January 17, 2019

Navy Ship Construction: From the Budget Control Act to Building a New Fleet

Surface Navy Association 31st National Symposium

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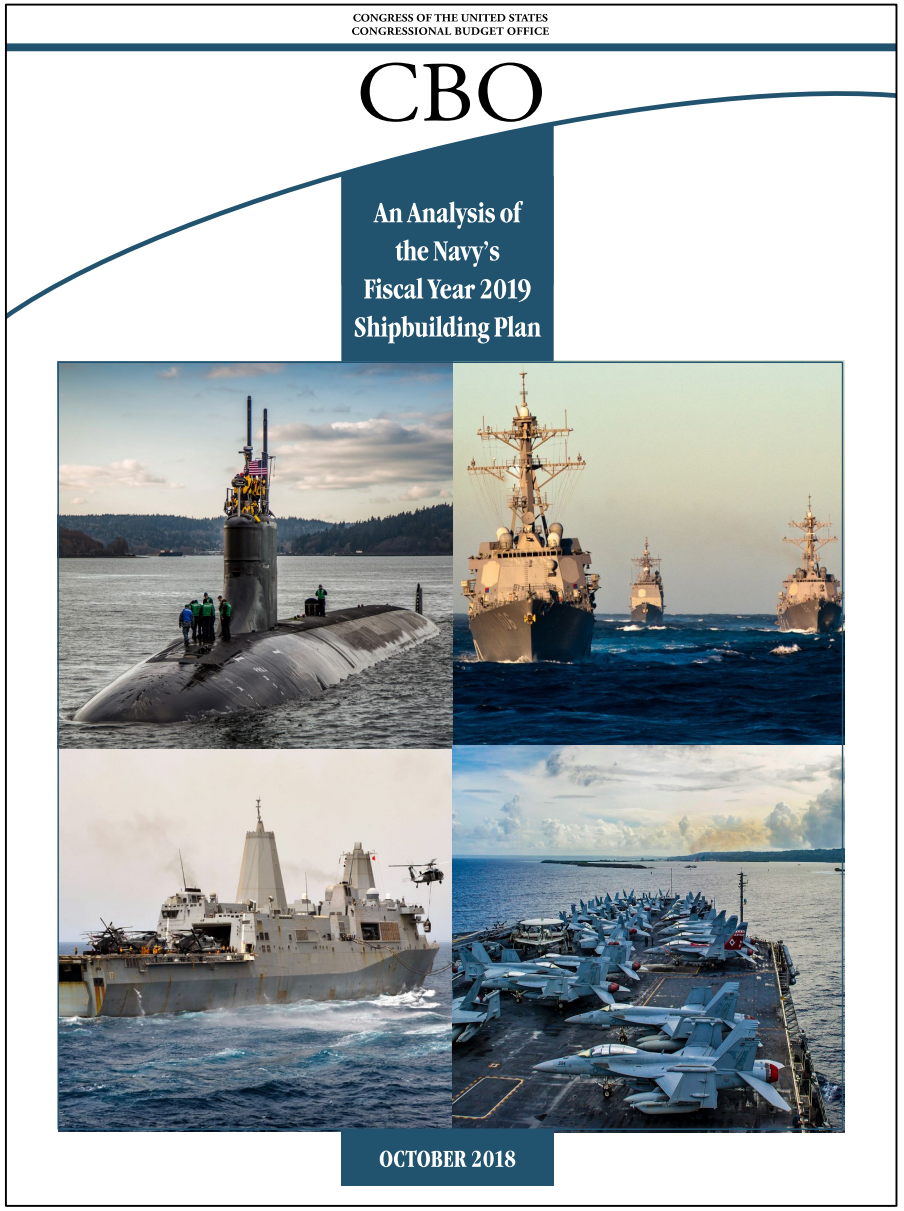

