

The 2024 Outlook for Navy Shipbuilding: Familiar Plans and Higher Costs

January 3, 2024

Presentation at the Bank of America 2024 Defense Outlook
and Commercial Aerospace Forum

Eric J. Labs

National Security Division

Relevant Reports by CBO

Congressional Budget Office
OCTOBER 2020



The Cost of the Navy's New Frigate


On April 30, 2020, the Navy awarded Fincantieri Marinette Marine a contract to build the Navy's new surface combatant, a guided missile frigate (one designated as FFG(X)).¹ The contract for the ship gives the Navy options to build up to 100 ships. In this report, the Office examines the costs of these options.

Several factors support the Navy's estimate:
 • The FFG(X) is based on a design that has been in development for several years.

Congressional Budget Office

Costs of Submarine Maintenance at Public and Private Shipyards

APRIL 2019



- CBO estimates it would be \$12.3 billion to build, about \$1.5 billion more (40 percent more).
- The Navy estimates cost \$8.7 billion (\$870 million per ship).
- If the Navy's own estimates are correct, the FFG(X) would cost more per ship than the Navy's own estimates for the most capable ships.

1. Navy Secretary Ryan M. Murphy, October 7, 2020, the *Countdown* and other sources.

Notes: All years refer to the calendar year in which the report was issued, unless otherwise noted.

Congressional Budget Office
Nonpartisan Analysis for the U.S. Congress

An Analysis of the Navy's Fiscal Year 2022 Shipbuilding Plan

SEPTEMBER 2021

In June 2021, the Department of Defense submitted to the Congress the Navy's 30-year shipbuilding plan for fiscal year 2022.¹ The Congressional Budget Office is required by law to analyze that plan and assess its costs. The agency's assessment is the subject of this report. In its 2022 plan, the Navy provided less information than it has in previous plans.

Congressional Budget Office
Nonpartisan Analysis for the U.S. Congress


An Analysis of the Navy's Fiscal Year 2023 Shipbuilding Plan

NOVEMBER 2022

- Fleet Size. Under the 2023 plan, the number of ships would grow from 398 and 512 at some unspecified point in time to 372, and the number of unmanned vessels today to between 372 and 512.
- Cost. CBO estimates that the cost of a fleet of 398 ships would be \$25 billion to \$30 billion over 30 years, or \$830 million per ship.
- Missile Capacity. The 2023 plan states that the number of launch system missile capable ships would be as little as 100.

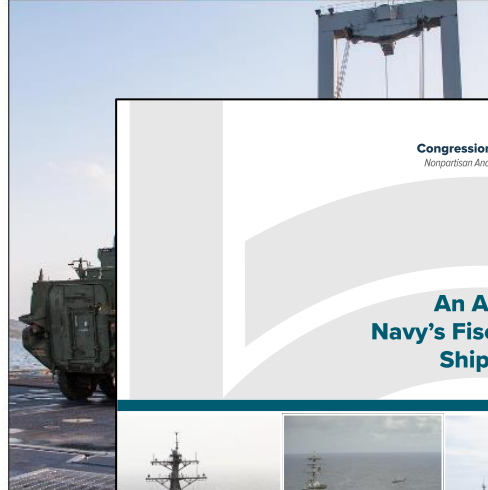
1. See Department of Defense, *Long Range Plan for the Navy's Shipbuilding Program* (June 2022).

Notes: Unless this report states otherwise, all years refer to the calendar year in which the report was issued.



Congressional Budget Office
CBO


Alternatives for Modernizing the Navy's Sealift Force



Congressional Budget Office
Nonpartisan Analysis for the U.S. Congress

An Analysis of the Navy's Fiscal Year 2024 Shipbuilding Plan

OCTOBER 2023



The 2024 Outlook for Navy Shipbuilding: Familiar Plans and Higher Costs

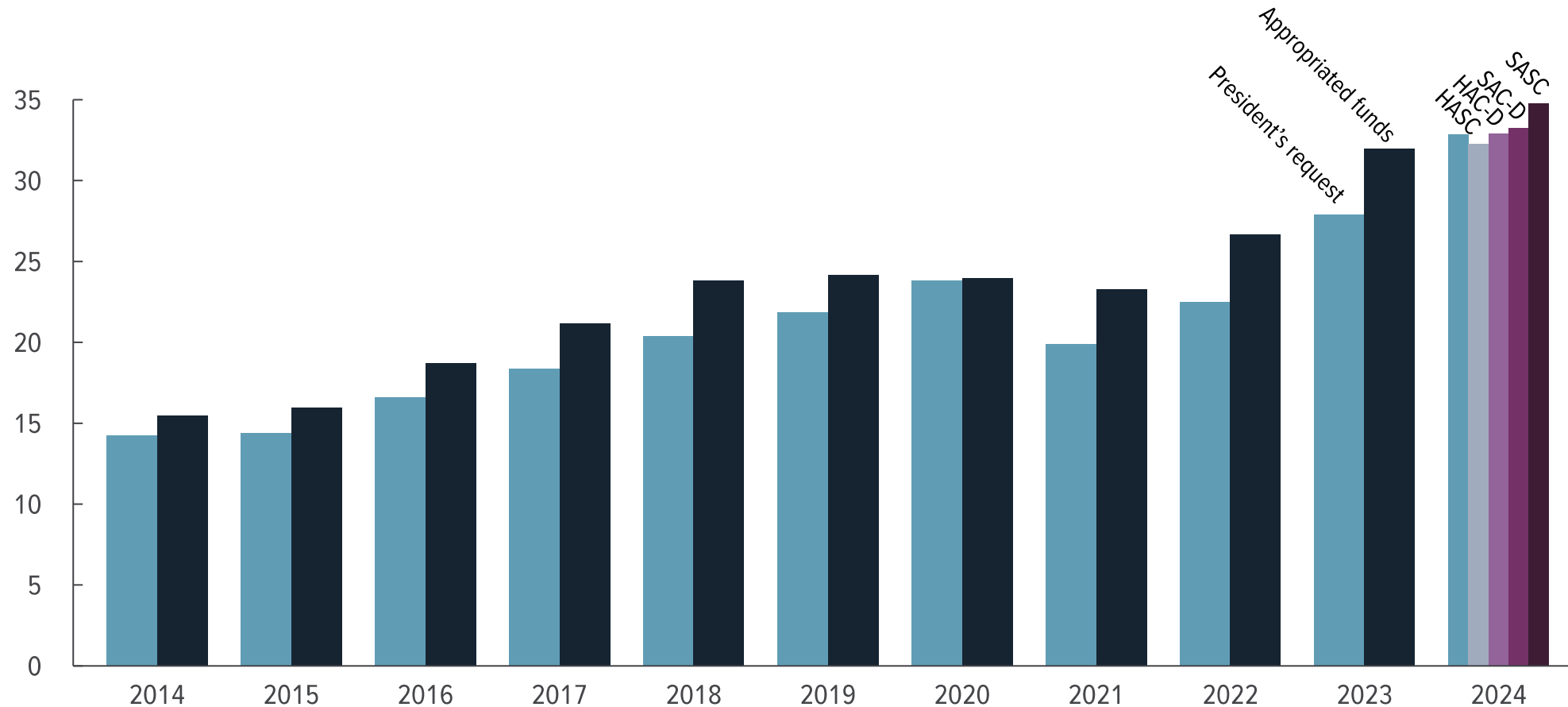
- Congressional Support for Shipbuilding
- The Navy's Five-Year Shipbuilding Plan
- CBO's Analysis of the Navy's 2024 Shipbuilding Plan
 - Purchases and Their Effects on Inventory
 - Costs
 - Measures of Capability
- Special Topics
 - The AUKUS Security Pact
 - The Size of the U.S. Navy's Large and Midsize Amphibious Force

Congressional Support for Shipbuilding



Requested and Appropriated Shipbuilding Budgets, 2014 to 2024

Billions of dollars



Figures for the HAC-D and SAC-D represent the amounts for shipbuilding in their respective appropriations, as ordered reported out of committee earlier this year. Figures for the HASC and SASC represent the amounts for shipbuilding in their respective authorization legislation, as ordered reported out of committee earlier in 2023.

