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The 2019 Outlook for Navy Shipbuilding

Bank of America Merrill Lynch Defense Outlook Forum

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National Security Division

CBO

An Analysis of the Navy's Fiscal Year 2019 Shipbuilding Plan



OCTOBER 2018

CBO

Comparing a 355-Ship Fleet With Smaller Naval Forces



MARCH 2018

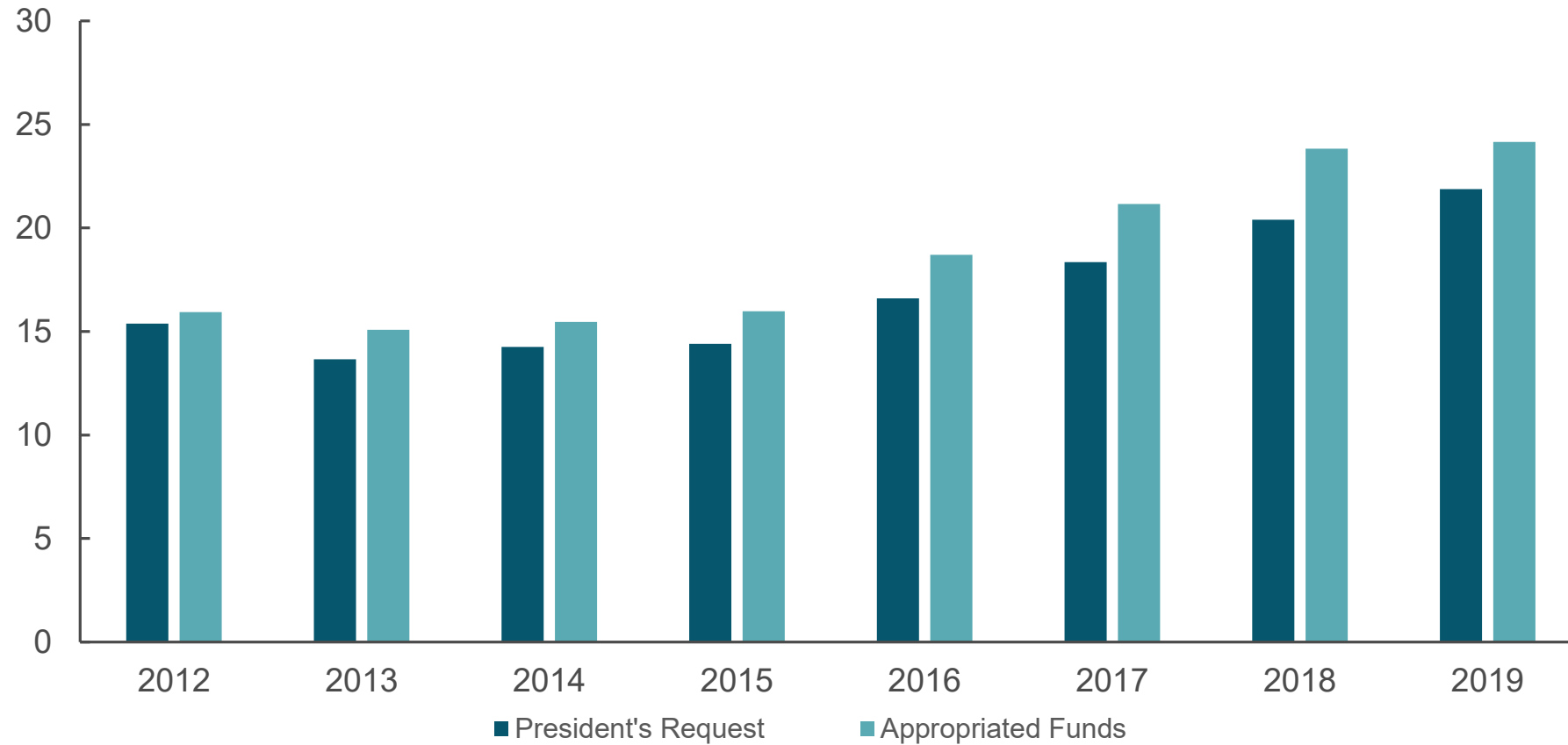
The 2019 Outlook for Navy Shipbuilding

- 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
 - Purchases
 - Inventories
 - Costs
- Role of Service Life Extensions