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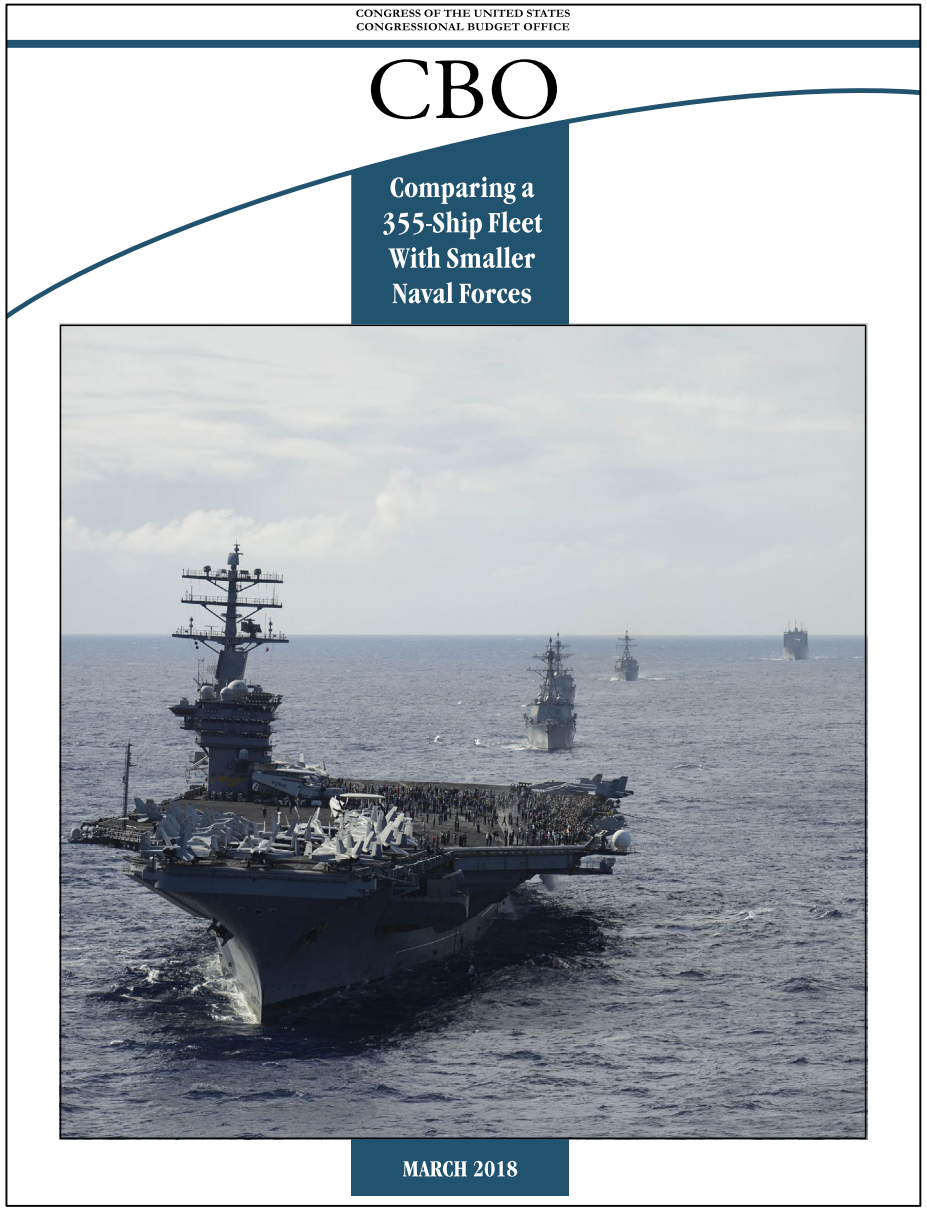

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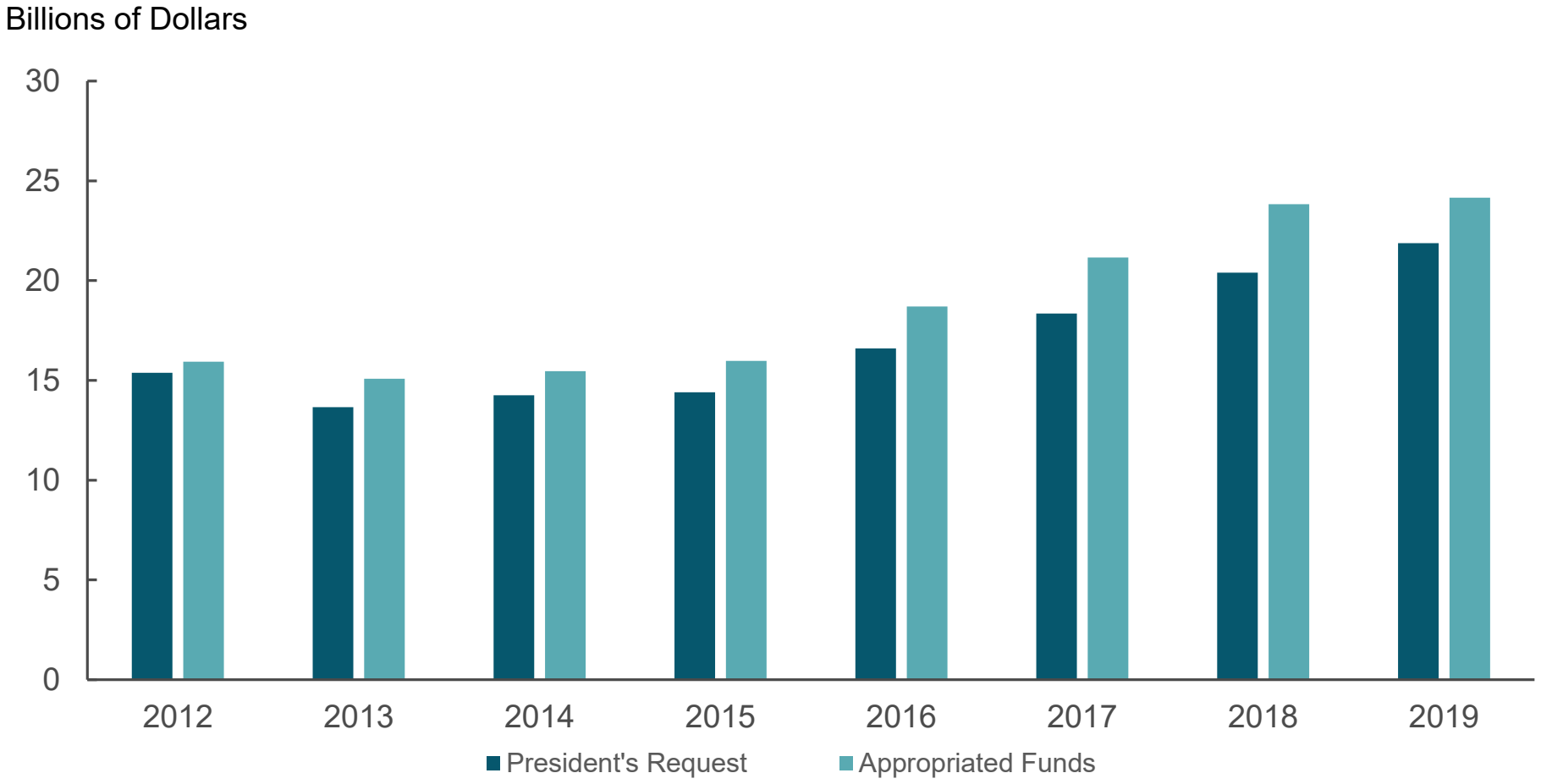
Outline