HAC-D = House Appropriations Committee, Defense Appropriations Subcommittee; HASC = House Armed Services Committee; SAC-D = Senate Appropriations Committee, Defense Appropriations Subcommittee; SASC = Senate Armed Services Committee.

Congressional Action on Shipbuilding for Fiscal Year 2024

	President's request	HASC	SASC	NDAA	HAC-D	SAC-D	Final
Ship purchases							
Destroyers	2	2	2	2	2	2	*
Submarines	3	3	3	3	3	3	*
Frigates	2	2	2	2	2	2	*
Amphibious ships	0	1	1	1	0	0	*
Logistics and support ships	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	*
Total	9	10	10	10	9	9	*
Shipbuilding budgets (billions of dollars)							
New combat ships	27.0	27.8	28.9	29.5	26.9	29.1	*
New logistics and support ships	2.5	1.1	2.5	1.1	2.4	1.3	*
Other	<u>3.3</u>	<u>3.4</u>	<u>3.4</u>	<u>3.4</u>	<u>3.7</u>	<u>2.8</u>	*
Total	32.8	32.3	34.8	32.9	32.9	33.3	*
Amount above President's request		-0.6	1.9	0.1	0.1	0.4	*
Percentage of increase above fiscal year 2023 amount	18%	17%**	19%	9%	18%	4%	*

HAC-D = House Appropriations Committee, Defense Appropriations Subcommittee; HASC = House Armed Services Committee; NDAA = National Defense Authorization Act for 2024; SAC-D = Senate Appropriations Committee, Defense Appropriations Subcommittee; SASC = Senate Armed Services Committee; * = to be determined.

** Relative to the Chairman's mark. As amended, the change compared with the 2023 amount was -0.1 percent.

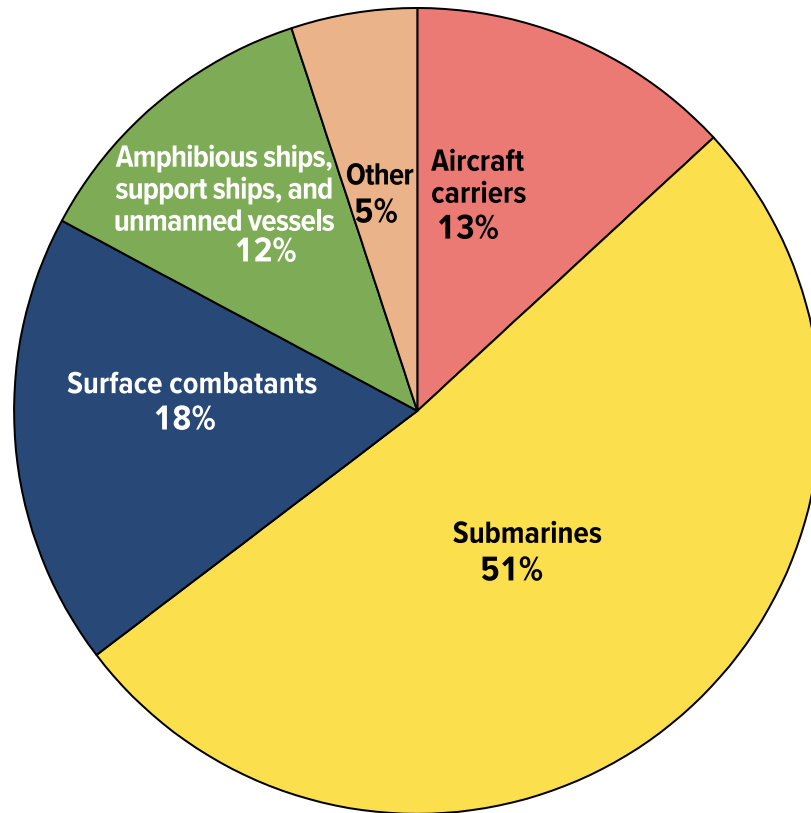


The Navy's Five-Year Shipbuilding Plan

The Navy's Five-Year Shipbuilding Plan, 2024 to 2028

Ship class	2024	2025	2026	2027	2028	Total
Columbia class ballistic missile submarines	1	0	1	1	1	4
Gerald R. Ford class aircraft carriers	0	0	0	0	1	1
Virginia class attack submarines	2	2	2	2	2	10
Arleigh Burke class destroyers	2	2	2	2	2	10
Constellation class guided missile frigates	2	1	2	1	2	8
America class amphibious assault ships	0	0	0	1	0	1
San Antonio class amphibious transport docks	0	0	0	0	0	0
Medium landing ships	0	1	1	2	2	6
John Lewis class oilers	1	0	2	1	2	6
Next-generation logistics ships	0	0	1	1	1	3
Tender/T-AGOS SURTASS ships	1	1	2	1	1	6
Total	9	7	13	12	14	55
T-ARC cable-laying ships	0	1	0	0	0	1
Used sealift ships	2	2	2	2	2	10
Large unmanned systems	0	0	3	4	5	12
Total, shipbuilding costs (billions of dollars)	32.8	31.2	35.2	34.0	32.4	165.6
Total, shipbuilding costs (billions of 2023 dollars)	30.6	28.4	31.3	29.5	27.4	147.2

