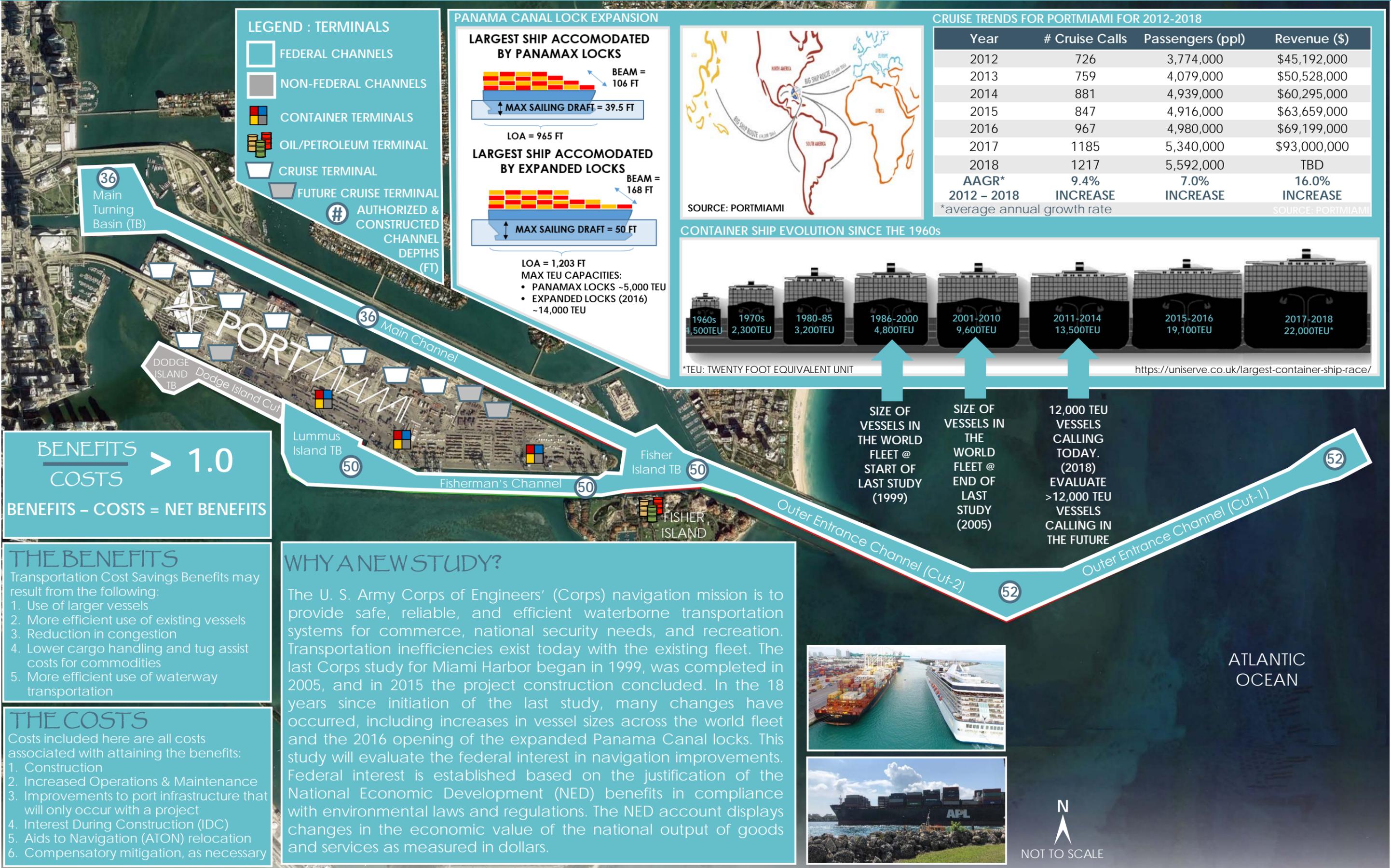


MIAMI HARBOR NAVIGATION IMPROVEMENT STUDY



LEGEND : TERMINALS

- FEDERAL CHANNELS
- NON-FEDERAL CHANNELS
- CONTAINER TERMINALS
- OIL/PETROLEUM TERMINAL
- CRUISE TERMINAL
- FUTURE CRUISE TERMINAL
- # AUTHORIZED & CONSTRUCTED CHANNEL DEPTHS (FT)

PANAMA CANAL LOCK EXPANSION

LARGEST SHIP ACCOMODATED BY PANAMAX LOCKS

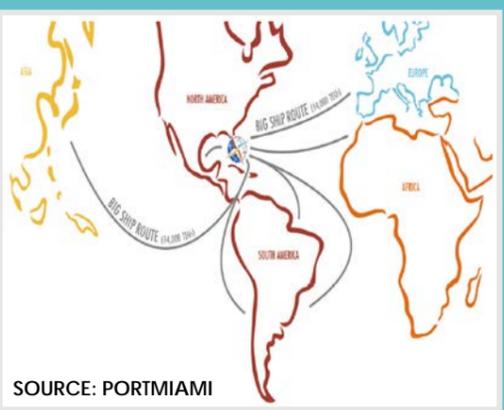
BEAM = 106 FT
MAX SAILING DRAFT = 39.5 FT
LOA = 965 FT