- A Look Back: Shipbuilding Under the Budget Control Act
- 2016 Force Structure Assessment
- A Look Ahead: Shipbuilding Under the Navy's 2019 Shipbuilding Plan and Prospects for Achieving a 355-Ship Fleet
- Role of Service Life Extensions

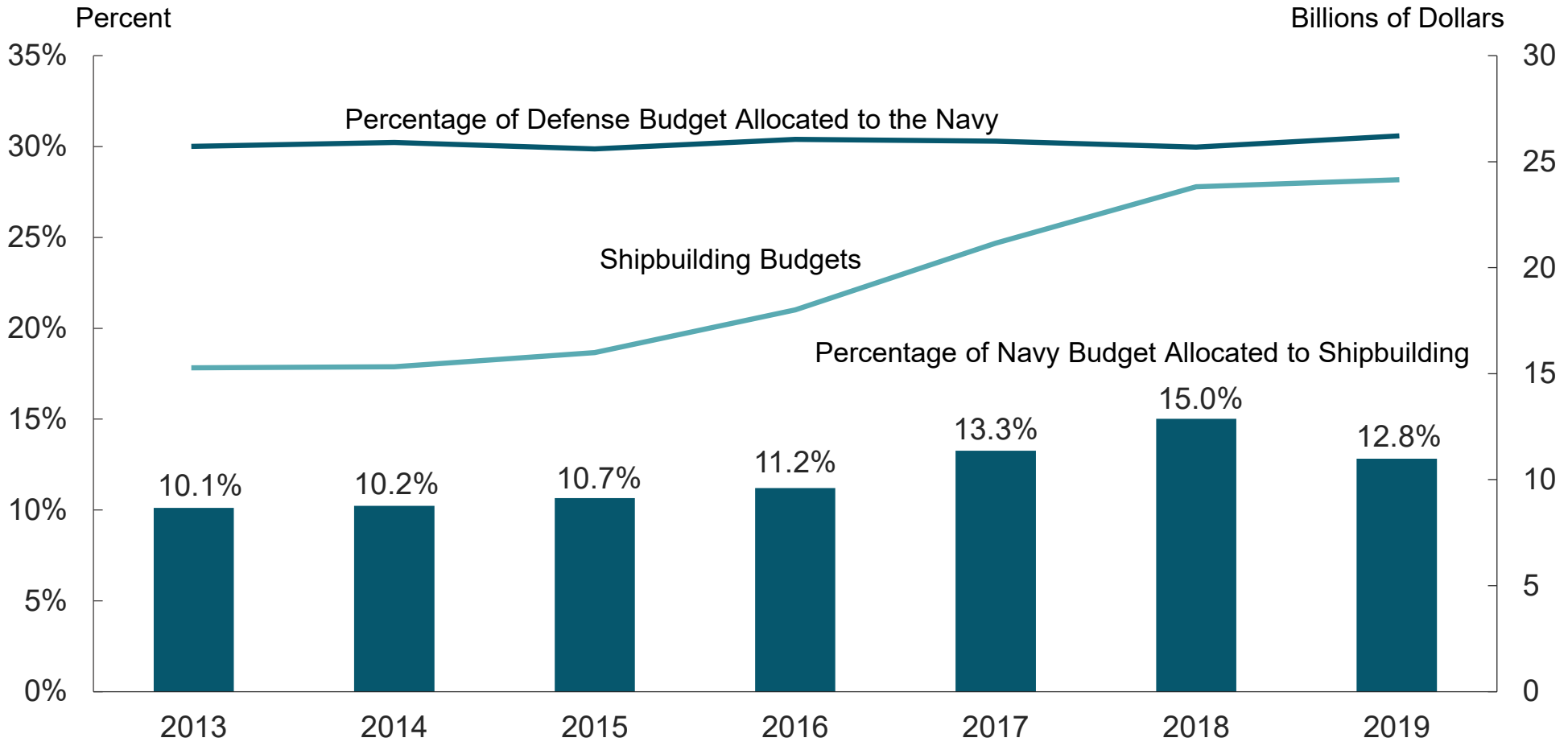
Shipbuilding Under the Budget Control Act