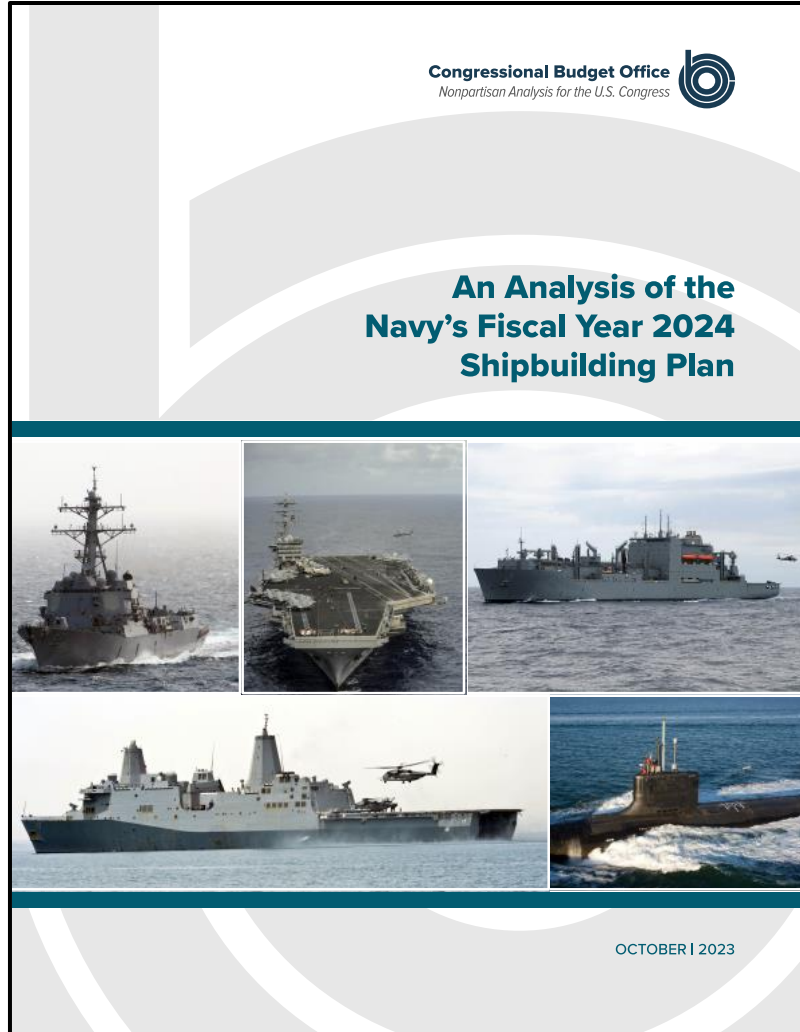
Breakdown of the Navy's Shipbuilding Budget by Ship Type, 2024 to 2028



“Other” includes outfitting and postdelivery costs for new ships, ship-to-shore connectors, lighters, service craft, and the completion of prior-year shipbuilding (funding for cost overruns for ships appropriated in earlier budgets).

CBO's Analysis of the Navy's 2024 Shipbuilding Plan: Purchases and Their Effects on Inventory

10 U.S. Code § 231: Budgeting for Construction of Naval Vessels



The Congress requires the Navy to submit a 30-year shipbuilding plan every year.
(The Navy does not always do that.)

The Congress requires CBO to assess the Navy's plan and provide an independent analysis of it.
(CBO always does that.)

The Navy's fiscal year 2024 shipbuilding plan largely repeats the three alternative long-range projections of its future fleet presented in its 2023 plan.



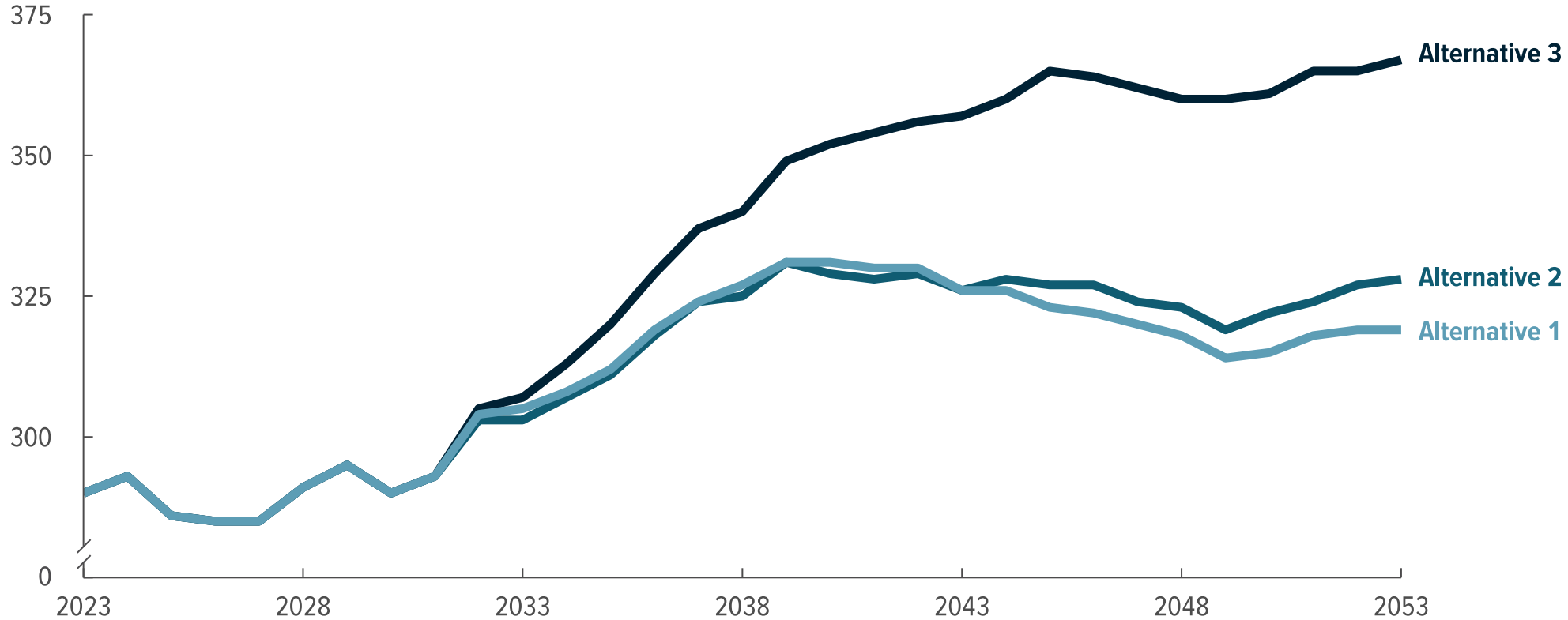
Ship Purchases Under the Navy's 2024 Plan

Ship class	Alternative 1	Alternative 2	Alternative 3
Gerald R. Ford class aircraft carriers	6	6	7
Ballistic missile and large payload submarines	15	17	15
Virginia class attack submarines with VPMs	11	11	11
Virginia class attack submarines without VPMs	10	37	12
SSN(X) next-generation attack submarines	33	18	35
DDG-51 Flight III guided missile destroyers	18	20	18
DDG(X) next-generation destroyers	38	30	46
FFG-62 guided missile frigates	16	10	16
FFG-62 Flight II guided missile frigates	37	46	42
Large and midsize amphibious warfare ships	11	12	14
Medium landing ships	42	36	51
Combat logistics and support ships	<u>53</u>	<u>56</u>	<u>73</u>
Total	290	299	340