Shipbuilding Under the Budget Control Act

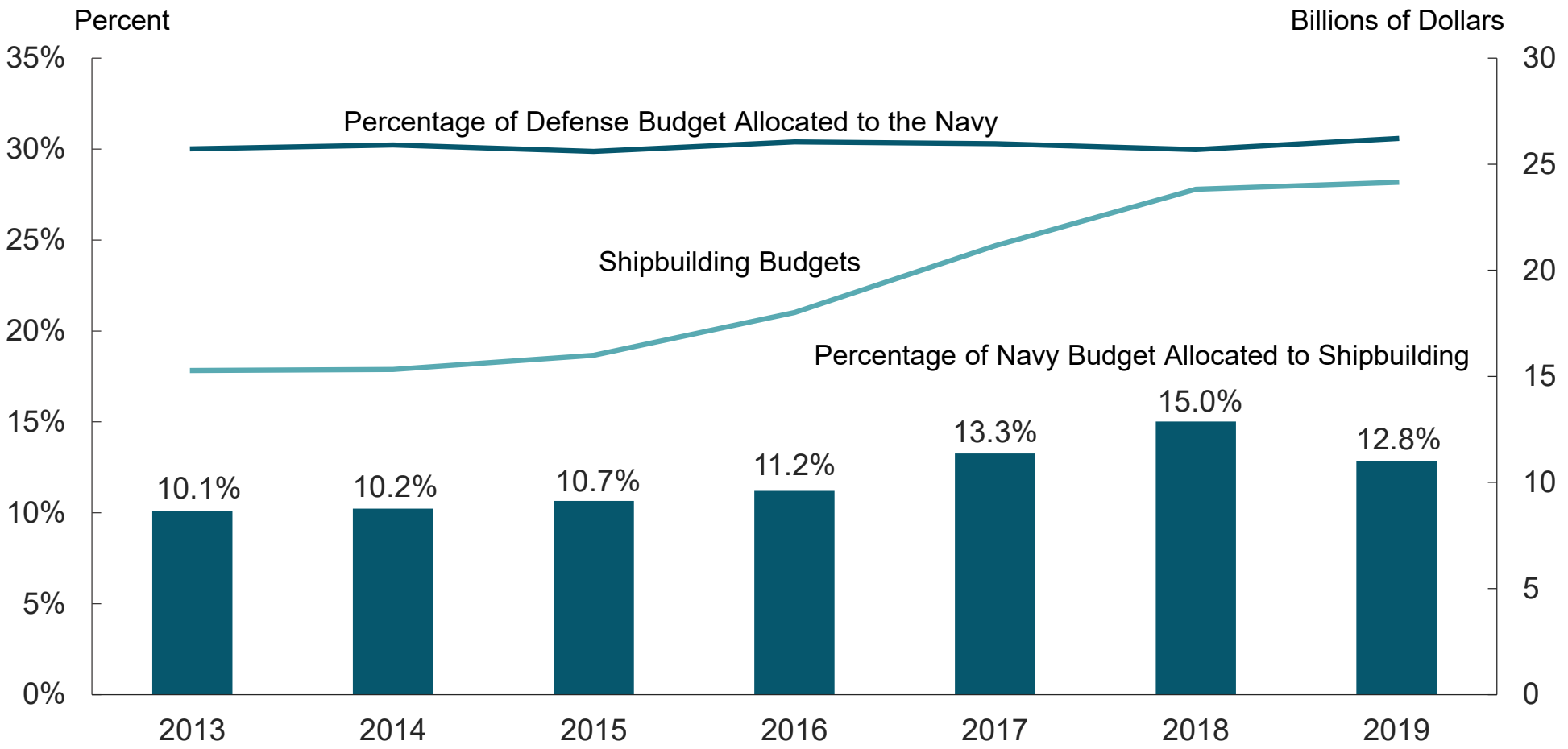
Requested and Appropriated Shipbuilding Budgets, 2012 to 2019

Billions of Dollars



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	<u>26</u>	<u>20</u>	<u>-6</u>
Total	89	87	-2
Large Combat Ships	35	40	5
Small Combat/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	<u>63</u>	<u>71</u>	<u>8</u>
Total	308	355	47

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

Purchases

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	<u>45</u>	<u>56</u>	<u>11</u>
Total	254	301	47