Requested and Appropriated Shipbuilding Budgets, 2012 to 2019



On average, the Congress appropriated $2 billion per year more than the President requested.

Increase in Shipbuilding Costs as a Percentage of the Navy's Budget



The Navy's 2012 Shipbuilding Plan Compared With Enacted Appropriations in the Budget Control Act Era, 2012 to 2019

Ship Type	2012 Shipbuilding Plan	Enacted Appropriations	Difference
Aircraft Carriers	2	2	0
Ballistic Missile Submarines	1	0	-1
Attack Submarines	15	16	1
Destroyers	13	17	4
Littoral Combat Ships	28	27	-1
Amphibious Warfare Ships	4	5	1
Logistics and Support Ships	26	20	-6
Total	**89**	**87**	**-2**
Large Combat Ships	35	40	5
LCS/Support Ships	54	47	-7

2016 Force Structure Assessment

Increase in the Number of Attack Submarines, Large Surface Combatants, and Other Ships in a 355-Ship Fleet

Ship Type	2014 Force Structure Assessment	2016 Force Structure Assessment	Difference
Aircraft Carriers	11	12	1
Ballistic Missile Submarines	12	12	0
Attack Submarines	48	66	18
Large Surface Combatants	88	104	16
Small Surface Combatants	52	52	0
Amphibious Warfare Ships	34	38	4
Logistics and Support Ships	63	71	8
Total	**308**	**355**	**47**

The Navy's 2019 Shipbuilding Plan: Prospects for Achieving a 355-Ship Fleet

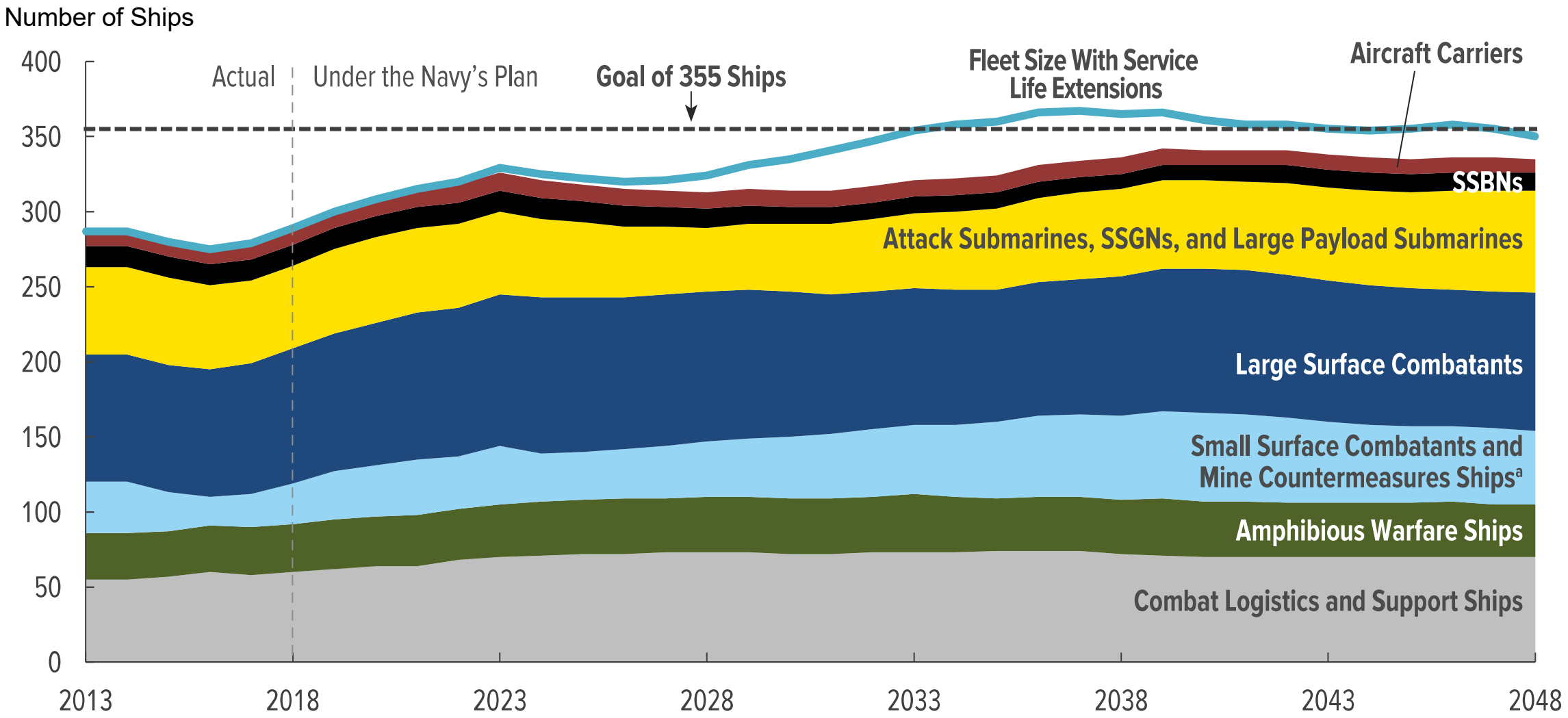
Ship Purchases Under the Navy's 30-Year 2017 and 2019 Shipbuilding Plans

