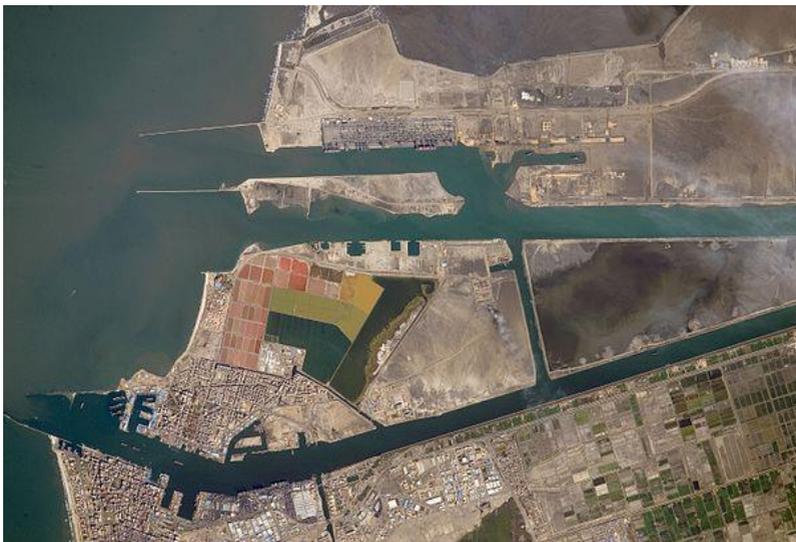
Around 2.5 million years ago further movement resulted in the waters of the Red Sea extending 300kms further northward across a low lying plain to create the present-day Gulf of Suez, at the head of which stands the modern-day city of Suez, the southern entrance to the Suez Canal. There is some evidence that the waters may at one stage have stretched

even further north than that to connect with the Great Bitter Lakes, and perhaps as far north as Lake Timsah.

The Gulf of Suez is the third arm of an extensive rift system, the other rifts being the Gulf of Aqaba and the much-extended Red Sea itself. Beyond the very top of the Gulf of Suez, at the city of Suez itself, the rift line becomes indistinct until its definition re-emerges across in the Nile Delta.

These rifts are the result of slow tearing between the African Plate and the Arabian Plate, causing stretching and thinning of the Earth's crust. There is evidence to suggest that, due to plate movement, the Gulf of Suez widens by approximately 1cm per year.

There are several large oil fields to be found in sedimentary rock formations underlying the Gulf. The centre line of the Gulf of Suez is also considered to be a defining point between the continents of Africa and Asia.



The entrance to the Suez Canal at Port said - Wikipedia

Ancient Projects

Construction of a waterway that would facilitate vessels from the countries bordering the Mediterranean Sea to the lands beyond the Red Sea via the Nile is not a recent ambition. Ancient historians record several efforts made to realise the dream, and there are conflicting accounts of success over the ages.



Route of Canal of the Pharaohs to the Red Sea – Annie Brocoli

Pharaoh Senusret III around 1850BCE

Aristotle, in his writings “*Meteorology*” referred to an attempt made by the Pharaoh Senusret to construct an irrigation channel from the Nile towards the Red Sea, which would be navigable during the seasons when

the Nile was in flood. However, recognising that there was a danger of inundating low-lying areas, it is believed construction was halted before completion.

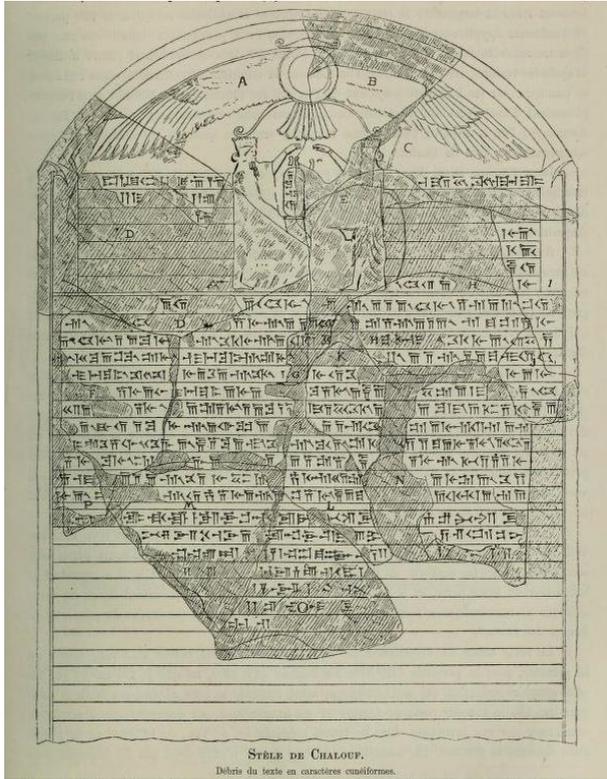
Pharaoh Necho II 610 - 595 BCE

According to Herodotus the Greek historian, Pharaoh Necho II started construction of a canal from the Nile to the Red Sea, but at some stage discontinued the project as he had been warned that the planned canal represented a serious strategic risk. It has been quoted that as many as 120,000 workers died during the time work was in progress. It is believed that his vision was later taken up by Darius the Great. This waterway was to become known as the **Canal of the Pharaohs**.

Darius the Great 522BCE - 428BCE

Ferdinand de Lesseps's son Charles, whilst employed on the Canal project, uncovered a stele (monument) of pink granite in 1866, which became known as The Chalouf Stele. The monument recorded the successful Persian construction of a canal running from a branch of the Nile River to Lake Timsah which then provided access to the Red Sea and Persia via a chain of existing waterways, creating a trading route from Egypt. Around the same time as this discovery French surveyors came across the remnants of an ancient canal joining Lake Timsah with the northern end of the Great Bitter Lakes, also believed to have been constructed under Darius's direction. Whilst some Greek historians recorded that Darius in fact did not complete the project, the translation for the Chalouf Stele contradicts this, reading as follows:

“King Darius says: I am a Persian; setting out from Persia I conquered Egypt. I ordered to dig this canal that flows from this river that is called Nile and flows in Egypt to the sea that begins in Persia. Therefore, when this canal had been dug as I had ordered, ships from Egypt went through this canal to Persia, as I had intended.”