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

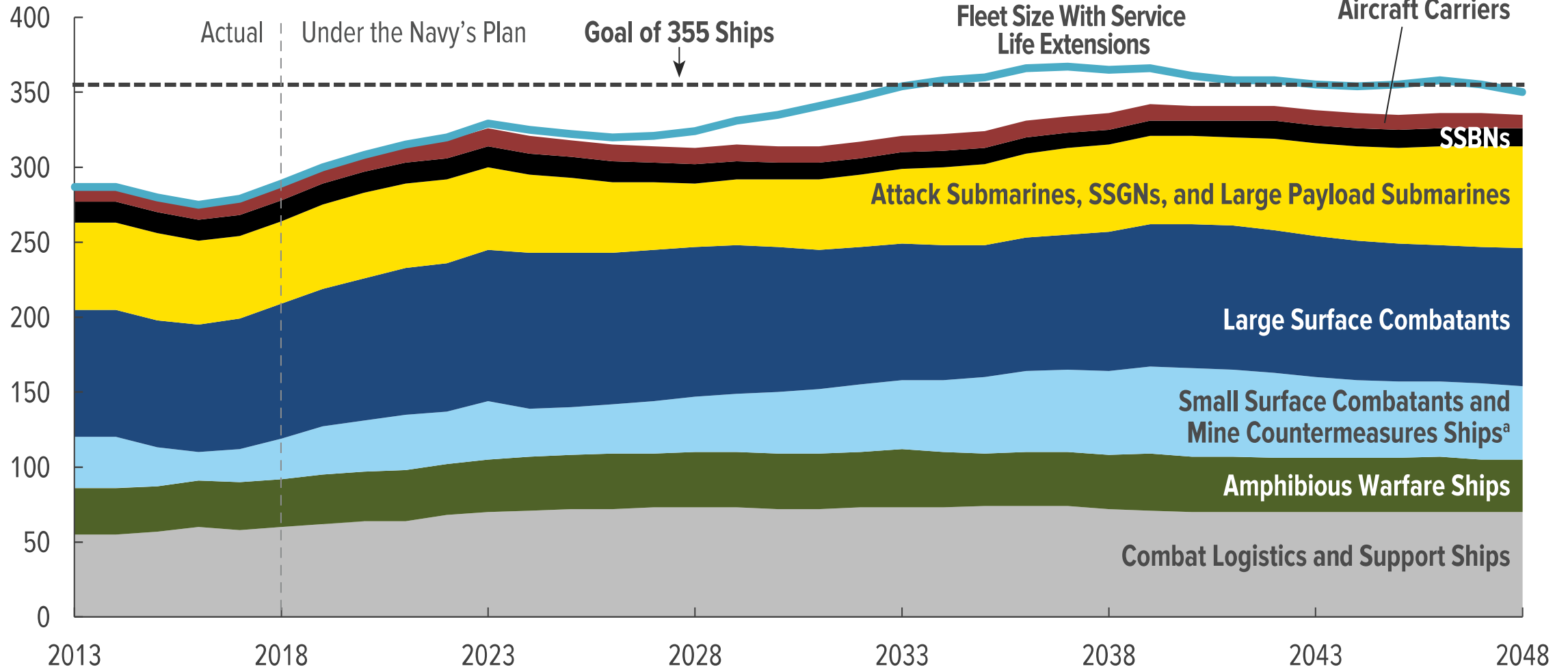
Ship Type	2017 Shipbuilding Plan	2019 Shipbuilding Plan	Difference
Aircraft Carriers	1	1	0
Ballistic Missile Submarines	1	1	0
Large Payload Submarines or SSGN(X)	0	0	0
Attack Submarines	9	10	1
Large Surface Combatants (CGs/DDGs)	10	14	4
Small Surface Combatants (LCSs/FFGs)	8	7	-1
Amphibious Warfare Ships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

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

Inventories

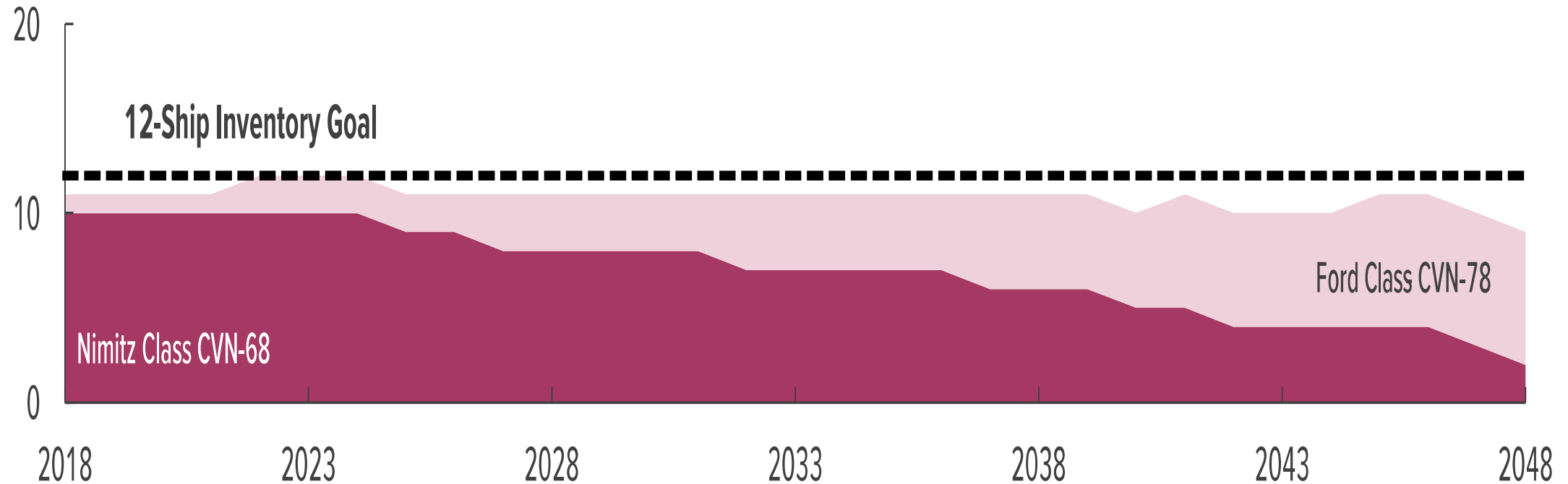
Inventory of Battle Force Ships Under the Navy's 2019 Shipbuilding Plan