Ship Type	2017 Shipbuilding Plan	2019 Shipbuilding Plan	Difference
Aircraft Carriers	6	7	1
Ballistic Missile Submarines	12	12	0
Large Payload Submarines or SSGN(X)	0	5	5
Attack Submarines	44	60	16
Large Surface Combatants (CGs/DDGs)	66	76	10
Small Surface Combatants (LCSs/FFGs)	58	57	-1
Amphibious Warfare Ships	23	28	5
Logistics and Support Ships	45	56	11
Total	**254**	**301**	**47**

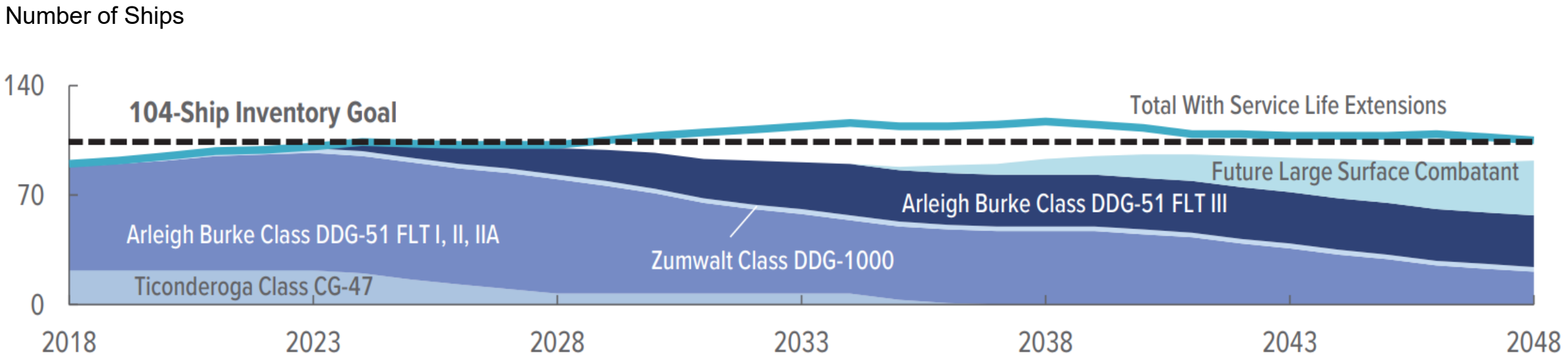
Ship Purchases Under the Navy's 2017 and 2019 Shipbuilding Plans, 2019 to 2023

Ship Type	2017 Shipbuilding Plan	2019 Shipbuilding Plan	Difference
Aircraft Carriers	1	1	0
Ballistic Missile Submarines	1	1	0
Large Payload Submarines or SSGN(X)	0	0	0
Attack Submarines	9	10	1
Large Surface Combatants (CGs/DDGs)	10	14	4
Small Surface Combatants (LCSs/FFGs)	8	7	-1
Amphibious Warfare Ships	3	3	0
Logistics and Support Ships	12	18	6
Total	**44**	**54**	**10**