Drawing of the Chalouf Stele - Joachim Menant (1820 - 1899)

There are historical references to **Ptolemy II** solving the issue of salt water entering the waters of the Nile from the Red Sea with the construction of the first water lock in 273BCE, but in time the canal silted up. Further references mention temporary canals constructed between the Cairo and Red Sea between the 8th and 10th centuries CE, however they were also subject to severe silting. What is certain is that goods between Europe and Asia were transhipped by caravans on well-established trade routes such as the Silk Road, or at times across the isthmus between the two seas. Both were to become increasingly dangerous as a result of bandits.

Early Ambitions

1798 Napoleon Conquers Egypt

During Napoleon's 3 year campaign in Egypt, he travelled south to Suez with the intention of searching for the Biblical Mount Sinai. On his travels he came across the remnants of the historic Canal of the Pharaohs which sparked his interest in the possibility of constructing a canal across the Isthmus.

Surveyors were ordered to explore the feasibility of building a canal but after 4 separate surveys, they reported back that it was not possible. Their calculations erroneously found that the Red Sea was 9.1m (30ft) higher than the Mediterranean Sea.



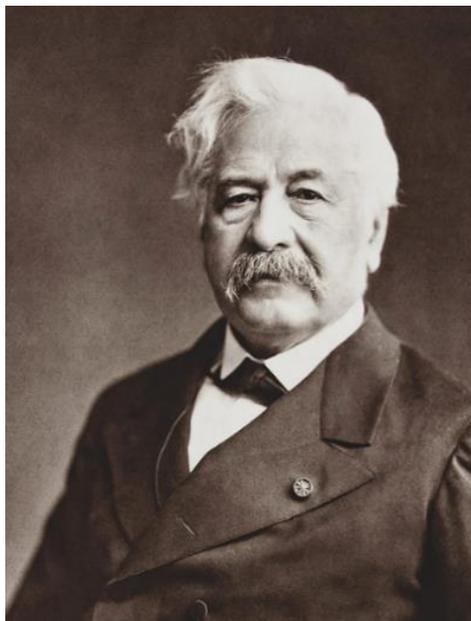
Napoleon in Egypt – Princeton University Art Museum.

This did not deter further interest in creating a shorter route from Europe to India and the Far East by others.

In 1830 the British Parliament received an independent report that there was no significant difference between the two sea levels, therefore eliminating one of the prime concerns in constructing a canal. Britain did not act on this information due to concern that a canal would open the pathway for other European countries, in particular France, and therefore would be against their colonial and commercial interests in India and Asia.

1854 Ferdinand de Lesseps Steps In

French engineer Linant de Bellefonds undertook a survey of the Isthmus of Suez in 1833 and found that the earlier calculations were incorrect. A canal was in fact feasible, a discovery that was later acted upon in 1854

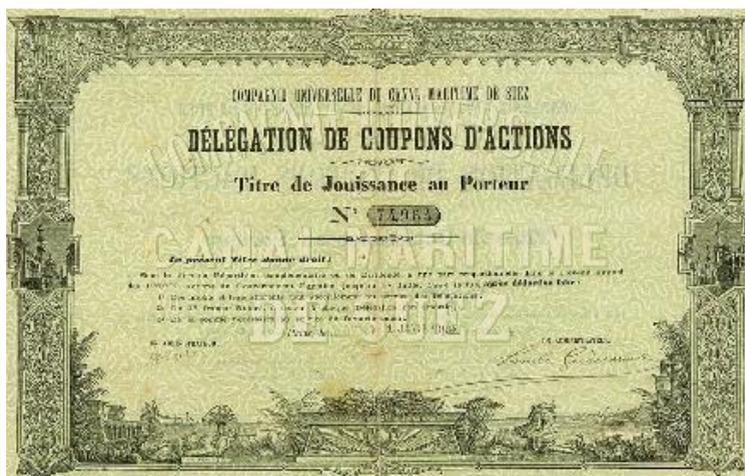


Ferdinand de Lesseps 1805-1894 – New York Public Library

by Ferdinand de Lesseps attempting to spark interest in the opportunity with Muhammad Sa'id Pasha, the Khedive of Egypt.

Ferdinand de Lesseps had cultivated a strong relationship with Sa'id whilst engaged as a French diplomat in Egypt, often entertaining him in his home. On arrival to take up his duties, initially as Consul in Cairo and later in Alexandria, de Lesseps's ship was quarantined and during that time a friend sent on board books for him to pass the time, one of which contained an account of the historic *Canal of the Pharaohs*, igniting his interest.

Ferdinand de Lesseps secured an initial agreement with Muhammad Sa'id Pasha in 1854, and later a second concession in 1856 to construct a canal between the Mediterranean coast and the small village of Suez in the south, located at the head of the Red Sea. The main elements of the arrangement included a 99 year lease to be held by an international company funded by a public share offering, together with tax concessions, agreement for 75% of profits to be returned to company shareholders, and 80% of the workforce to be supplied free of charge by Egypt.



Suez Company Share Certificate - Wikipedia

During the 4 years between 1854 and 1858 work was undertaken drawing up plans for the construction of a canal, and a public share offer floated.

At that time Egypt was a part of the Ottoman Empire, loosely governed from Constantinople, modern day Istanbul. Both the Ottomans and Great Britain were strong opponents of the Canal for different reasons. The Ottomans saw the potential for Egypt to become financially independent and break away from the Empire, while Great Britain successfully influenced financial institutions not to subscribe to the offer due to their concerns regarding threats to their own commercial interests in India and to an extent Asia, and also to protect the interests of the overland rail infrastructure established by British investors in 1845. The result was that the majority of funds came from within France, including a substantial amount placed by de Lesseps himself.

Whilst Mohammad Sa'id Pasha had already purchased around 25% of the initial stock, a further 25% remained unsold. Fearing that the project would stall, without reference to Sa'id, de Lesseps announced to the world that Sa'id would take up all the remaining shares. When Sa'id confronted him, de Lesseps is said to have replied "do you want to make a liar out of me in front of the entire world"? Thus, Mohammad Sa'id Pasha was coerced into going deeper into financial debt in order to take up the remaining shares and thus guarantee the canal was started.

Early Troubles

On 25th April 1859 work commenced from the Mediterranean end at the site of present-day Port Said, so named in Khedive Sa'id's honour. The Suez Canal Company (Compagnie Universelle du Canal Maritime de Suez), had been established 15th December 1858. With de Lesseps appointed as its Chairman and representatives from fourteen different countries appointed to the Board, it was intended to be a truly international company, with a charter that stated that vessels of all nations were free to use the canal regardless of whether at peace or war.



