



# Affording the U.S. Navy of the Future



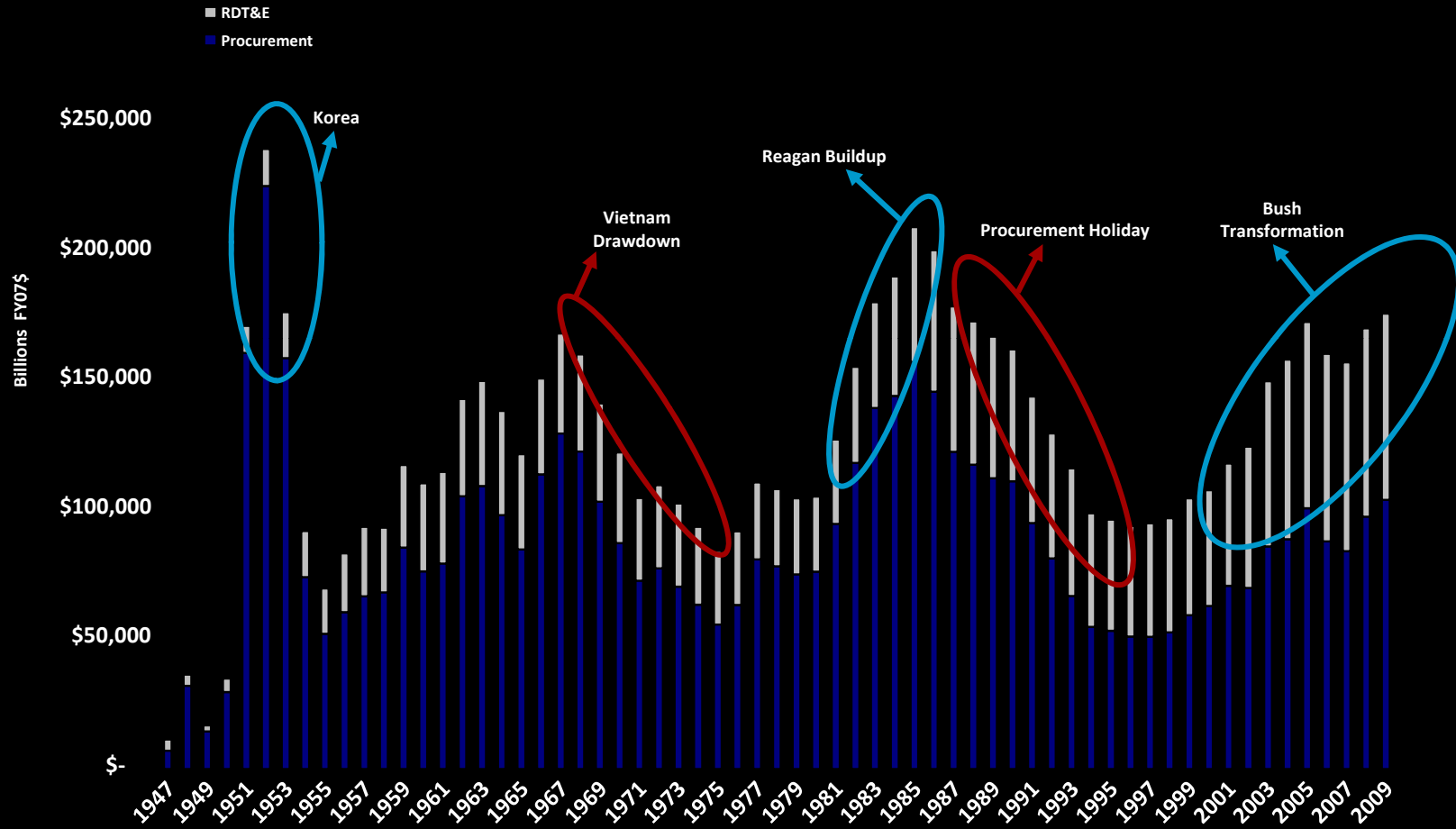
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# A Mandate for Affordability