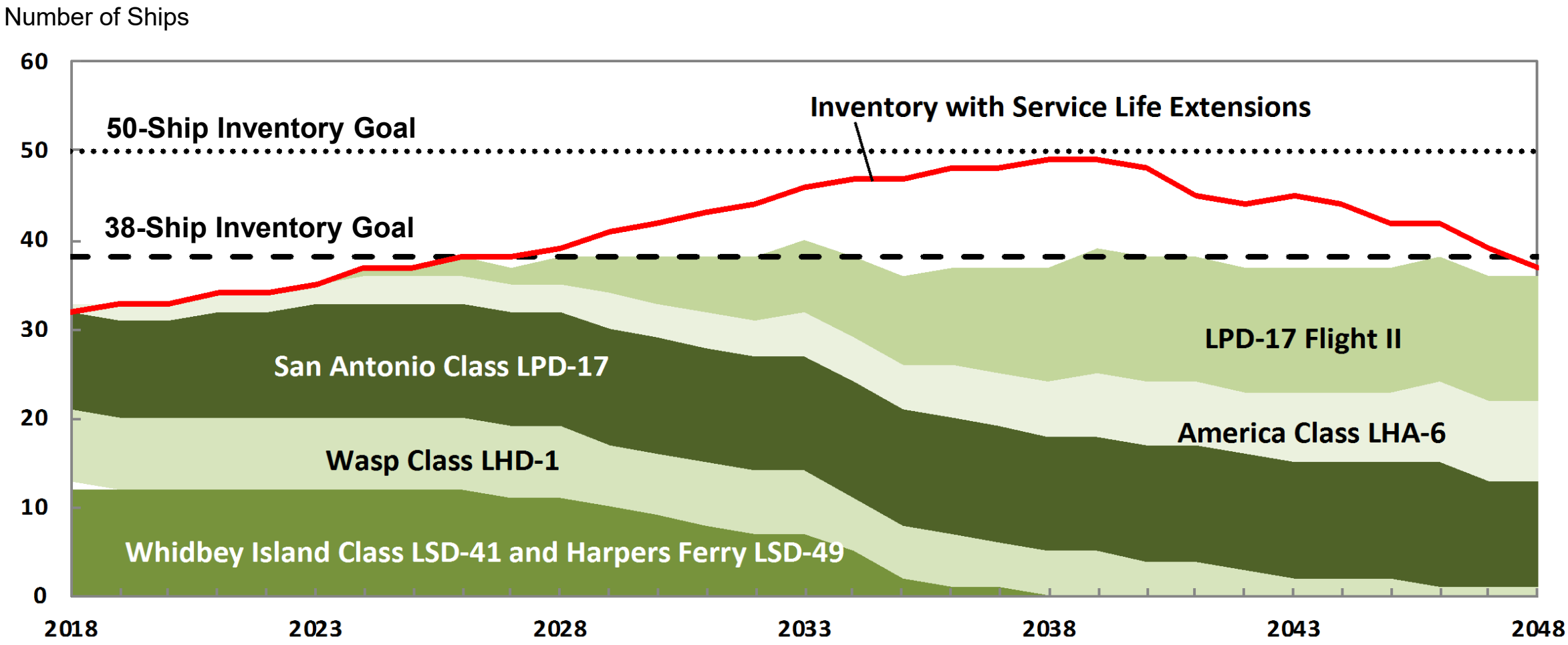
Inventory of Battle Force Ships Under the Navy's 2019 Shipbuilding Plan



Inventory of Large Surface Combatants Under the Navy's 2019 Shipbuilding Plan



Inventory of Amphibious Warfare Ships Under the Navy's Plan, With Service Life Extensions