Muhammad Sa'id Pasha 1822-1863 – Nadar/Wikipedia

From the outset, Britain continued to actively oppose construction, going as far as to claim that canal revenue would never provide investors with a profit on their investment, and at the same time releasing reports from such distinguished engineers as Robert Stephenson, claiming that there were too many insurmountable engineering problems to successfully complete the project.

This strategy resulted in very little take-up of bonds by investors from other countries beyond France. Whilst most of the pressure brought to bear over preventing continuation of the Suez project was directed at de Lesseps, Muhammad Sa'id Pasha was to also share in the unfair criticism. In January 1863 he passed away aged 40 years, leaving behind a legacy of many meaningful social reforms within Ottoman ruled Egypt. As his heir-apparent had been killed in an accident some years earlier, power was transferred to his nephew, Isma'il Pasha who had spent his youth educated in Paris and was considered a strong Francophile.

In 1864 approximately halfway through construction, Britain played another ace. Acting on the fact that Sa'id had directed 30,000 unpaid labourers to work on the project, and mounting evidence of a high death rate due to disease, the British Parliament called de Lesseps to task over the use of, as they termed it, "slave labour", which had been abolished in Britain some years previously. International opinion was such that the new Khedive of Egypt, Isma'il Pasha was forced to abolish the use of forced labour and borrow substantial funds to start paying Egyptians employed on the Canal.

Further problems had also arisen. Soon after his ascension Isma'il Pasha had refused to ratify the earlier agreement established between Sa'id, de Lesseps and The Suez Canal Company, in particular insisting on the return to Egypt of land concessions made to the Company and the payment of workers. This disagreement slowed construction for some period of time until the issue was referred to Emperor Napoleon III of France, and substantial compensation awarded to The Suez Company for

losses resulting from the variations insisted upon, to be paid by Isma'il Pasha who was then forced to turn to European financiers to raise the funds to pay for compensation, plunging Egypt even further into debt.

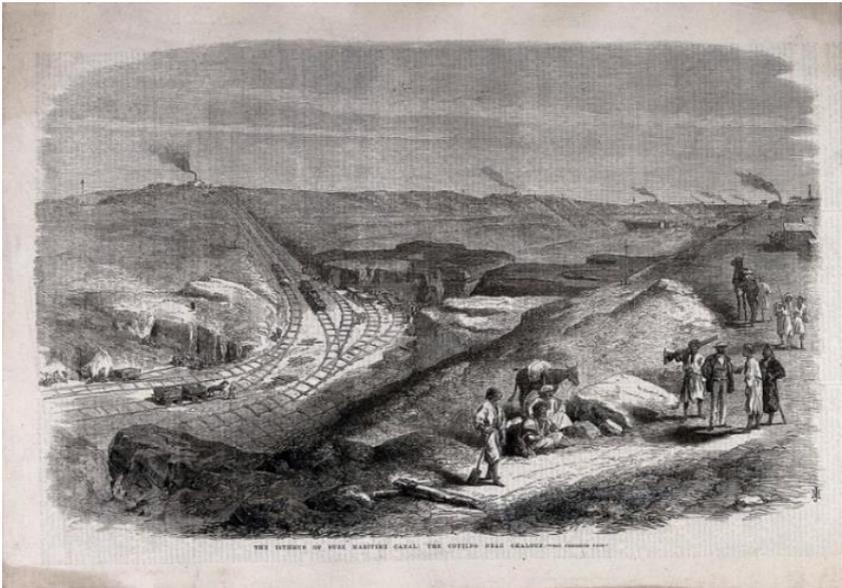
Unfortunately Isma'il Pasha's financial acumen was such that he also took the opportunity to use the borrowings to spend a considerable fortune on growing his imposing profile within European sphere, courting many of the Heads of State and Government Officials, and piling an even larger debt burden on Egyptian finances. This was to have ramifications, both personally and for the future ownership of the Suez Canal in the not too distant future.



Isma'il Pasha Khedive of Egypt – Wikipedia

Canal Construction

Fresh water to support the workforce was supplied by a channel known as the Ismailia Canal, dug along the floor of Wadi Tumilat which ran east from a branch of the River Nile across to Lake Timsah, in part along the ancient course of the Canal of the Pharaohs. This channel was essential for work on the Canal to be sustainable.



The Canal under construction – Wellcome Collection Gallery

Between 1859 and 1864 Egyptian labour was forced to dig a ditch 18m (60ft) wide along the planned canal route using just shovels and picks, and some records even mention using their own hands, building up the banks as they went along. For most of its length, the material dug out was sand, under which lay a bed of clay. Labour was drafted in groups of 20,000 every 10 months from the Egyptian peasantry (*Ref: [SCA website](#)*).

Rail tracks were also laid to remove excess materials and on the 17th November 1862 the Mediterranean was joined up with Lake Timsah.

It is estimated that over the entire 10-year period of construction over one million workers were used on the project, of which as many as 100,000 lost their lives from disease, starvation and poor safety standards. This included de Lesseps' only grandson together with the wife of Voisin, the Chief Engineer, both of whom died of cholera. The most severe outbreak was in May - June 1866, reducing the workforce by half when they hurriedly departed the worksite to avoid contracting the disease. The town of Ismailia established at around the halfway point of the canal suffered a loss of 6% of her 6,000 residents to cholera.



Dredges at work - Troppenmuseum

In May 1864, bowing to international opinion brought about by Britain's relentless pressure on Egypt to abolish slavish conditions for manual workers, engineers employed on the canal project were forced to look around for suitable dredging machinery to replace the labour. A much

smaller paid Egyptian workforce remained, and more European employees were brought onto the project. This added expenditure was to put further pressure on the already ballooning project budget.

Having regard for the specialised nature of the machinery needed, various types and sizes of dredgers were either adapted, or specially designed for the task of digging out the sand and using the spoil either to raise the canal banks on both sides or for use in producing concrete blocks for breakwaters and other structures. The remaining sand was taken by rail mostly to Port Said where it was loaded into 43m (140ft) long barges and towed about 8kms (5 miles) out to sea and dumped.



