



# Highlights

Highlights of [GAO-05-183](#), a report to the Chairman, Subcommittee on Defense, Committee on Appropriations, House of Representatives

## Why GAO Did This Study

The U.S. Navy invests significantly to maintain technological superiority of its warships. In 2005 alone, \$7.6 billion was devoted to new ship construction in six ship classes—96 percent of which was allocated to four classes: Arleigh Burke class destroyer, Nimitz class aircraft carrier, San Antonio class amphibious transport dock ship, and the Virginia class submarine.

Cost growth in the Navy's shipbuilding programs has been a long-standing problem. Over the past few years, the Navy has used "prior year completion" funding—additional appropriations for ships already under contract—to pay for cost overruns. This report (1) estimates the current and projected cost growth on construction contracts for eight case study ships, (2) breaks down and examines the components of the cost growth, and (3) identifies any funding and management practices that contributed to cost growth.

## What GAO Recommends

GAO is making recommendations aimed at improving the Navy's processes for developing cost estimates, establishing realistic contract prices and ship budgets, and providing timely and complete reporting on program costs to alert managers to potential problems.

[www.gao.gov/cgi-bin/getrpt?GAO-05-183](http://www.gao.gov/cgi-bin/getrpt?GAO-05-183).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Paul Francis at (202) 512-2811 or [francisp@gao.gov](mailto:francisp@gao.gov).

## DEFENSE ACQUISITIONS

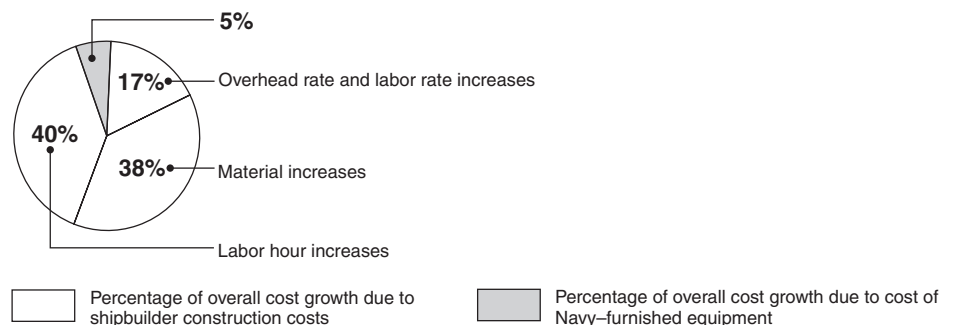
# Improved Management Practices Could Help Minimize Cost Growth in Navy Shipbuilding Programs

## What GAO Found

For the eight ships GAO assessed, the Congress has appropriated \$2.1 billion to cover the increases in the ships' budgets. The GAO's analysis indicates that total cost growth on these ships could reach \$3.1 billion or even more if shipyards do not maintain current efficiency and meet schedules. Cost growth for the CVN 77 aircraft carrier and the San Antonio lead ship (LPD 17) has been particularly pronounced.

Increases in labor hour and material costs together account for 77 percent of the cost growth on the eight ships. Shipbuilders frequently cited design modifications, the need for additional and more costly materials, and changes in employee pay and benefits as the key causes of this growth. For example, the San Antonio's lead ship's systems design continued to evolve even as construction began, which required rebuilding of completed areas to accommodate the design changes. Materials costs were often underbudgeted, as was the case with the Virginia class submarines and Nimitz class aircraft carriers. For the CVN 77 carrier, the shipbuilder is estimating a substantial increase in material costs.

### Components of Cost Growth



Source: Shipbuilder and Navy (data); GAO (analysis).

Navy practices for estimating costs, contracting, and budgeting for ships have resulted in unrealistic funding of programs, increasing the likelihood of cost growth. Despite inherent uncertainties in the ship acquisition process, the Navy does not account for the probability of cost growth when estimating costs. Moreover, the Navy did not conduct an independent cost estimate for carriers or when substantial changes occurred in a ship class, which could have provided decision makers with additional knowledge about a program's potential costs. In addition, contract prices were negotiated and budgets established without sufficient design knowledge and construction knowledge. When unexpected events did occur, the incomplete and untimely reporting on program progress delayed the identification of problems and the Navy's ability to correct them.