Number of Ships



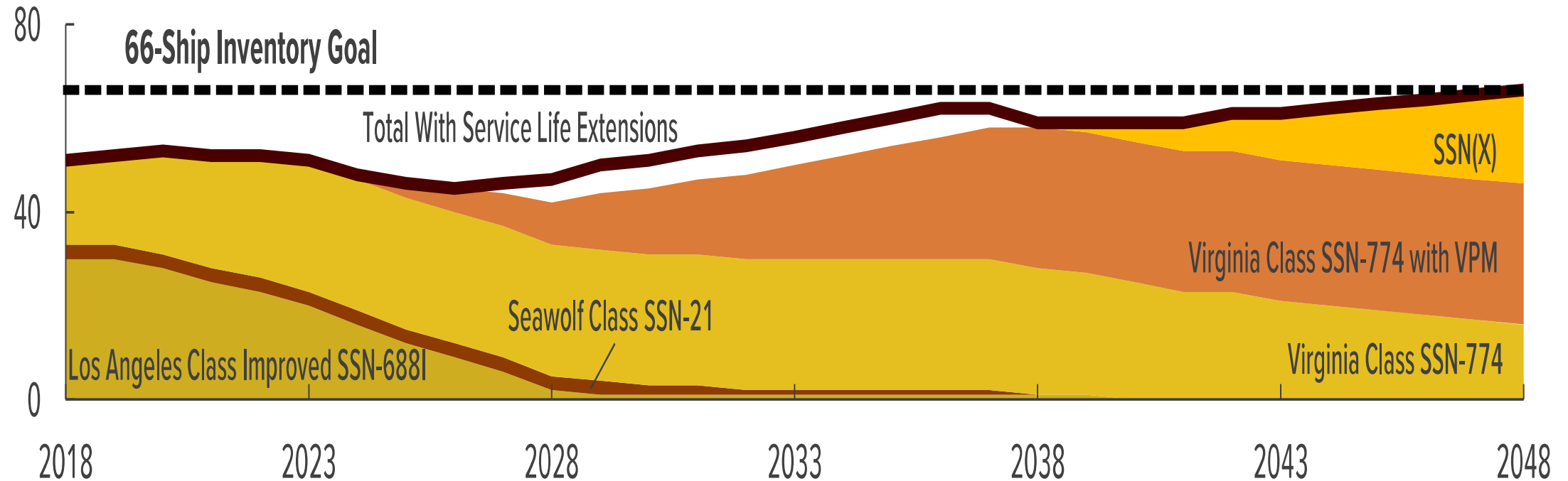
Inventory of Aircraft Carriers Under the Navy's 2019 Shipbuilding Plan

Number of Ships



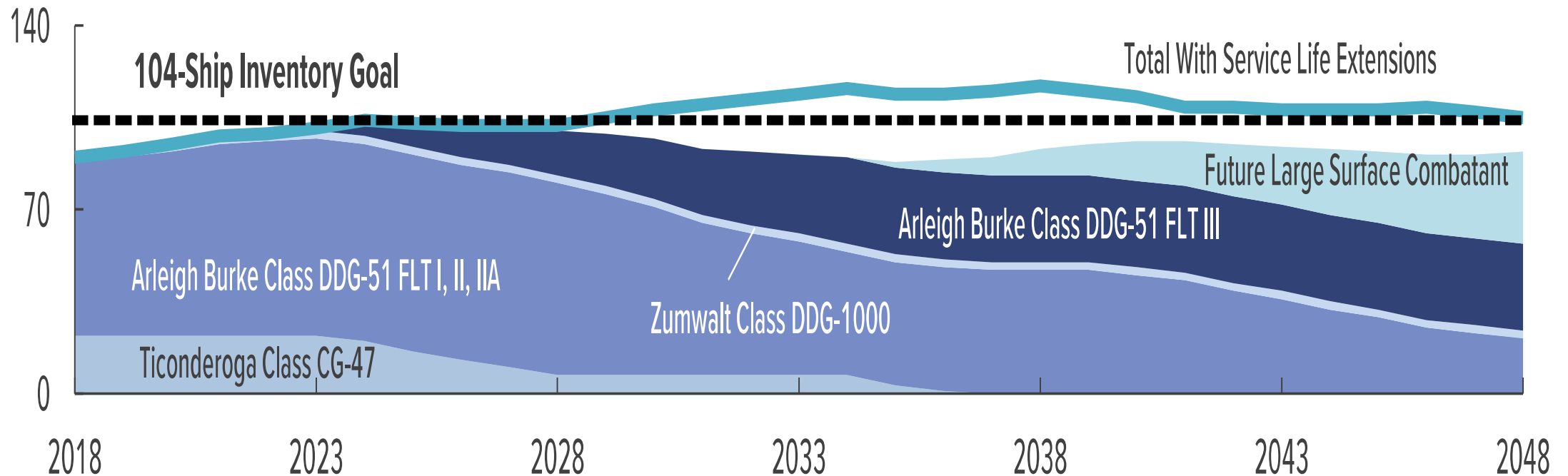
Inventory of Attack Submarines Under the Navy's 2019 Shipbuilding Plan