The Suez Canal at Ismailia 1863 – Francis Frith/Library of Congress

At the height of the operation, de Lesseps records that there were sixty dredgers in operation, the most powerful in existence at that time, removing about 2 million cubic metres in total per month. The engineering difficulties were immense along the length of the canal,

requiring a high degree of innovation to surmount the complex challenges and the logistics the project presented for everyone involved. These challenges were to claim the life of the head of one of the lead contractors, Paul Borel who died on 17th October 1869 as a result of the enormous stress placed upon him, exactly one month before the official opening of the Suez Canal.

Canal Completed

The passage between the Mediterranean and the Red Sea finally joined at the Great Bitter Lakes on 15th August 1869, three months before the official opening ceremony was held on 17th November 1869.



The official opening – Project Gutenberg

Invitations were extended to officials from many nations to attend the festivities and travel as guests aboard one of the many steamers that would proceed from Port Sa'id down to Suez.

An eye witness at the time made particular note of the huge flotilla of vessels gathered in the Port Said harbour over the days prior to the opening, some of which found themselves stuck on sand banks around the perimeter as they tried to negotiate a course to an anchorage. All vessels were dressed overall with flags and lanterns at night, creating a festive atmosphere that included fireworks.

Isma'il Pasha presided over the opening ceremony in lavish style, and it was observed that no individual could possibly want for anything as his guest. Bands, dancers, acrobats, jugglers, Bedouin horse displays and much more were included in the entertainment, which went for several days, resulting in further Egyptian debt.



Assembling for the First Convoy south – Project Gutenberg

The Empress Eugenie, wife of Emperor Napoleon III of France was invited to do the honours in declaring the Canal open for traffic.

As a courtesy to the Ottoman Government in Turkey who at that time held loose jurisdiction over Egypt, she first called on the Sultan in Constantinople (now modern-day Istanbul) before proceeding to Port Said. In fact, the Ottoman's had been early reluctant participants in the oversight of the Canal project, concerned that Egypt might have intentions to separate from the Empire once revenues from the Canal started to flow into the Egyptian Treasury.

Prior to the official opening, a French sculptor, Frédéric-Auguste Bartholdi approached de Lesseps with an idea to construct a 27m (90ft) statue of a woman holding up a light to guide ships into Port Said harbour, to be called "Egypt Bringing Light to Asia", however for unknown reasons the concept didn't proceed, and in 1886 a completed statue was unveiled in New York Harbour instead, known today as "The Statue of Liberty".

The day of the opening was clear, and at the appointed time the Empress Eugenie aboard her royal yacht L'Aigle and accompanied by de Lesseps, headed a line of 67 vessels to make the inaugural voyage south as far as the new town of Ismailia, situated roughly at the half-way point of the Canal. It was here that Isma'il Pasha had constructed a luxurious palace to entertain the Empress and brought in over 500 of Europe's finest chefs to provide a lavish meal of duck, partridge and fish, accompanied by the best European wines for around 8,000 guests.

At this stage the canal was only wide enough to accommodate ships sailing for its length in one direction at a time and passing bays were therefore constructed allowing ships to travel in both directions. The approximate transit time at that stage was 40 hours.

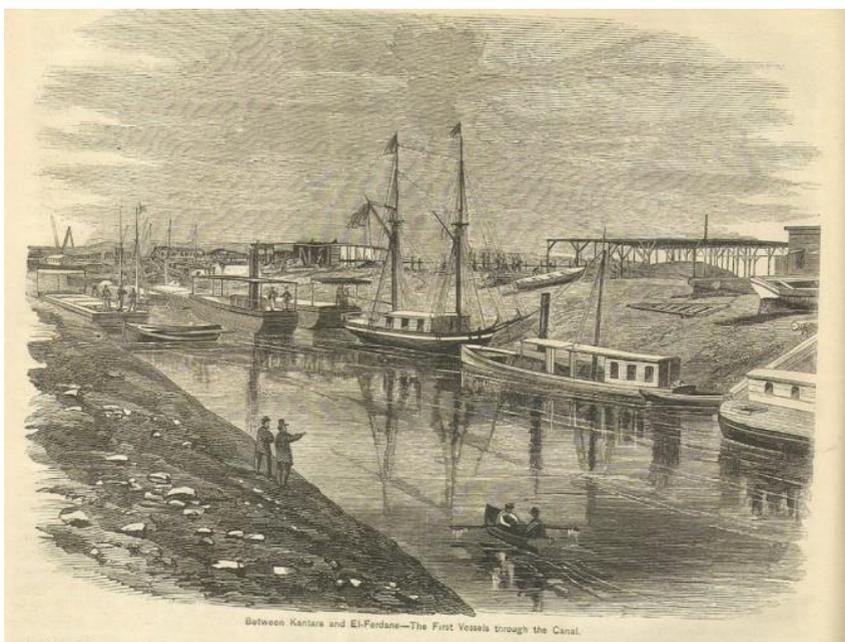
Some concern also was expressed that the 7m (24ft) average depth of the course of the Canal was variable in places, and that the width of 21m (70ft) on the bottom of the Canal did not always run along the centreline of the Canal itself, which caused a number of vessels to run aground as they attempted to negotiate the ceremonial transit.

A further issue was the wash from vessels caused sand on both banks to slide back into the canal, a problem that was later to be addressed. The flotilla of vessels finally reached their destination, Suez, on the 20th of November.



Ferdinand de Lesseps house in Ismailia – Pierre cb/Wikipedia

The Canal did not get off to a financially rewarding start, and only 486 vessels used it during the first year of operation. Part of the reason lay in the fact that steam driven ships were still in the early stage of acceptance as an alternative to sail, and it was not practical or permitted for sailing ships to use the Canal. The high cost of transit fees also added to the problem. There was no improvement in revenues in the following year, leading to a revision in the way Canal tariffs were calculated, from that time on based upon the carrying capacity of a vessel rather than size of the vessel. This method is still in use today.



The first convoy - "Appleton's Journal of Popular Literature, Science, and Art" 1869

Due to Isma'il Pasha's extravagant spending on this and other projects in Egypt and abroad, he found it increasingly difficult to meet loan repayments, some estimations put the total Egyptian debt at that time £100 million. In 1875 Isma'il Pasha was forced to put up for sale his 44% shareholding in the Canal to pay down mounting interest.