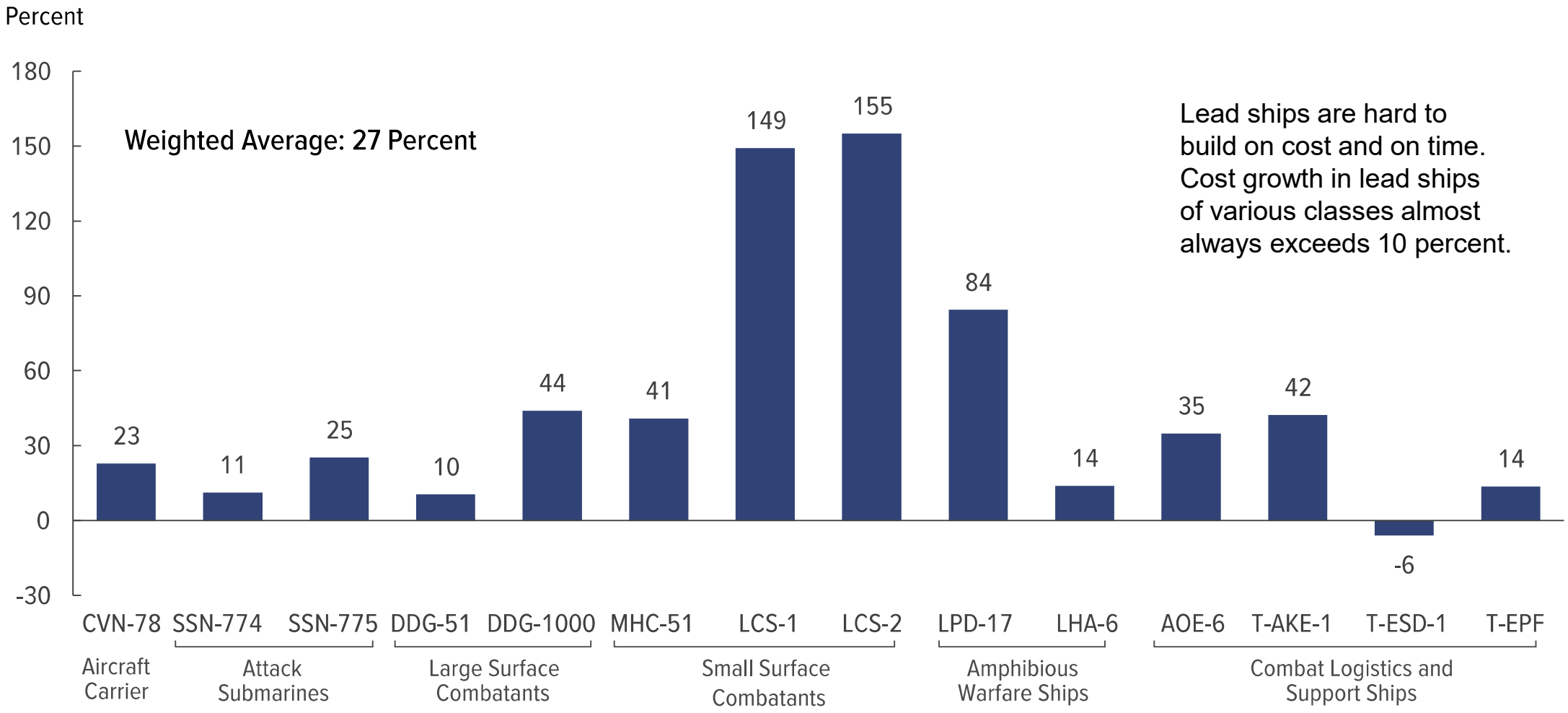
Costs of the Navy's 2017 and 2019 Shipbuilding Plans

Billions of 2018 Dollars	2017 Shipbuilding Plan	2019 Shipbuilding Plan	Difference
Total Costs over 30 Years			
Navy estimates	532	631	99
CBO estimates	593	801	208
Average Annual Costs for New Ships Only			
Navy estimates	17.7	21.0	3.3
CBO estimates	19.8	26.7	6.9
Average Annual Costs for All Shipbuilding Activities			
Navy estimates	19.6	23.2	3.6
CBO estimates	21.7	28.9	7.2
Average Cost per Ship			
Navy estimates	2.1	2.1	0
CBO estimates	2.3	2.7	0.4

Major Sources of Difference or Uncertainty

- Future new attack submarine or SSN(X)
  - Seawolf size and capabilities
  - Large research and development bill: $8 billion or more
  - More than $5 billion per ship
- Future new large surface combatant
  - R&D bill: $2 billion to $5 billion is likely; more is possible (DDG-1000: $10 billion)
  - Average cost $2.3 billion per ship
- New frigate and follow-on future small surface combatant
  - What size and capabilities?
  - Costs at $1.1 billion to $1.2 billion
- Columbia class ballistic missile submarine
  - Will it follow the Gerald R. Ford class aircraft carrier as a complicated, troubled lead ship program?