Number of Ships



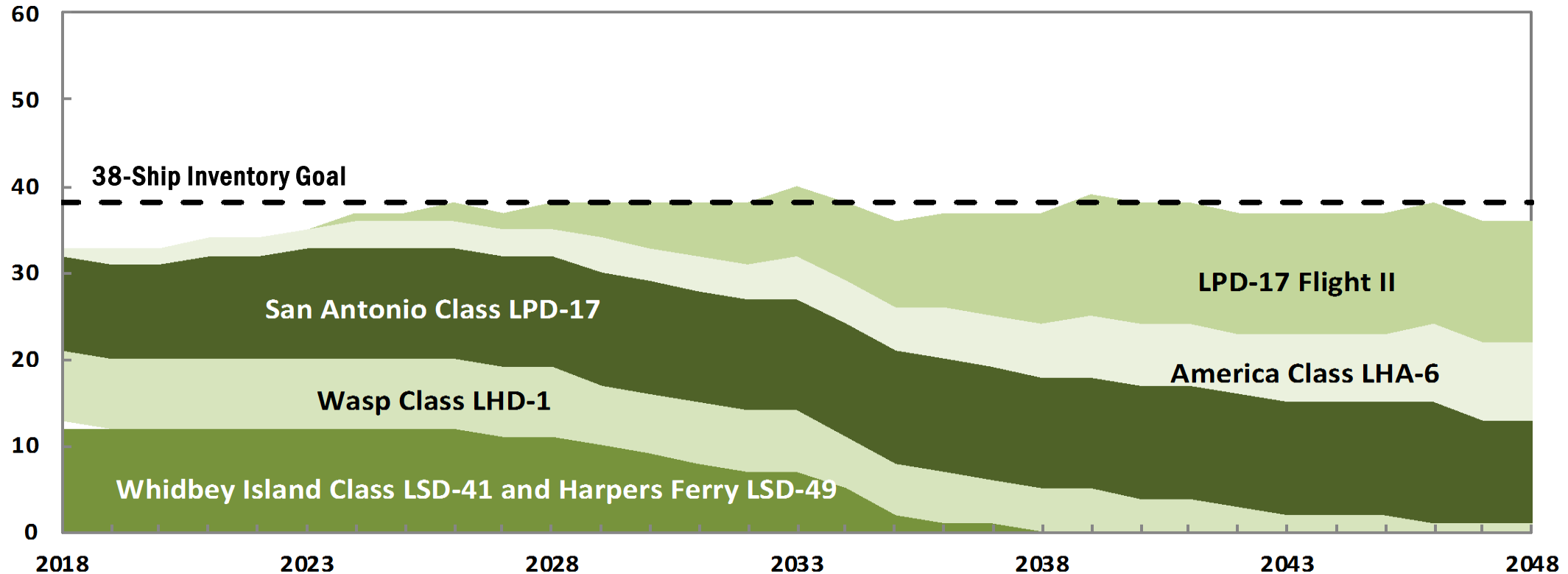
Inventory of Large Surface Combatants Under the Navy's 2019 Shipbuilding Plan