The British Government, who up until this time had still been a critic of the Canal, upon hearing through a chance conversation between an international financier and an English journalist over dinner in London that the shares were on the market, quickly moved to stall French negotiations for the shares and through direct negotiations with Isma'il Pasha, snapped them up without negotiation, thus becoming the majority shareholder. The remaining shareholdings stayed in private hands.

Funding of £4 million for Britain's purchase was negotiated between the Prime Minister Benjamin Disraeli, and the London office of N M Rothschild & Sons. Whilst some politicians protested that Disraeli acted without authority, the general population unanimously approved of his purchase, as did Queen Victoria.



Statue of de Lesseps at Port Said – Project Gutenberg

This purchase gave the British three seats on the Board of Directors of the Suez Canal Company, and as explained at the time to the British House of Commons by Sir Safford Northcote, Chancellor of the Exchequer, prevented any other foreign power from exerting control over the Suez Canal to the possible detriment of Britain's interests in India and beyond. The inference being that it would stop any thoughts France might have in interfering in the Far East. Instead, it heralded the introduction of direct British influence in Egyptian and Sudanese affairs for the next 80 years.

At the same time, Isma'il Pasha continued to raise further loans to cover debt for earlier loans to the extent that a British mission was sent to Egypt to investigate the state of the country's finances. The outcome was a report identifying gross mismanagement, thus paving the way for an international committee to take control of Egypt's financial affairs.



Vessels assembling at Port Said H. F. Mayer, Dieter Winkler

In 1879 Isma'il Pasha rejected international financial recommendations and was forced to resign in favour of his son, Prince Tewfik. In January 1880 it was determined that Egypt was no longer able to repay her debts and the next step was taken, an International Commission of Liquidation comprising representatives from many of Europe's greatest powers, with involvement by the Ottoman government. This course of action was to prompt an uprising within Egypt which was quelled by the British Army in September 1882, at which time Britain assumed a "Veiled Protectorate" status over the country until the declaration of war by Turkey in 1914 when full British Protectorate status was imposed on Egypt, lasting until a Unilateral Declaration of Egyptian Independence was declared in 1922. In 1936 the Anglo-Egyptian Treaty granted Britain the right to retain armed forces in Egypt to protect her interests in the Suez Canal.



Port Said 1905 - Masrzaman

The Suez Crisis 1956

After WW2, Britain's armed presence in Egypt resulted in further tensions between the two countries, particularly the 80,000 troops stationed there to protect the Suez Canal.



Arial bombing of Suez – Imperial War Museum

Egyptian civil unrest against British forces and citizens ensued with seeming approval of the Egyptian Government. Britain's involvement in the creation of the State of Israel after WW2 only added fuel to the fire.

In July 1952 a coup by the Egyptian Military saw King Farouk ousted and Egypt declared a Republic, installing General Gamal Abdul Nasser as its first President, with the tacit approval of both America and Great Britain. A complex web of political intrigue and struggle for dominant power between many Middle Eastern countries and at the same time between Western nations, most importantly America and the USSR, saw tensions rise.

Of further concern for America was the possible threat of the Soviets extending her influence in the Middle East, even to the extent of mounting an invasion in the region.

Soviet foreign policy under President Nikita Khrushchev had shifted to the extent that the USSR now sought to cultivate friendships with countries that had historical grievances with the West, and through Nasser, Egypt was seen as a possible ally. For Nasser's part too, he saw the opportunity to play the USSR and America off against one another for the benefit of Egypt. A large arm purchase from the USSR only exacerbated fear in the West that Egypt would fall under the Soviet sphere of influence. On the one hand Nasser was courting President Eisenhower to gain financial aid and military arms, and on the other attempting to gain influence in the Middle East as the predominant power by demonstrating a hatred of the Israeli state.



Destroyed Egyptian Tanks – US Army Heritage and Education Center

There is some debate as to whether President Eisenhower withdrew an offer of finance for the construction of the mammoth Aswan Dam project on the Upper Nile in light of Egypt's purchase of Soviet armaments, or whether Nasser ceased discussions that would include agreement on a peace settlement with Israel as part of negotiations, which would have been seen by other Middle Eastern countries as weakness on Nasser's part. Either way, Nasser's next move was swift and one the world was not expecting.

On the 26th July 1956, during a speech in Egypt, Nasser deliberately used the words "Ferdinand de Lesseps" as a codeword to trigger the occupation of the Suez Canal by Egyptian troops, and to enact the Nationalisation Law which froze all the assets of the Suez Canal Company. In compensation, Egypt would pay out shareholders at the stock market price on that day.

Britain's Prime Minister Anthony Eden was urged to act, not only by a unanimous Parliament, but by the British public and some foreign countries. To many this raised the possible introduction to WW3. The concern was not only did this action threaten Britain's economy through closing off access to oil, but that Nasser may have a bigger agenda in mind in the Middle East.

Whilst America took a neutral position, both France and Israel made a pact to take military action and approached Britain to join them. A meeting to discuss the way forward was convened in London in August, attended by 22 countries with vested interests in the future of the Canal. A delegation led by Australian Prime Minister Sir Robert Menzies attempted to negotiate a commonly agreed approach to the future management of the Canal, but this was rejected by Nasser.



Bomber preparing to leave HMS Eagle – Imperial War Museum

Even the passing mention of war with a Tripartite Alliance did not deter him. At the same time America, hoping to avoid the looming conflict, took a more conciliatory position that all peaceful options must be explored. France and Israel continued their mutual preparations for war. Britain was still concerned about world opinion in taking that action and the impact that any action may have on Britain's recently established alliances with several countries in the Middle East.

On the 29th October 1956, claiming retaliation for Palestinian attacks on Israeli settlements that had been supported to an extent by Nasser, Israeli forces invaded the Sinai Peninsula with an air and ground attack, an action which quickly mobilised the Egyptian Army in defence. This event quickly brought the Anglo-French Alliance into the fray.

Jointly they demanded a cease-fire by both sides on 30th October, claiming that they were insisting on a swift end to the conflict between the two warring parties in order to prevent it spreading to the whole Middle East. There are those that suspect that their real objective was to take back control of the Suez Canal and get rid of Nasser.

The next day the Anglo-French Alliance launched their own attacks against Egypt with airborne bombing raids. Fearing that the Suez Canal was exposed, Nasser ordered a blockade by sinking all the 40 vessels that were in the Canal at that time. On the 6th November the British Royal Marines attacked Port Said, resulting in heavy fighting and the loss of many Egyptian civilians.