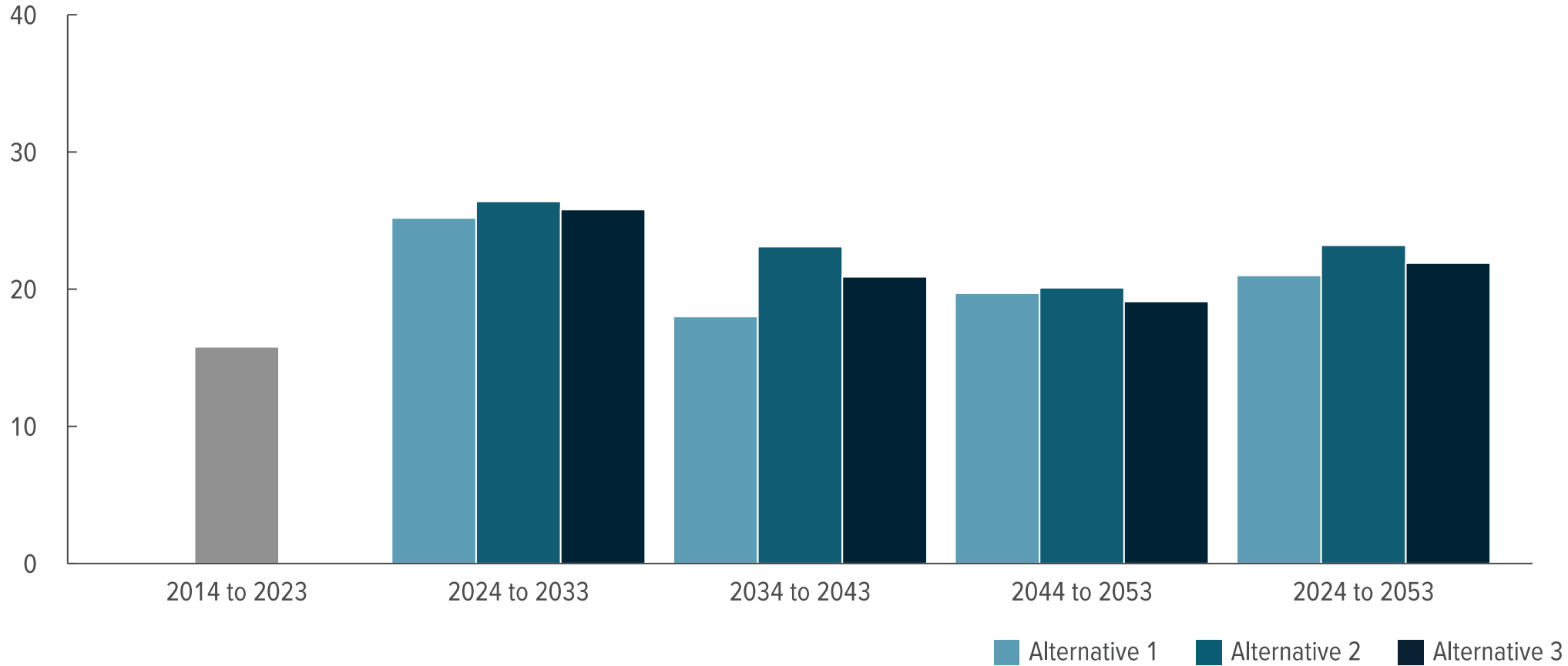
Annual Inventories of Battle Force Ships Under the Navy's 2024 Plan