# DoD's Budget Cycles:



Source: DoD, Jane's Analysis

John Kenkel – Gersen Lerman Group



# The Cost of the Navy We Operate



# The New Normal

*Sept. 11, 2001*

*No OCO Funding*

*Partial OCO Funding*

- Less than 25% of Navy at sea
  - 2 of 12 CV / CVNs deployed
    - zero capable of surge
- Minimal boots-on-the-ground
  - **Naval Support Activity, Bahrain**
- Expeditionary Forces
  - EOD supporting maritime mission only
  - Naval Construction Force peacetime training / deployment
  - minimal maritime security, logistics and training

**FLEET RESPONSE PLAN (July 1, 2003)**

- 143 of 285 ships/subs U/W
  - 5 CVNs / 3 Large Decks
  - 17 attack subs
- 3 CSGs deployed, plus:
  - 3 surge capable in 30 days
  - 1 surge capable in 90 days
- CENTCOM commitments
- Independent Deployers
  - 50+ Exercises: Pacific / Africa Partnerships, RIMPAC, UNITAS, Foal Eagle, Talisman Sabre, Cobra Gold, Provide Promise / Comfort, etc.
- Global Maritime Security
- Sea Control, Deterrence
- Theater Security Cooperation
  - counter-IED
  - building partnerships
- HA/DR (131 projects)
  - Indonesia Tsunami Relief
  - Pakistan Earthquake
- Expeditionary Guard, Training, Combat Readiness Commands

- CENTCOM Theater*
- 14+ ships in Theater
  - 24,000+ Navy personnel
    - 10K afloat
    - 14K ashore, including IAs
  - Close Air Support & Recon
  - 46% of OIF/OEF TACAIR
  - Airborne Electronic Attack
    - 75% in OIF / 100% in OEF
  - Mobile Ashore Support Terminal (C4I, HA/DR)
  - Provin. Reconstr. Teams
  - SEABEE Regiment
    - C<sup>2</sup> Joint Eng. Force (RC South)
    - 2 SEABEE Battalions
    - OEF construction of FOBs
  - 22 EOD Detachments
    - Route Clearance & Forensics
    - Iraqi Police training
  - Riverine (Haditha Dam)
    - 6500 Km waterway security
  - Maritime Security Ops
    - Anti-Piracy, VBSS, NEO, Oil Platforms, Umm Qasr
  - Customs, Civil Affairs



# The Baseline Ready Force

## Maintain/Recap/Reset

### Aviation Depot Maintenance

- 1.1M Man-days of work
- ~ 800 Airframes
- ~ 2200 Engines

Cost \$1.6B

### Ship Depot Maintenance

- ~ 7.4M Man-days of work (Public and Private)
- ~ 101 Carriers, Subs and Surface ships

Cost \$6.1B

### NECC Equipment Sets

Cost: \$118M

\$7.8B

## Ready... for Safe Ops

### Aircraft Safety and Proficiency

- ~ 1000+ Student Pilots
- TACAIR, ~ 11 hrs/crew/mo
- I-level maintenance of all A/C

Cost \$5.8B

### Ship Safety and Proficiency

- Funds 15 U/W days/qtr/hull
- ~12,500 steaming days
- Repair Parts, OPTAR, Admin, Utilities
- Nuclear Fuel

Cost \$1.7B

NECC: Cost \$500M

Support Programs: Cost: \$2.9B

\$10.9B

## Set....to Surge

## Go...for MCO Deployment

**\$18.7B plus**

<u>Output</u>	<u>Cost</u>	<u>Total</u>
1+1+1 = \$900M		<b>\$19.6B</b>
2+1+1 = \$1.7B		<b>\$20.4B</b>
3+1+1 = \$2.5B		<b>\$21.2B</b>
3+2+1 = \$2.7B		<b>\$21.4B</b>
3+3+1 = \$3.0B		<b>\$21.7B</b>