Blocking the Suez Canal at Port Said – Imperial War Museum

Public opinion in Britain swung quickly away from support for the invasion of Egypt, causing strong acrimony between those who believed it was the right action given the perceived designs of the USSR on the Middle East and Africa, and those who saw the action as too little, too late; Britain had waited too long to respond to Nasser's nationalisation of the Canal 3 months earlier and public sentiment had changed.



Egyptians Removing de Lesseps statue December 1956 - Wikipedia

Western countries too, particularly America, drew parallels between the Soviet invasion of Hungary at the time, and Britain's invasion of Egypt.

Meanwhile, pressure on Israel to withdraw from the Sinai was strongly refused, despite the threat of economic sanctions by America who was concerned that if the Soviets intervened on Egypt's side, WW3 would certainly break out. The solution had to be a cease-fire by all sides and the withdrawal of Israel. Britain was threatened with economic sanctions, including an oil embargo, and unilaterally announced a cease-fire on the 6th November which caught France and Israel off-guard.

France and Britain withdrew their forces by 22 December, to be replaced with a UN Peace Keeping Force. Israel did not withdraw from the Sinai until March 1957. The Canal re-opened for international shipping again on 24th April 1957 under Egyptian ownership.



Crossing the Suez Canal – Israel Defence Forces

The Six Day War

During the ten years that had passed between the end of the Suez Crisis and the Six Day War, tensions between Israel and its neighbours, Egypt, Syria and Jordan had been ongoing, with cross-border sorties.

The Six Day War, also called the Third Arab-Israeli War which occurred between 5th and 10th June 1967 was a successful strike by Israel to push Egypt back to the western side of the Suez Canal and take possession of the Sinai Peninsula; also seizing the Gaza Strip, the Golan Heights from Syria and the West Bank and East Jerusalem from Jordan.

Israel's defence for the attack was Egypt's actions in barricading the Gulf of Aqaba, preventing access to the Israeli port of Eilat for Israeli shipping, together with their insistence that Egypt was preparing to invade Israel, therefore their pre-emptive strike was a defensive action.

Egypt's humiliating defeat eventually led to Nasser's downfall and the rise of President Anwar Sadat.



Downed Egyptian aircraft in the Sinai Desert - חזוי (רחמיים) /Wikipedia

Egypt was obliged to support any imminent attack on her allies, and based upon erroneous Soviet intelligence informing Egypt of a potential assault on Syria, Nasser took steps that only heightened tensions by closing off the Straits of Tiran, denying Israel access to her only southern seaport Eilat, at the same time ordering Peace-keeping UN forces out of the Sinai Peninsula. Egypt also commenced a large-scale military build-up that quickly alerted Israeli Intelligence.

Objecting to the actions taken by Egypt, and fearing an invasion herself, Israel took the initiative to strike hard at Egyptian air bases, quickly destroying almost all the Egyptian Air Force. At the same time, Jordan, believing Egypt had successfully repelled Israeli forces, began an assault on West Jerusalem. Israeli forces counter-attacked, taking East Jerusalem and the West Bank from Jordan in the process.

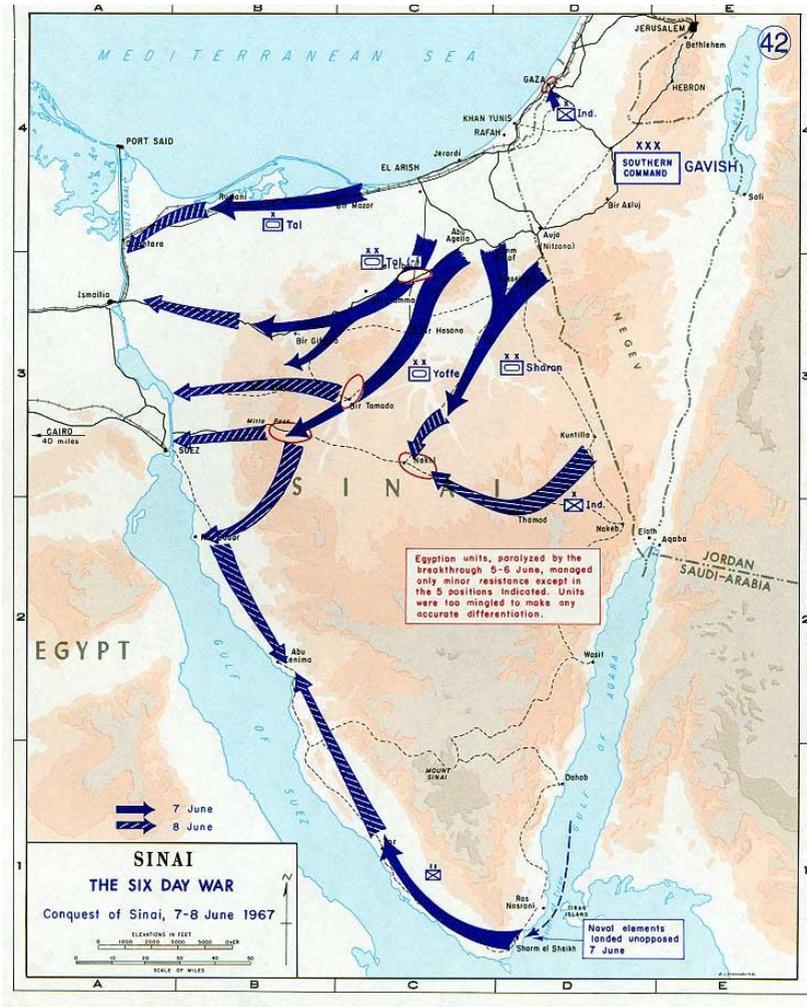
Israeli Forces pushed into the Gaza Strip and across the Sinai Desert in pursuit of retreating Egyptian Forces, quickly reaching the east bank of the Suez Canal. It was at this time that Nasser ordered the closing of the Canal at both entrances, trapping 15 cargo vessels from eight foreign countries that were transiting northwards along the waterway at the time.

On the 7th June the UN ordered a cease-fire which Israel and Jordan adhered to, with Egypt following on the 8th June. Syria held out until the 10th June after Israel had taken the Golan Heights

With the Israeli and Egyptian forces facing each other on opposite banks of the Canal, Nasser fearing that Israel would then attempt to use it, maintained a blockade that was to last for eight years, forcing all shipping to sail via the Cape of Good Hope to reach India, the Far East and beyond.