Number of Ships



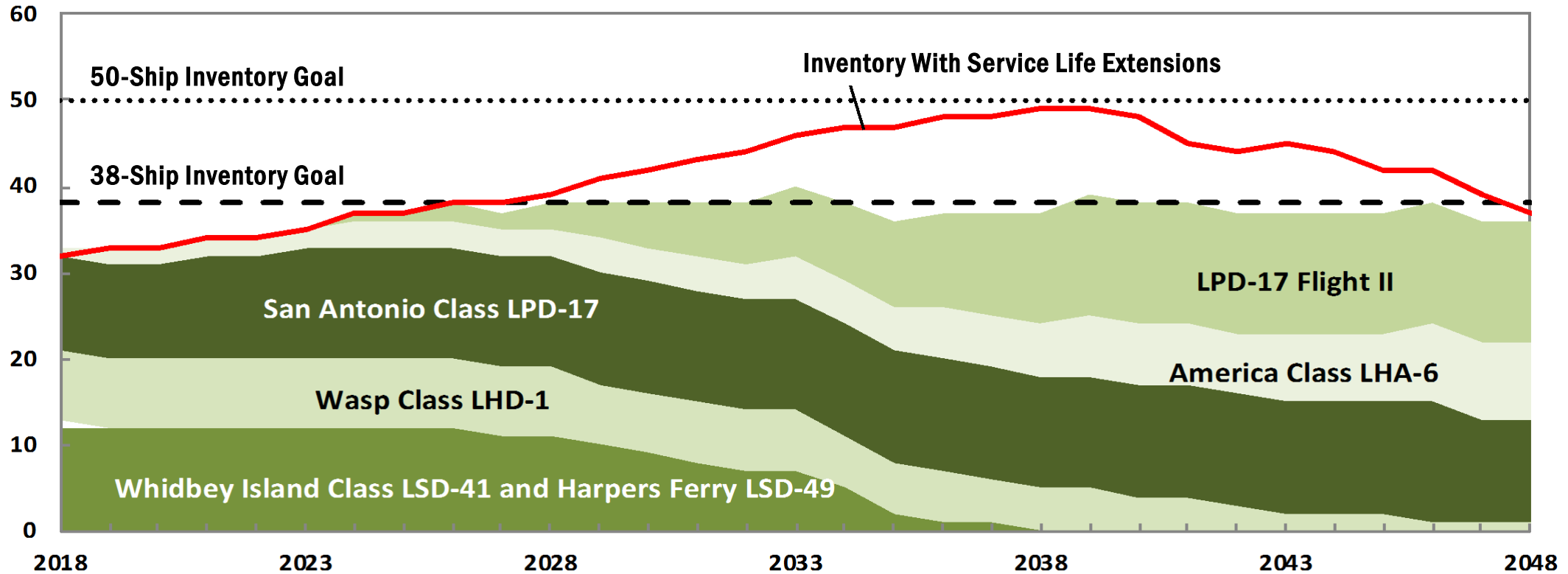
Inventory of Amphibious Warfare Ships Under the Navy's 2019 Shipbuilding Plan