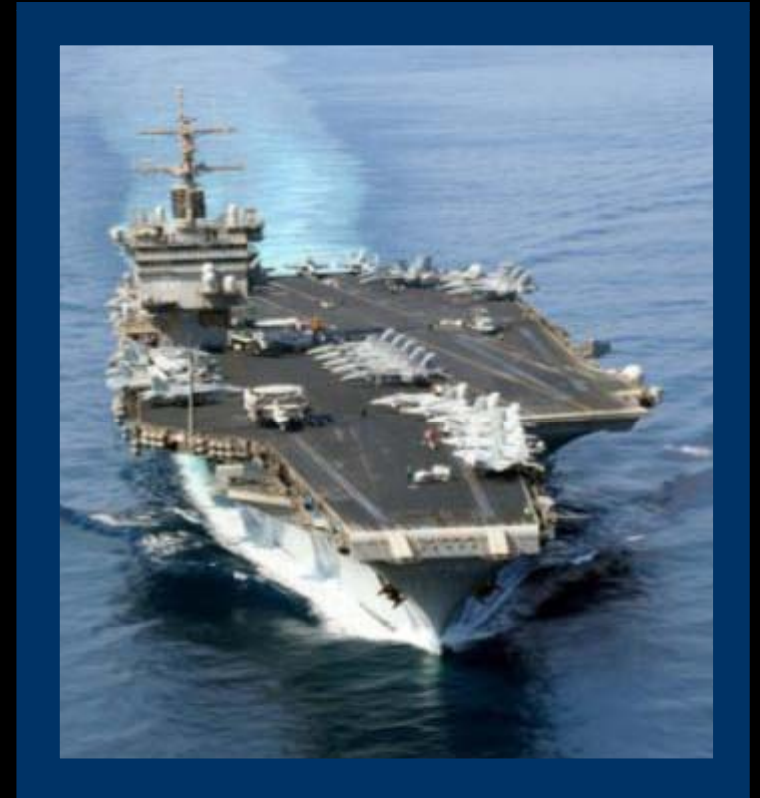


# Affording the Cost of the Navy We're Building



# Historical Challenges

- Always deployed
- Across 5 oceans
- All Resources are precious commodities
- Capital intensive, long service life Force





# Challenges of Today: Fiscal & Logistical

- Always deployed
- Across 5 oceans
- All Resources are precious commodities
- Capital intensive, long service life Force

And...

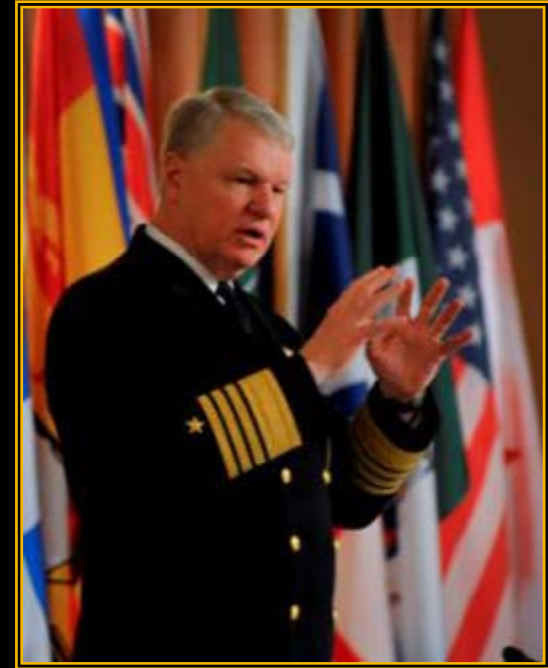
- Fighting two wars
- Majority of 2020 Battle Force exists today
  - Older ships / more frequent maintenance
- Cost to own & operate our Fleet growing faster than inflation
- Limited Budget; likely decrease





# Total Ownership Cost Philosophy

“Total ownership costs are part of my requirements and acquisition decisions – we will not buy a ship if it is unaffordable today and we will not buy it if it will be unaffordable over its lifetime.”