Number of ships



Average Annual Submarine Construction, by Tonnage, Under the Navy's 2024 Plan

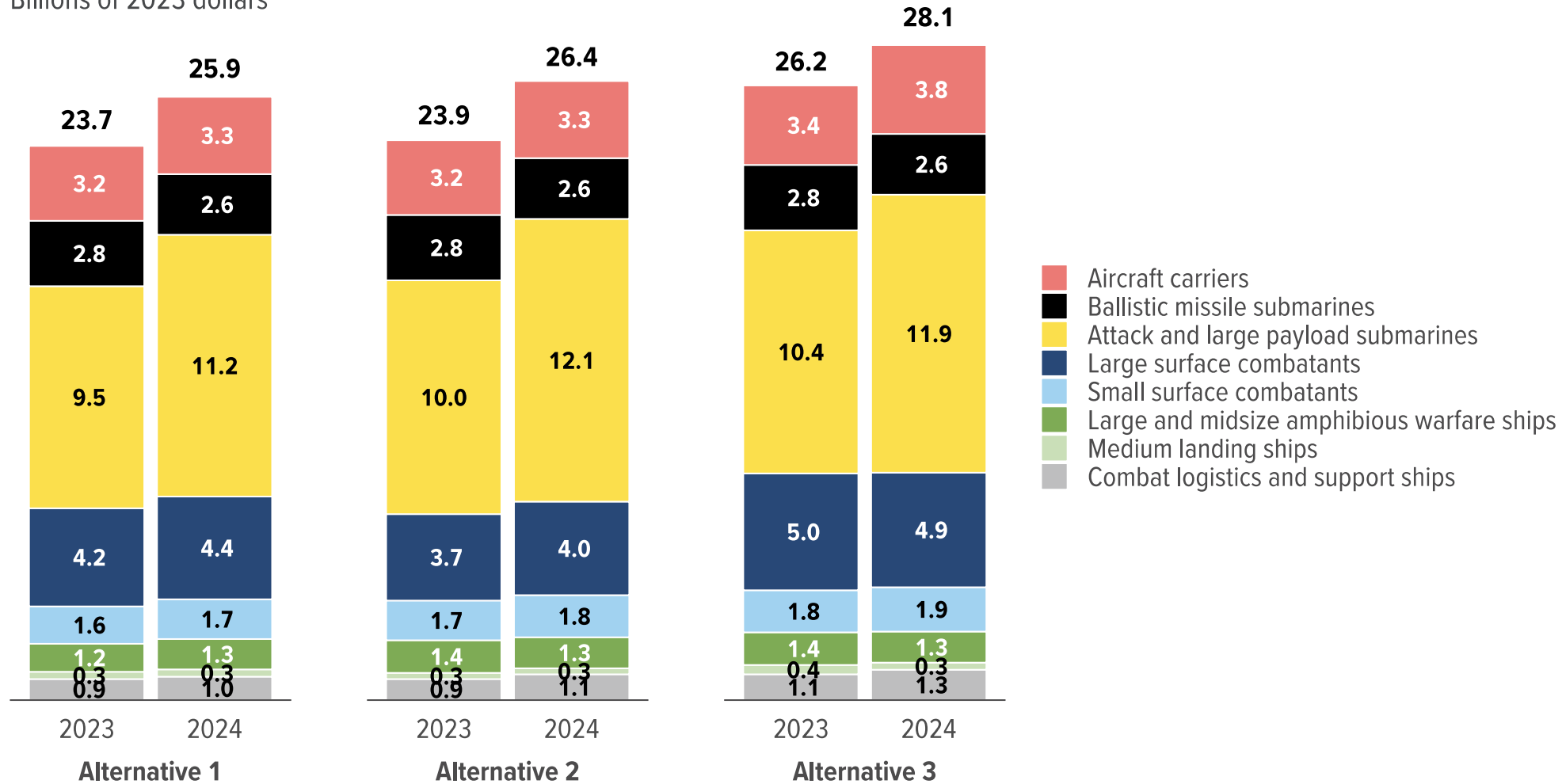
Thousands of tons



CBO's Analysis of the Navy's 2024 Shipbuilding Plan: Costs

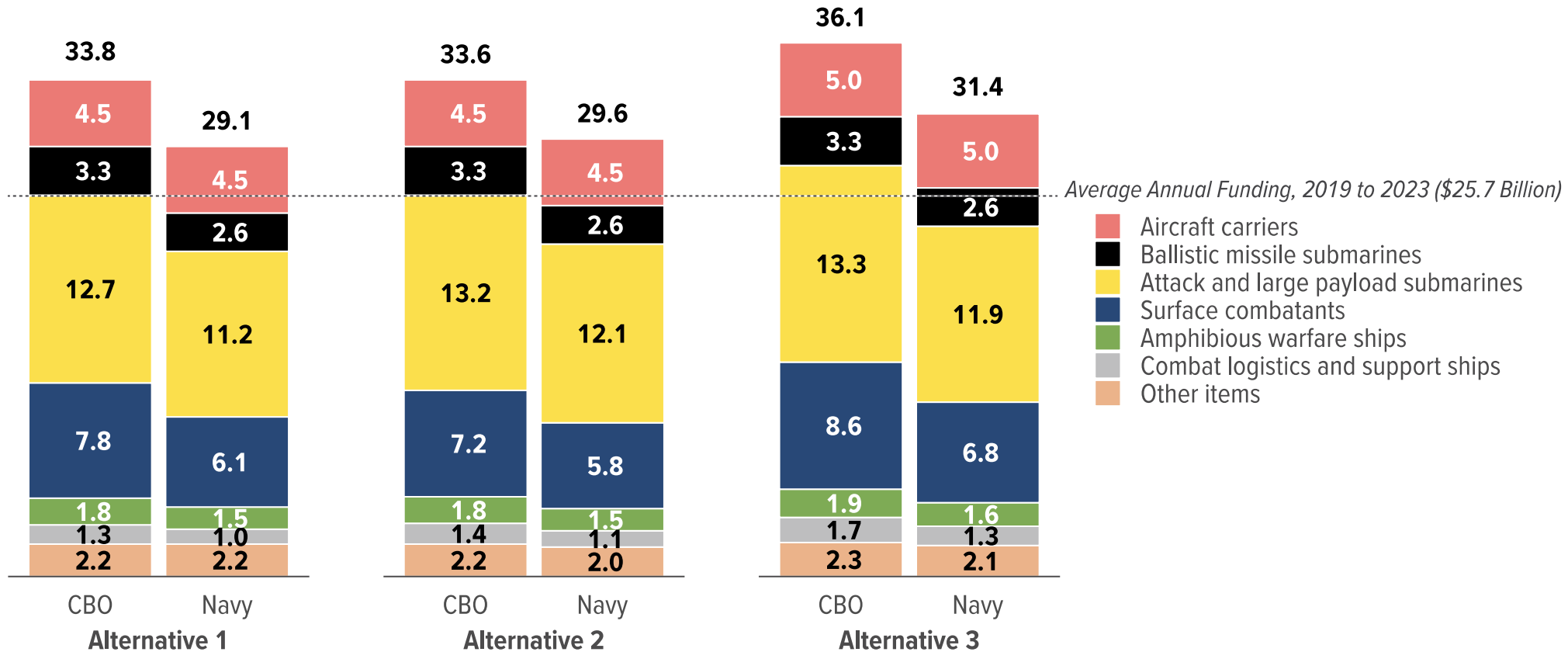
The Navy's Estimates of Average Annual Costs of New-Ship Construction, by Ship Type, 2023 and 2024

Billions of 2023 dollars



Average Annual Total Shipbuilding Costs Under the Navy's 2024 Plan, as Estimated by CBO and the Navy

Billions of 2023 dollars



Major Cost Drivers in the Navy's 2024 Plan

	Alternative 1	Alternative 2	Alternative 3
Total 30-year cost of new ships (billions of 2023 dollars)	776	792	842
Submarine costs as a percentage of the cost of new ships	54%	56%	52%
Top three programs (billions of 2023 dollars)			
Gerald R. Ford class aircraft carrier	100	99	113
DDG(X) next-generation destroyer	93	76	109
SSN(X) next-generation attack submarine or Virginia class attack submarine	<u>222</u>	<u>193</u>	<u>234</u>
Total	415	368	456
Cost of the top three programs as a percentage of the cost of new ships	54%	47%	54%



Change in Unit Costs of Selected Shipbuilding Programs in the Navy's 2024 Plan

Shipbuilding program	Percentage change (adjusted for inflation)
Shipbuilding programs experiencing significant unit cost growth in the 2024 plan compared with their cost in the 2023 plan	
Virginia class attack submarine	15
SSN(X) next-generation attack submarine	16 to 21
CVN refueling and overhaul program	15
John Lewis class oiler	38
T-AGOS SURTASS ocean surveillance ship	82
Shipbuilding programs not experiencing significant unit cost growth in the 2024 plan compared with their cost in the 2023 plan (but whose unit costs will probably increase significantly)	
Columbia class ballistic missile submarine	5
Constellation class guided missile frigate	8
DDG(X) next-generation destroyer	4
Medium landing ship	-17 to -33



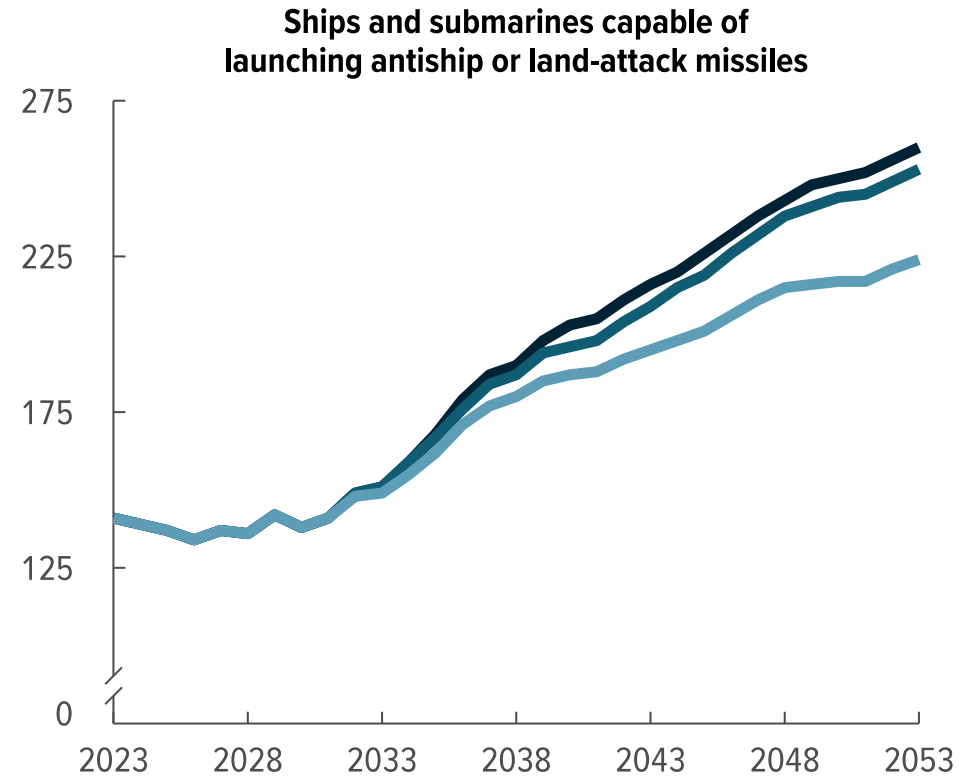
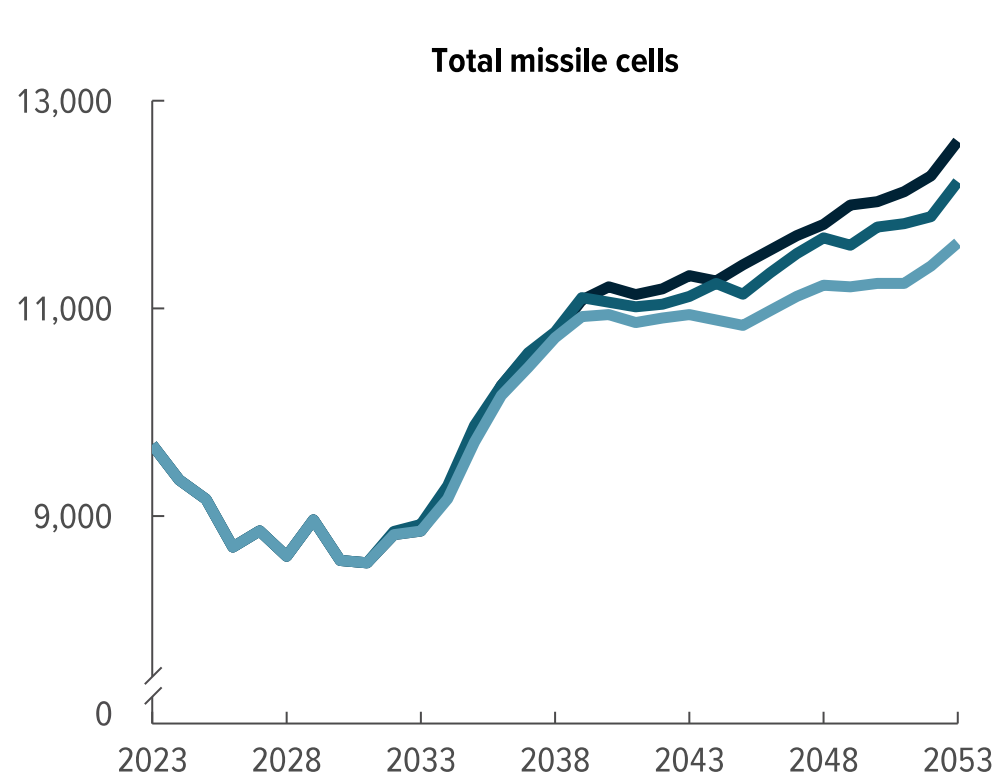
CBO's Estimate of the Navy's Total Budget Under Its 2024 Plan