The vessels trapped in the Great Bitter Lake became known as “The Yellow Fleet” due to the amount of desert sand that swept over them during their years of captivity. Throughout that time the crews developed their own community with their own postage stamps, sports contests and trading system.

Up until 1972 the vessels were maintained by rotating crews until a Norwegian contractor took over responsibility until the Canal was finally opened for business again in 1975.



Conquest of The Sinai - Dept History US Military Academy

The Yom Kippur War 1973

In the six years between 1967 and 1973 tensions between Israel and her Arab neighbours continued unabated with cross-border skirmishes, the underlying issues being the territories won by Israel from Syria, Egypt and Jordan as a result of the Six Day War.

On 6th October 1973 a holy day in Israel known as Yom Kippur or the Day of Atonement, Egypt crossed from the west bank of the Suez Canal to attack Israeli Forces in control behind the cease-fire line in the Sinai Desert. At the same time, in a coordinated movement, Syria crossed into the Golan Heights in an attempt to retake lost territory during the Six Day War.

Although aware that Egypt was building up her military forces around the west bank of the Suez Canal in readiness for a strike, Israel had been warned by America that she should not attack first as world opinion would view Israel as the aggressor.



Israeli Forces Crossing the Suez Canal – Gammal Hammad/Wiki

Prime Minister Golda Meir acknowledged the warning, aware that if ignored, Israel would not receive any support from the West. Israel simply had to wait for Egypt to make the first move.

The Israelis had constructed 18 metre (60 feet) high sand banks along the eastern edge of the Canal as a defence against possible attack, however the Egyptians used high-pressure water cannons drawing water from the Canal that quickly eroded the sand in several locations. Floating pontoons were then launched to gain access across the Canal to engage the Israelis.

Employing armaments purchased from the USSR, Egypt's attacks were initially successful, however Israel reacted swiftly and after three days was back on the offensive, pushing the Egyptian Army back over to the western side of the Suez Canal.

The Israelis then crossed at the northern end of the Great Bitter Lake on the 15th October, under heavy fire from the Egyptian Army, and continued the offensive towards Ismailia, Cairo and Port Said whilst at the same time moving south.



Israeli Soldiers During the Battle of Ismailia – Haramati/Harvard College/Wiki

A cease-fire resolution was passed by the United Nations Council to be enforced on 22nd October; however, it is unclear which side broke the cessation of hostilities, and Israeli soldiers advanced on Port Suez, encircling the Egyptian Third Army in that area, resulting in further fighting. In the northern half of the Canal zone, the cease-fire agreement held in place.



Quneitra village after Israeli shelling – Online Museum for Syrian History

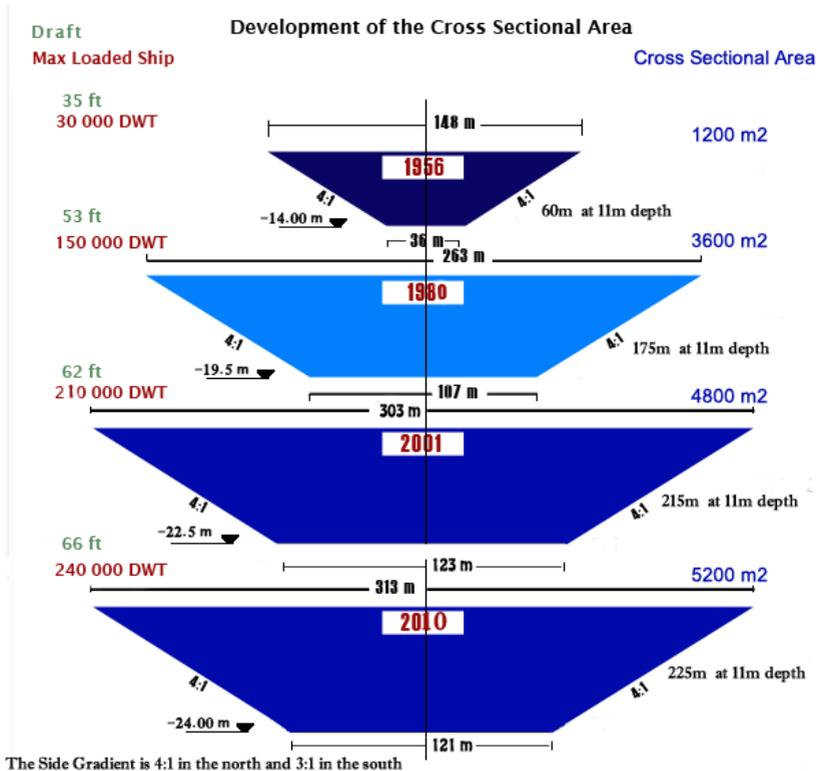
Regardless of the fact that both sides were subject to a UN order, each continued to conduct aggressive actions against one another. Conflict officially ended 28th October, but it was to be a further 3 months, not until 18th January 1974 that ongoing sorties between the two countries finally ceased.

The Camp David Accord meeting held between 5th - 17th September 1978, attended by President Jimmy Carter, Menachem Begin and Anwar Sadat paved the way for a final Peace Treaty in 1979, which saw Israel withdraw from the Sinai Peninsula.

Canal Improvements

Over the past 40 years economies of scale have been a critical issue for shipowners particularly as fuel oil and running costs of vessels have escalated.

As commercial and naval vessels rapidly increased in size, the Suez Canal Authority recognised that it needed to keep up with this trend, particularly for the high volume of increasingly larger oil tankers transiting from the Middle East to Western markets. This was the age of the super-tanker, the giant container vessels, and increasingly bigger cruise ships of the 21st Century. The term “Suez-max” came into vogue, a description for the



Courtesy Suez Canal Authority

maximum size tanker, by breadth and by depth fully laden that could transit the Canal.

These days it is the so-called “Box Boats” - the container ships that are setting the growth trend, but because speed to market between Asia and Western markets for consumer goods and perishables is becoming an important competitive advantage, shipowners are still placing orders for new container vessels the size limit to which are dictated by their ability to transit the Suez. This also applies to Panamax size vessels as well (those of the maximum size that can transit the lock system of the Panama Canal) where the extra dimension, length of the vessel to fit inside the lock system is also a limiting factor.