Number of Ships



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

Number of Ships



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

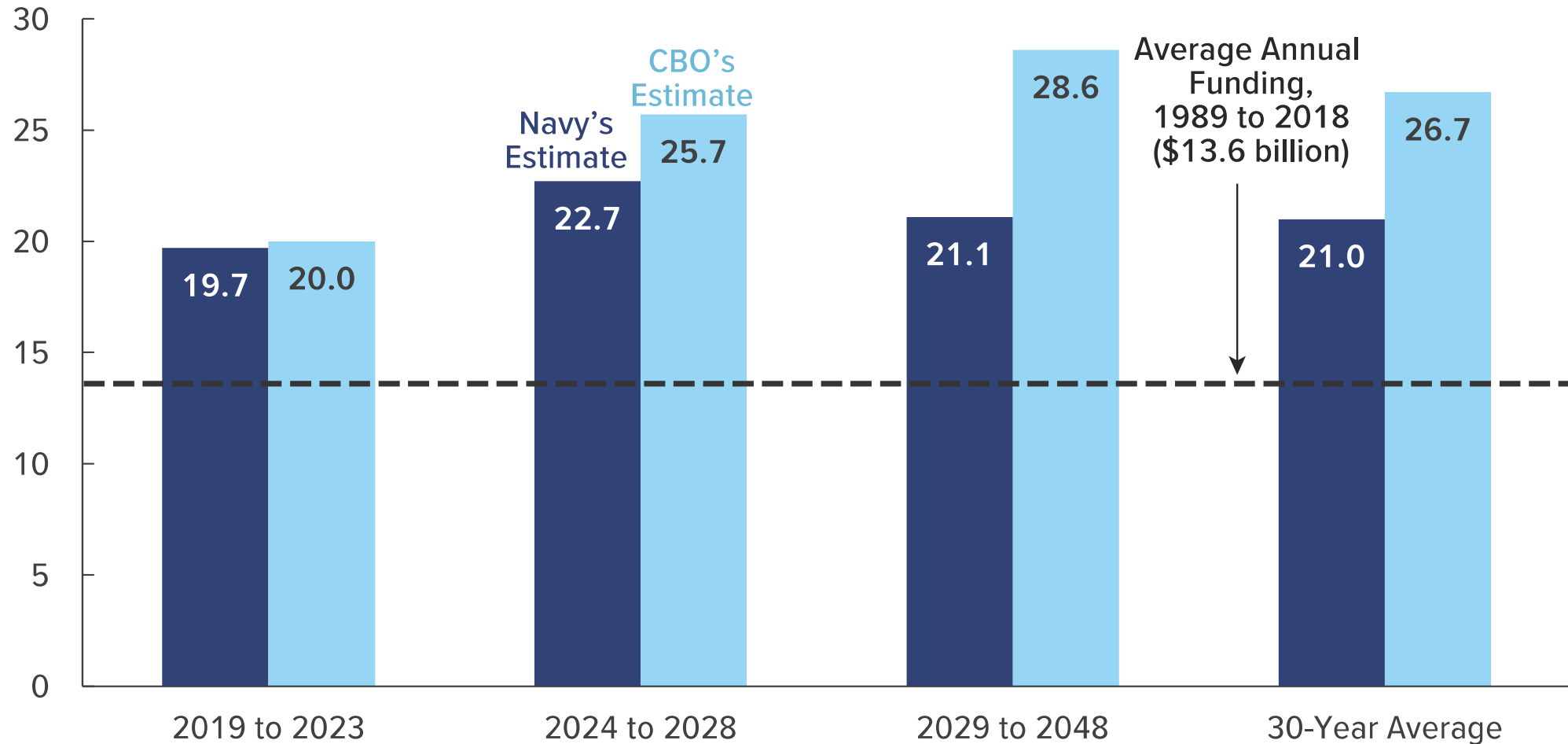
Costs

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

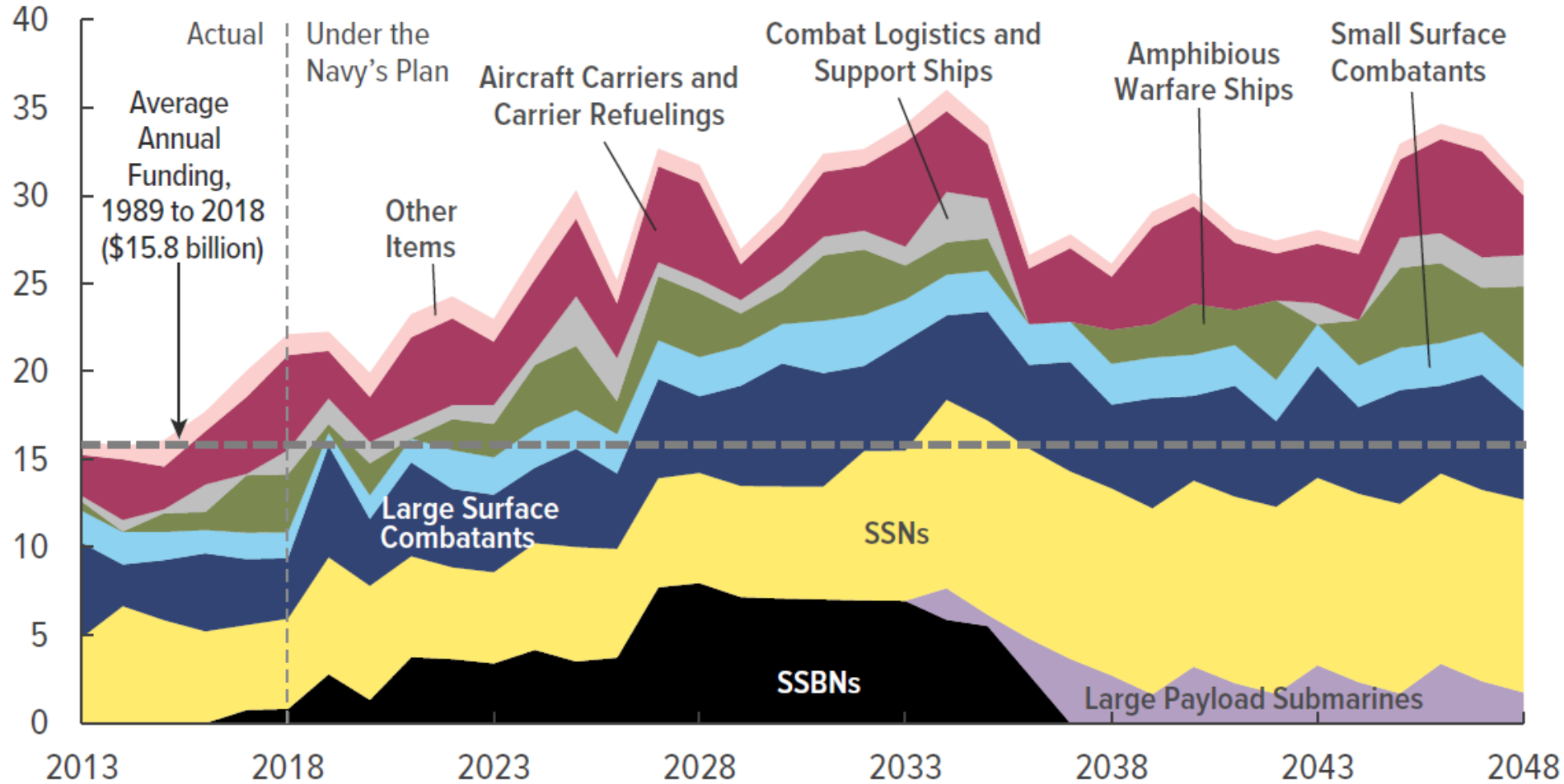
The Navy's and CBO's Estimates for New-Ship Construction Under the 2019 Shipbuilding Plan