Billions of 2023 dollars



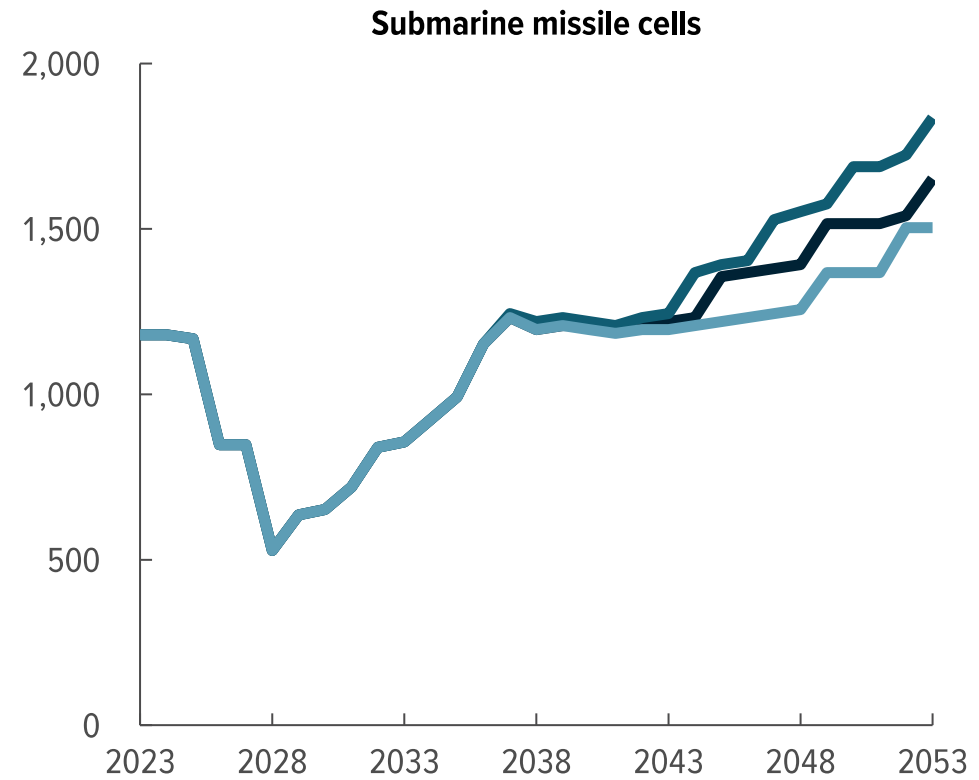
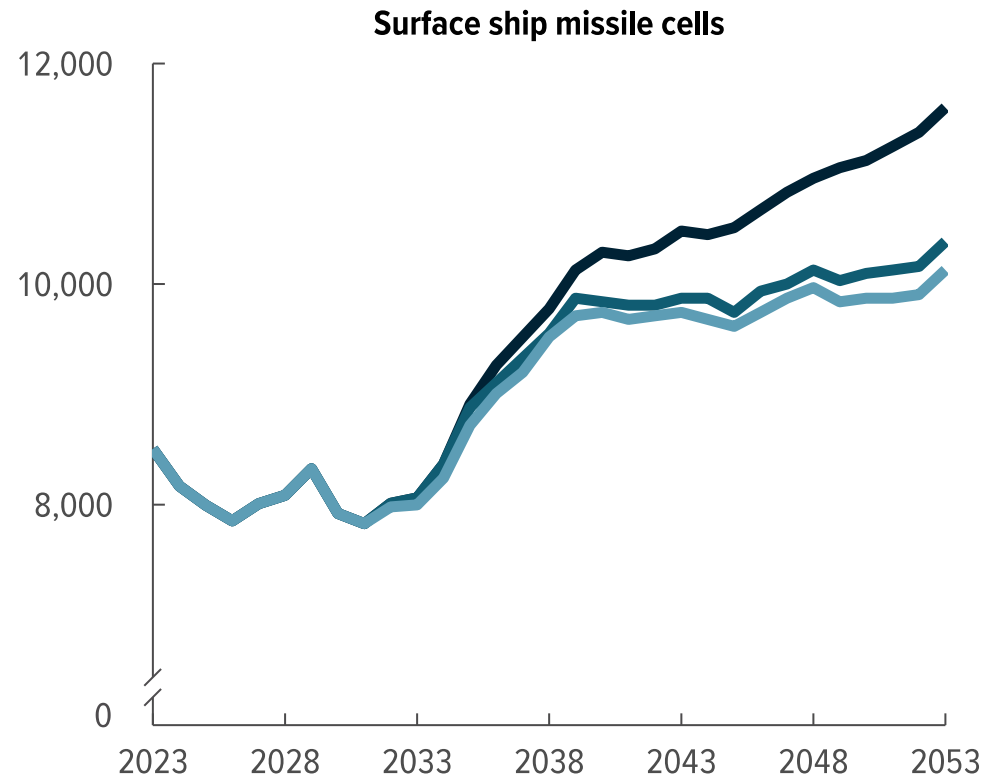
CBO's Analysis of the Navy's 2024 Shipbuilding Plan: Measures of Capability

Measures of Naval Capability Under the Navy's 2024 Plan



Alternative 1 Alternative 2 Alternative 3

Measures of Naval Capability Under the Navy's 2024 Plan (Cont.)