Chief of Naval Operations,  
Admiral Gary Roughead



# Total Ownership Cost

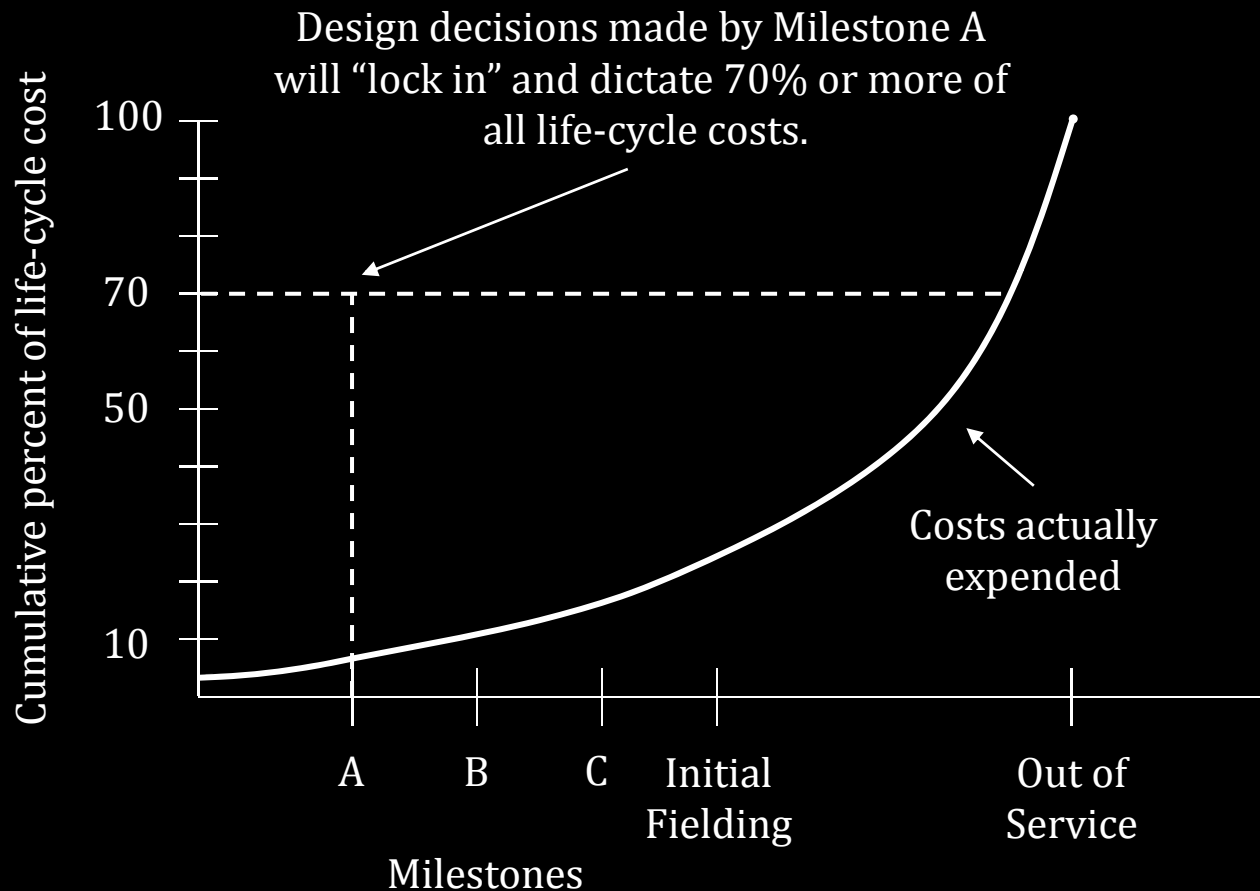
“Total Ownership Cost includes all costs associated with research, development, procurement, operation, logistical support and disposal of an individual weapon system including the total supporting infrastructure that plans, manages and executes that weapon system program over its full life.”

Source: VCNO, ASN(RDA), and Assistant Commander of the Marine Corps (ACMC) jointly signed letter dated 29 July 2009.