Billions of 2018 Dollars



CBO's Estimates of Annual Shipbuilding Costs Under the Navy's 2019 Plan Compared With the 30-Year Average

Billions of 2018 Dollars



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?
 - Cost \$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?

A New Era of Great Power Competition

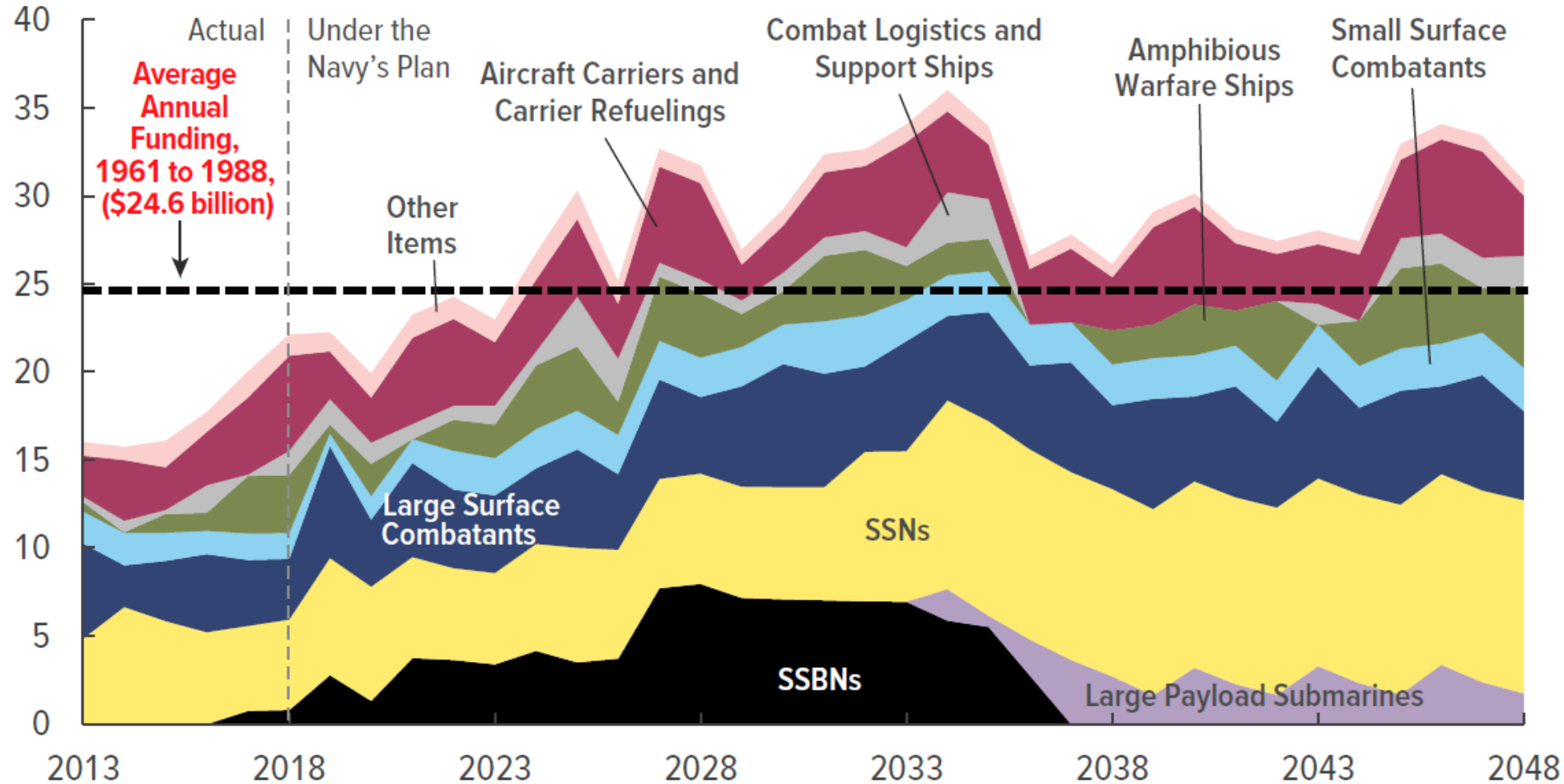
“Inter-state strategic competition, not terrorism, is now the primary concern in U.S. national security.”

“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



Questions?

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