Alternative 1 Alternative 2 Alternative 3

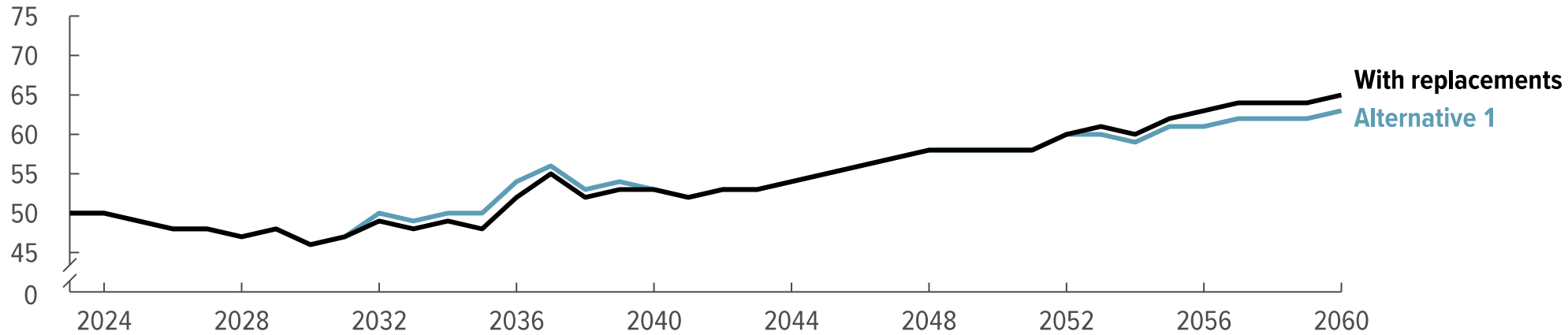
Special Topics

- The AUKUS Security Pact
- The Size of the U.S. Navy's Large and Midsize Amphibious Force

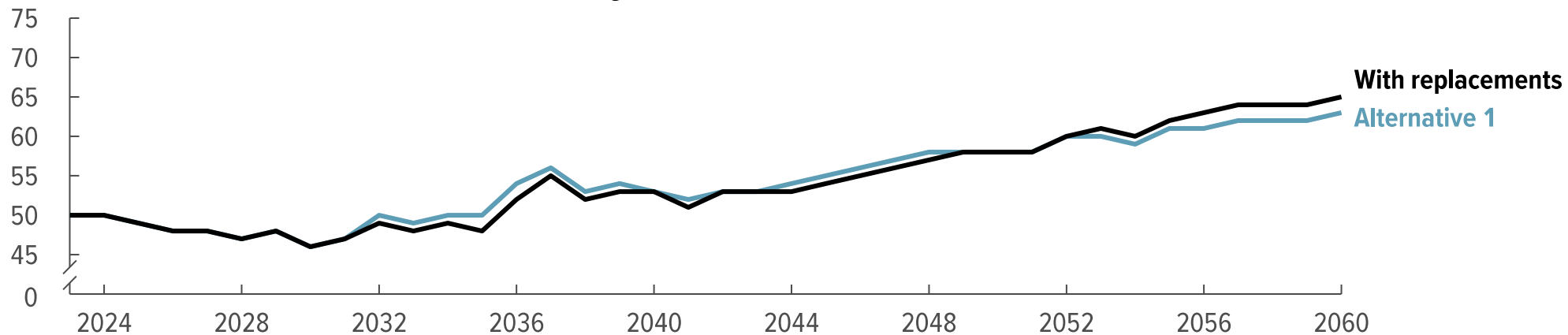


U.S. Navy's Attack Submarine Force Under AUKUS: **Alternative 1**

Sale of 3 Virginia class attack submarines

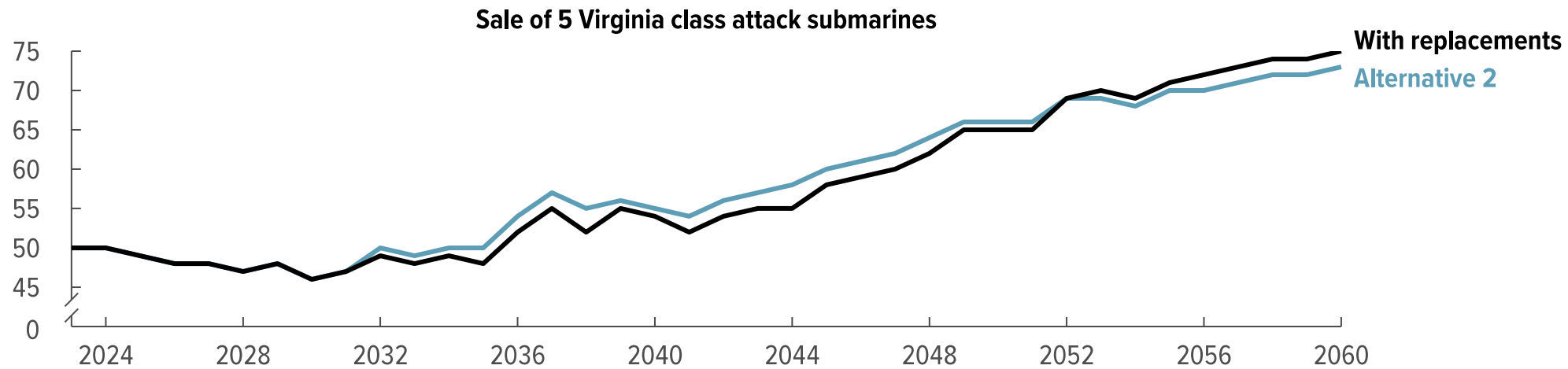
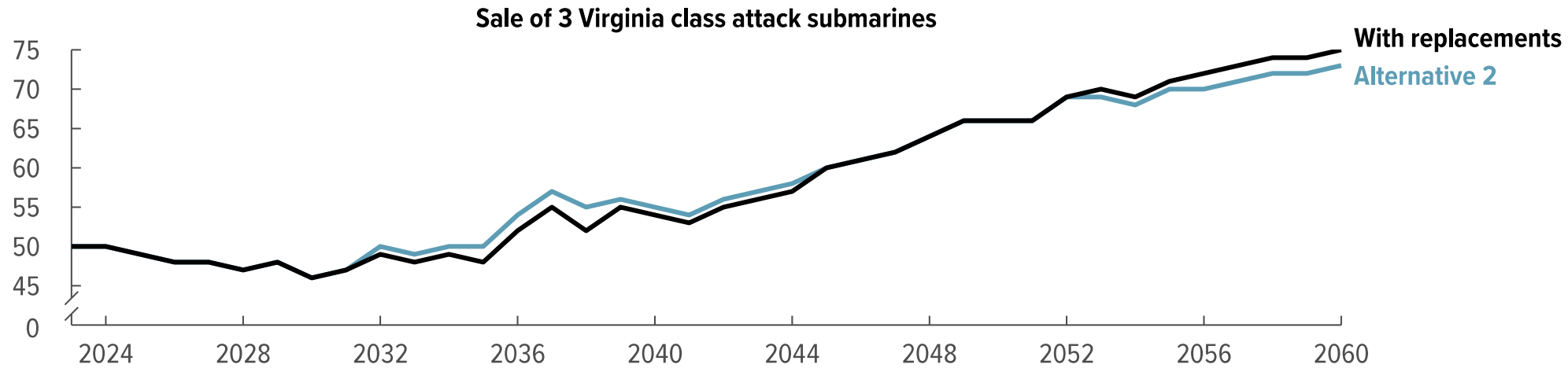