Cost Growth in Lead Ships



A New Era of Great Power Competition

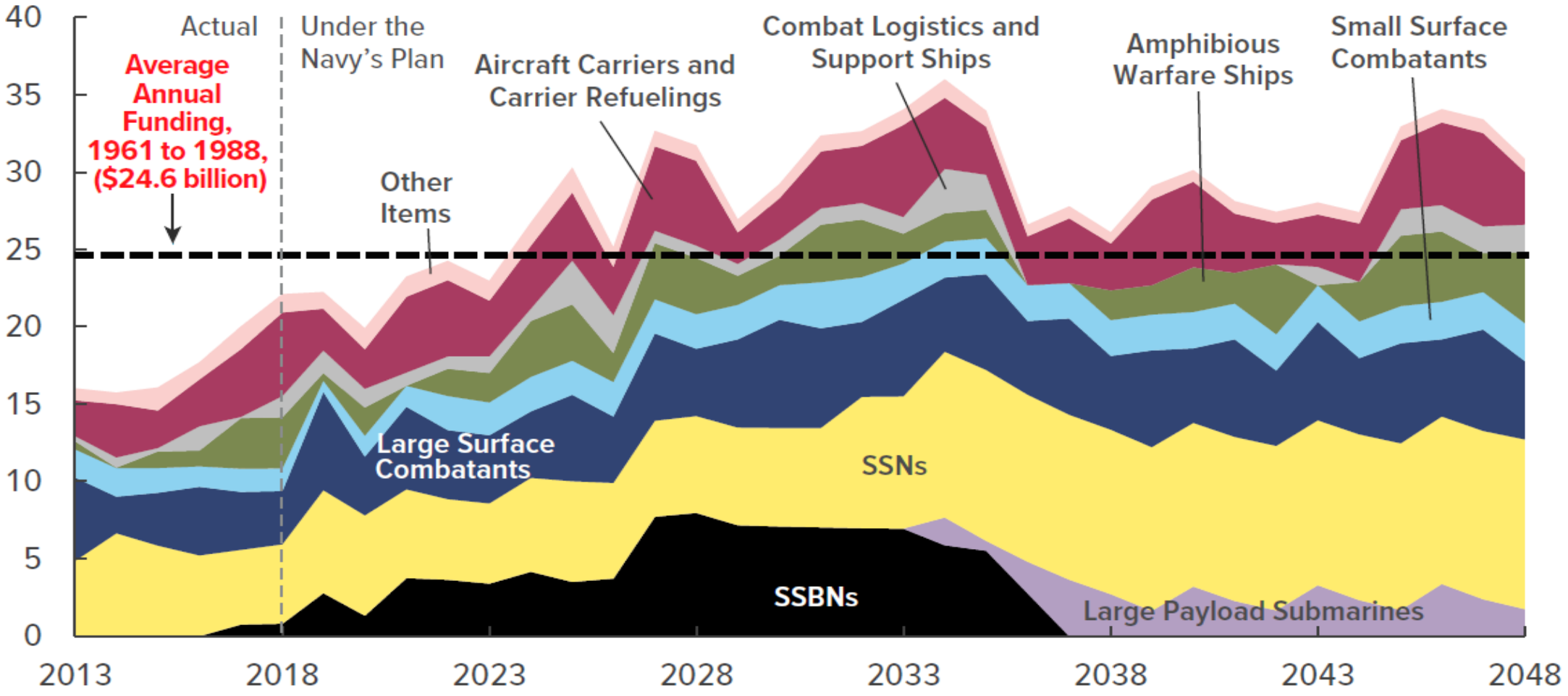
“Inter-state strategic competition, not terrorism, is now the primary concern in U.S. national security.”

“Investments will prioritize ground, air, sea, and space forces that can deploy, survive, operate, maneuver, and regenerate in all domains while under attack.”

–National Defense Strategy, 2018

CBO's Estimates of Annual Shipbuilding Costs Under the Navy's 2019 Plan Compared With the Cold War Average

Billions of 2018 Dollars



What Does a $700 Billion Defense Budget Mean for the Fleet?

Department of Defense Budget*	$700 billion
Department of the Navy Budget (Topline)*	$200 billion
Ship Construction	
13.7 percent (Average, 2017–2019)*	$27.4 billion
10.5 percent (Average, 2008–2016)*	$21.0 billion
Fleet Size After 30 Years (Without service life extensions)	
Larger budget	310 ships
Smaller budget	250 ships
Fleet Size After 30 Years (With service life extensions)	
Larger budget	330 ships
Smaller budget	270 ships

*Amounts are in 2018 dollars.

What Does a $750 Billion Defense Budget Mean for the Fleet?

Department of Defense Budget*	$700 billion	$750 billion
Department of the Navy Budget (Topline)*	$200 billion	$214 billion
Ship Construction		
13.7 percent (Average, 2017–2019)*	$27.4 billion	$29.3 billion
10.5 percent (Average, 2008–2016)*	$21.0 billion	$22.5 billion
Fleet Size After 30 Years (Without service life extensions)		
Larger budget	310 ships	335 ships
Smaller budget	250 ships	270 ships
Fleet Size After 30 Years (With service life extensions)		
Larger budget	330 ships	350 ships
Smaller budget	270 ships	285 ships

*Amounts are in 2018 dollars.

Complying with the BCA Cap: What Does a $576 Billion Defense Budget Mean for the Fleet?

Department of Defense Budget*	$700 billion	$750 billion	$576 billion
Department of the Navy Budget (Topline)*	$200 billion	$214 billion	$164 billion
Ship Construction			
13.7 percent (Average, 2017–2019)*	$27.4 billion	$29.3 billion	$22.5 billion
10.5 percent (Average, 2008–2016)*	$21.0 billion	$22.5 billion	$17.2 billion
Fleet Size After 30 Years (Without service life extensions)			
Larger budget	310 ships	335 ships	270 ships
Smaller budget	250 ships	270 ships	230 ships
Fleet Size After 30 Years (With service life extensions)			
Larger budget	330 ships	350 ships	285 ships
Smaller budget	270 ships	285 ships	245 ships

*Amounts are in 2018 dollars.