# System Support Consideration

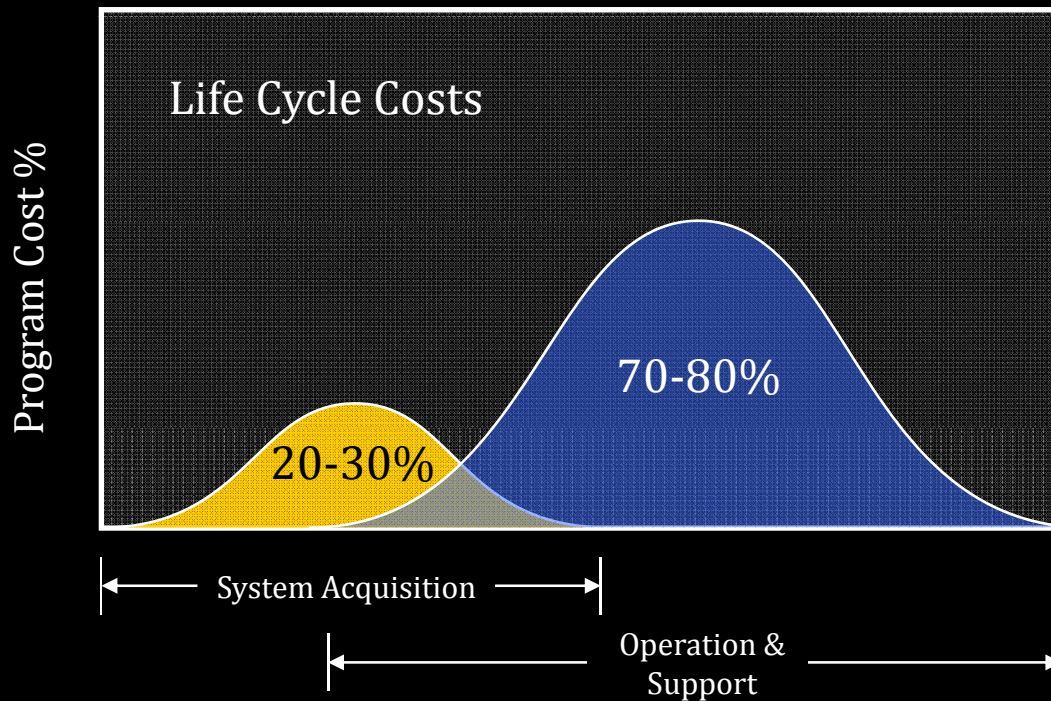


It is critical that system support be considered early and continuously.



# Life Cycle Costs

O&S accounts for 70-80% of a system's entire cost, so consider system support early in the design process.





# Primary TOC Challenges

- Life Cycle Costs are set early
  - Understanding & influencing the cost drivers is essential
  - Need to increase the focus on TOC at every decision point
- Life cycle costs of next generation systems must be more fully understood
  - Increased fidelity of sustainment strategies is essential
  - The Virginia Class submarine is representative of the future





# Integrating Affordability into Policy: *Program Health Process*

- Improved Emphasis on Affordability, Sustainment, and TOC
- In Early Program Reviews
  - Emphasis on Understanding Projected Costs and Drivers
  - Early Cost Containment / Cost Reduction Strategy Discussion
- In Later Program Reviews
  - Emphasis on Life Cycle Sustainment Strategy supported by Life Cycle Funding Profile
  - Assessment of Cost Reduction Strategies Against Projection
  - Review Affordability in Context of Allocated Resources

Affordability Incorporated into Navy Acquisition Policy



# Virginia-Class TOC Reduction

- Virginia-Class Program Office heavily engaged in reducing TOC across the class
- Decreased acquisition cost from \$2.4 Billion to \$2.0 Billion; increased build rate

- Funding infrastructure improvements at shipyards

- “*Design for Affordability*” program is engaged in “capability neutral” redesigns of the boat’s components

- Extensive use of Lean Six Sigma processes reduced construction time from 84 months to 60



Reduction in TOC can be accomplished on a Major System.



# Way Ahead

- Think well past the current budgets... create and exploit every opportunity to reduce cost
- Develop Catalog of Initiatives that Reduce TOC
  - Build Base of Unfunded Affordability Initiatives with ROI Potential
- Develop TOC Performance Capture Methodology
  - Identify Data Sources with Fidelity to Facilitate Senior Leadership Decision Making

Think strategically about how to reduce the cost of doing business without compromising warfighting effectiveness.



# Questions



*Considering Total Ownership Costs up front will prevent costs from taking off.*