Sale of 5 Virginia class attack submarines





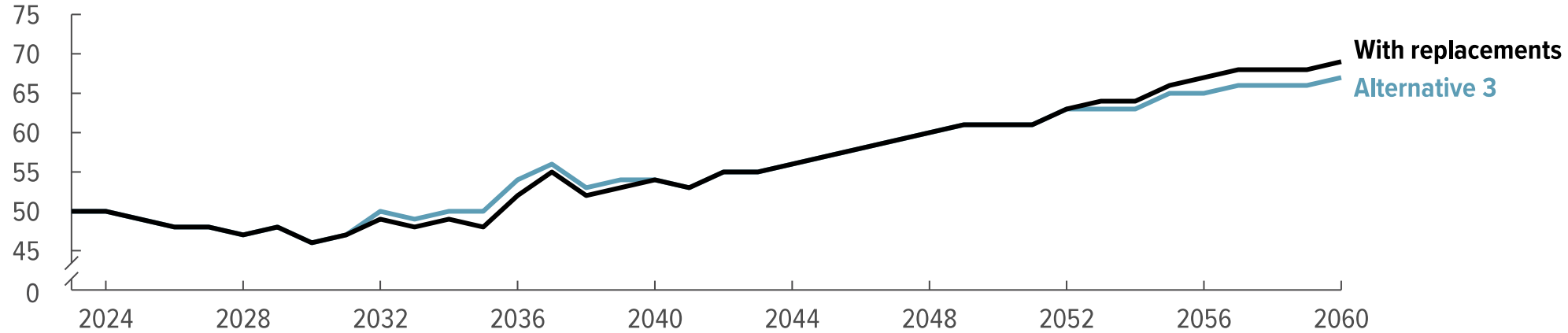
U.S. Navy's Attack Submarine Force Under AUKUS: **Alternative 2**



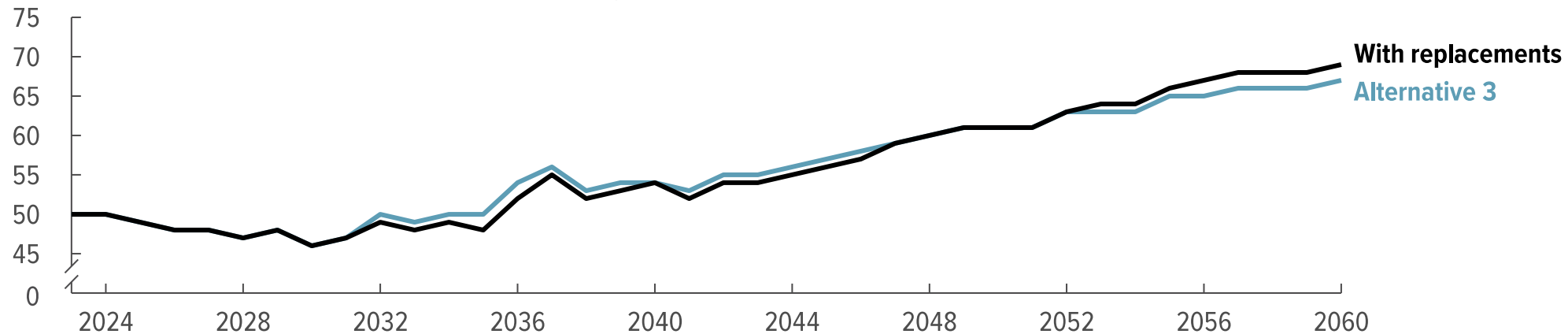


U.S. Navy's Attack Submarine Force Under AUKUS: **Alternative 3**

Sale of 3 Virginia class attack submarines

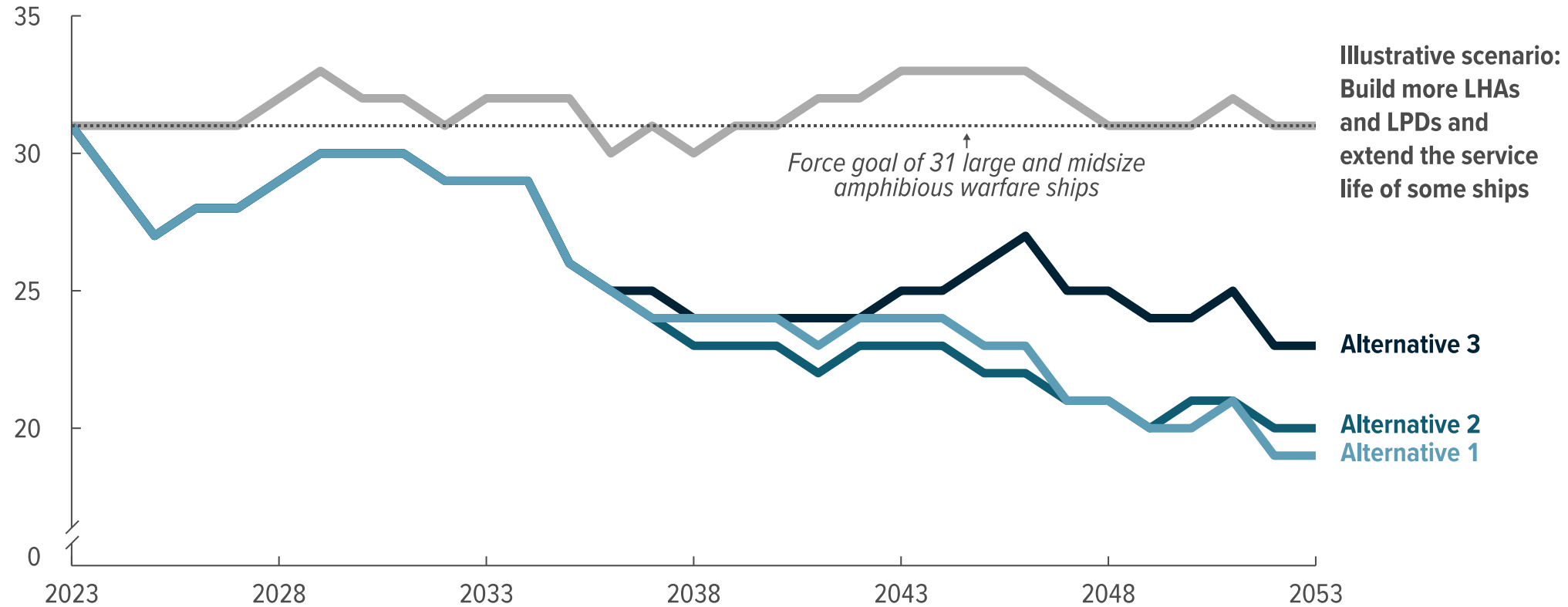


Sale of 5 Virginia class attack submarines



Large and Midsize Amphibious Warfare Ships Under the Navy's 2024 Plan

Number of ships



For more details about the statutory requirements associated with the Navy's force of large and midsize amphibious warfare ships, see Congressional Budget Office, *An Analysis of the Navy's Fiscal Year 2024 Shipbuilding Plan* (October 2023), Box 2, www.cbo.gov/publication/59508.

LHAs = amphibious assault ships; LPDs = amphibious transport docks.