LARGEST SHIP ACCOMODATED BY EXPANDED LOCKS

BEAM = 168 FT
MAX SAILING DRAFT = 50 FT
LOA = 1,203 FT

MAX TEU CAPACITIES:

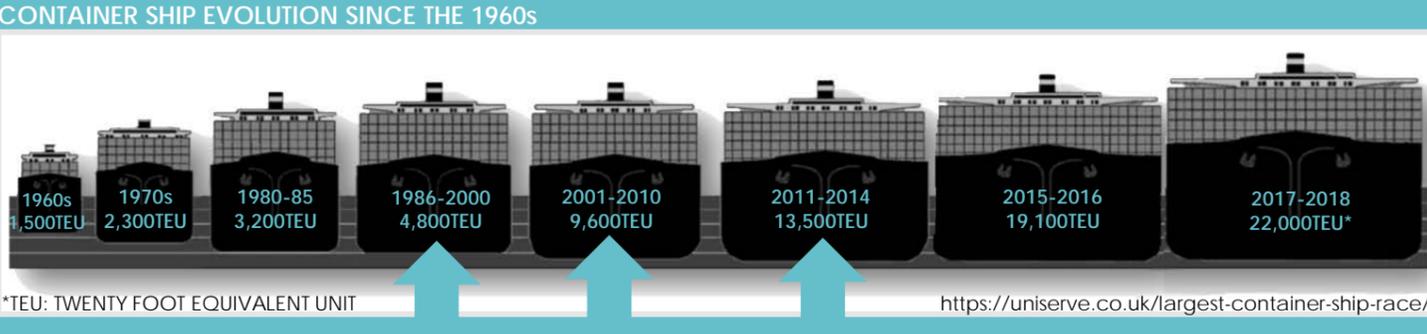
- PANAMAX LOCKS ~5,000 TEU
- EXPANDED LOCKS (2016) ~14,000 TEU



CRUISE TRENDS FOR PORTMIAMI FOR 2012-2018

Year	# Cruise Calls	Passengers (ppl)	Revenue (\$)
2012	726	3,774,000	\$45,192,000
2013	759	4,079,000	\$50,528,000
2014	881	4,939,000	\$60,295,000
2015	847	4,916,000	\$63,659,000
2016	967	4,980,000	\$69,199,000
2017	1185	5,340,000	\$93,000,000
2018	1217	5,592,000	TBD
AAGR*	9.4%	7.0%	16.0%
2012 - 2018	INCREASE	INCREASE	INCREASE

*average annual growth rate
SOURCE: PORTMIAMI



BENEFITS > COSTS

BENEFITS - COSTS = NET BENEFITS

- THE BENEFITS**
- Transportation Cost Savings Benefits may result from the following:
1. Use of larger vessels
 2. More efficient use of existing vessels
 3. Reduction in congestion
 4. Lower cargo handling and tug assist costs for commodities
 5. More efficient use of waterway transportation

- THE COSTS**
- Costs included here are all costs associated with attaining the benefits:
1. Construction
 2. Increased Operations & Maintenance
 3. Improvements to port infrastructure that will only occur with a project
 4. Interest During Construction (IDC)
 5. Aids to Navigation (ATON) relocation
 6. Compensatory mitigation, as necessary

WHY A NEW STUDY?

The U. S. Army Corps of Engineers' (Corps) navigation mission is to provide safe, reliable, and efficient waterborne transportation systems for commerce, national security needs, and recreation. Transportation inefficiencies exist today with the existing fleet. The last Corps study for Miami Harbor began in 1999, was completed in 2005, and in 2015 the project construction concluded. In the 18 years since initiation of the last study, many changes have occurred, including increases in vessel sizes across the world fleet and the 2016 opening of the expanded Panama Canal locks. This study will evaluate the federal interest in navigation improvements. Federal interest is established based on the justification of the National Economic Development (NED) benefits in compliance with environmental laws and regulations. The NED account displays changes in the economic value of the national output of goods and services as measured in dollars.

SIZE OF VESSELS IN THE WORLD FLEET @ START OF LAST STUDY (1999)

SIZE OF VESSELS IN THE WORLD FLEET @ END OF LAST STUDY (2005)

12,000 TEU VESSELS CALLING TODAY. (2018)

EVALUATE >12,000 TEU VESSELS CALLING IN THE FUTURE



ATLANTIC OCEAN

ECONOMIC CONSIDERATIONS BENEFITS & COSTS