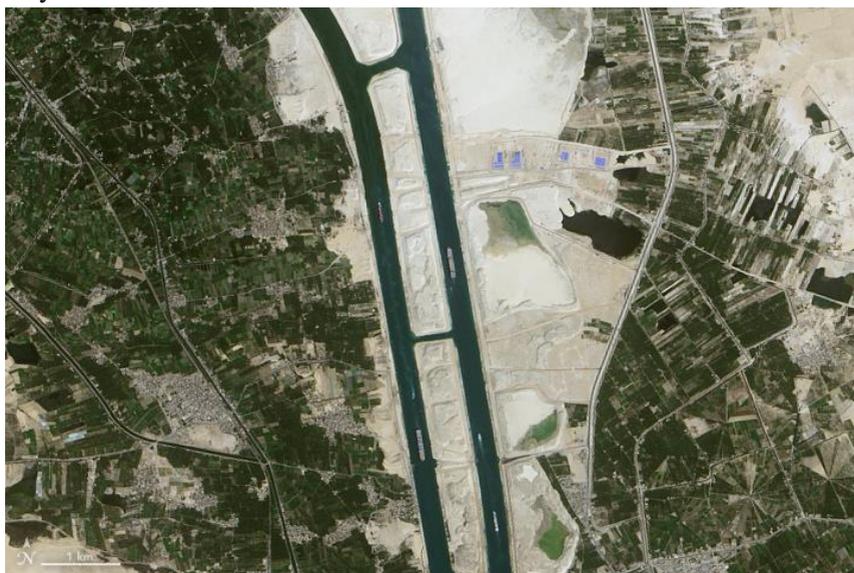
Apart from accommodating the increase in vessel size using the Canal, certain other concerns have been addressed in recent years with the construction of the duplicated Ballah Bypass.



Southbound convoy mooring at the old Ballah Bypass – Clipper/Wikipedia

Historically a Canal transit has been anywhere between 14 to 18 hours including a lay-over for south-bound vessels to either moor along the bank of the old Ballah Bypass or anchor in the Great Bitter Lake to allow the north-bound convoy to pass by. In order to reduce transit times, and increase the number of vessels that could potentially use the Canal each day, the Egyptian Government embarked upon an ambitious project in 2015 to create a duplicate channel at approximately the mid-way point along the Canal, and to dredge a parallel channel along a section of the Great Bitter Lake.

The New Ballah Bypass opened on 9th December 2016 and has enabled larger convoys to assemble at both the north and south entrances to the Canal and progress unimpeded along its length without having to give way.



The New Ballah Bypass (2016) showing the separation of the Canal with a “median strip” of sand and transverse channels - Wikipedia

The 72km long project was funded wholly within Egypt by the issue of a government \$8.4 billion bond offer to its citizens, and instead of the projected 3-year construction time, the bypass was completed in 1 year and 4 months.

The Egyptian government is expecting that the benefit derived by 2023 will be a very significant growth in vessel transits from the current 50 to 97 vessels per day, and a lift in revenues from \$5 billion currently to \$12 billion. Whether these ambitious targets are achieved within the stated timeframe only time will tell. Shipping activity is core indicator of the health of the global economy and of course any downturn will reflect in revenues.

The Benefits

Prior to the opening of the Suez Canal, steamships bound for India, the Far East and Australasia/New Zealand had only one option, to sail via the often inhospitable Cape of Good Hope. For example, a voyage of 19,800kms from Europe to Mumbai, India could take six weeks or more and pass through a host of variable, often wild conditions.



Map of showing routes before and after Suez Canal opening

The Canal reduced the distance to Mumbai to 11,600kms (7,208 miles), a saving of 8,200kms (5,100 miles) and promising a large saving in fuel cost, voyage time of around 12 days, and potential vessel maintenance as a result of the more severe conditions using the southern route.

Unfortunately, that benefit was not open to sail-driven vessels prohibited from using the canal for safe navigation reasons. This was to hasten the greater use of steam-driven ships towards the end of the 19th century and into the 20th century, bringing forward the demise of the romantic days of sail, particularly for those making large profits from the migrant trade still forced to sail via the Cape.

Potential Future Threats

Global warming has delivered a surprising but possible threat to the viability of the Suez Canal.

The North Sea-Northeast Passage via the Arctic Ocean has opened new opportunities for vessels to take a much shorter sea route between the North Atlantic and North Pacific Oceans



Courtesy of Collin Knopp-Schwyn and Turkish Flame

. Currently (2019) only ice-strengthened vessels can use this route, but with indicators pointing to milder winters and warmer summers affecting the extent and thickness of sea ice in the region, it is thought that it will not be too long before the route becomes more popular with shipowners looking to save considerable voyage expenses.

For vessels sailing between Northern Europe and Northern Asian ports, the reduction in distance travelled can be as much as 40%, and that could have a serious impact of Egypt's reliance on increased traffic through the Canal to pay back the \$8.4 billion investment made in duplicating the New Ballah Bypass.

Currently the challenges to the North Sea-Northeast Passage option are the lack of viable way ports in case of emergencies, and the impact that increased use will have on the environment and indigenous fishing activities in the Arctic region.



Suez, the southern entrance to the Canal - NASA

Additionally, the oil industry has in recent years been trialling an option whereby tankers have avoided the Suez route in favour of steaming

around the Cape of Good Hope, and at considerably lower speeds in order to save on Canal fees and fuel. The concept calls for vessels to have a fixed time booked to berth at their unloading port, and to time arrival exactly to avoid wasting days waiting at anchorage to be called alongside. Variables such as weather conditions anticipated during the course of the voyage and prevailing sea currents need to be factored in when planning to use this strategy. It remains to be seen whether this option is adopted as a long-term cost-saving solution.

About the Author



Russell Twomey has undertaken a life-long study of all things nautical, his passion for the subject coming from a family with a long history serving in the British Merchant Marine. He is a member of the Australian Maritime Museum Council and a member of the Queensland Maritime Museum where he lectures on his specialist subject, Maritime History. He is a contributor to the QMM magazine, and also conducts a wide variety of lectures on maritime topics for the University of the Third Age (U3A), Community Service Organisations such as Rotary and Probus, and aboard cruise ships to many parts of the world. Russell has travelled by sea extensively across the globe, and lives in a Brisbane bayside Suburb with his wife Julie.

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Original statue of Ferdinand de Lesseps
