



Highlights of [GAO-09-482](#), a report to congressional requesters

### Why GAO Did This Study

Since the 1980s, the V-22, developed to transport combat troops, supplies, and equipment for the U.S. Marine Corps and to support other services' operations, has experienced several fatal crashes, demonstrated various deficiencies, and faced virtual cancellation—much of which it has overcome. Although until recently deployed in Iraq and regarded favorably, it has not performed the full range of missions anticipated, and how well it can do so is in question. In view of concerns about the V-22 program, you asked us to determine if the V-22 will perform as promised, and if it will, at what cost. GAO reviewed (1) current MV-22 operations in Iraq; (2) strengths and deficiencies in terms of the capabilities expected of the V-22; and (3) past, current, and future costs. GAO reviewed a range of program documents and data, interviewed program officials, operators and others; and observed MV-22 operations in Iraq and shipboard.

### What GAO Recommends

The Secretary of Defense should require a new alternatives analysis of the V-22 and determine how cost effective it is in meeting the Marine Corps medium lift needs, and possibly other services' uses. DOD should also require that the Marine Corps develop a prioritized strategy to improve system suitability, reduce operational costs, and align future budget requests accordingly. DOD concurred with the second recommendation, but not the first. GAO believes both recommendations remain valid.

[View GAO-09-482 or key components.](#) For more information, contact Michael J. Sullivan at 202-512-4841 or [sullivanm@gao.gov](mailto:sullivanm@gao.gov).

## DEFENSE ACQUISITIONS

### Assessments Needed to Address V-22 Aircraft Operational and Cost Concerns to Define Future Investments

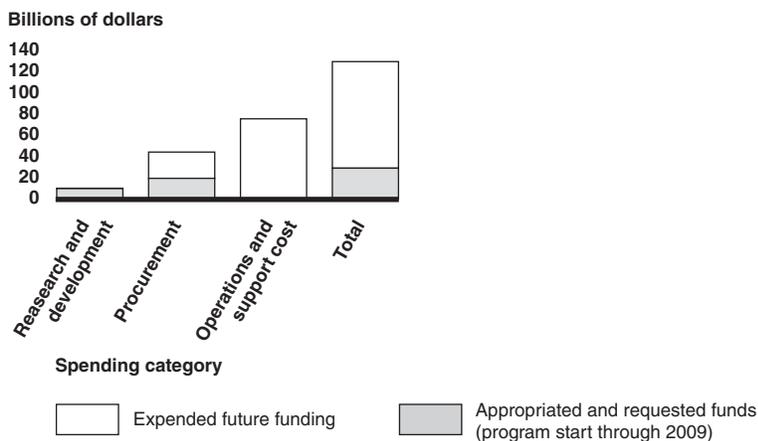
#### What GAO Found

As of January 2009, the 12 MV-22s (Marine Corps variant of the V-22) in Iraq successfully completed all missions assigned in a low threat theater of operations—using their enhanced speed and range to engage in general support missions and deliver personnel and internal cargo faster and farther than the legacy helicopters being replaced. Noted challenges to operational effectiveness raise questions about whether the MV-22 is best suited to accomplish the full repertoire of missions of the helicopters it is intended to replace. Additionally, suitability challenges, such as unreliable component parts and supply chain weaknesses, led to low aircraft availability rates.

MV-22 operational tests and training exercises identified challenges with the system's ability to operate in other environments. Maneuvering limits and challenges in detecting threats may affect air crew ability to execute correct evasive actions. The aircraft's large size and inventory of repair parts created obstacles to shipboard operations. Identified challenges could limit the ability to conduct worldwide operations in some environments and at high altitudes similar to what might be expected in Afghanistan. Efforts are underway to address these deficiencies, but some are inherent in the V-22's design.

V-22 costs have risen sharply above initial projections—1986 estimates (stated in fiscal year 2009 dollars) that the program would build nearly 1000 aircraft in 10 years at \$37.7 million each have shifted to fewer than 500 aircraft at \$93.4 million each—a procurement unit cost increase of 148 percent. Research, development, testing, and evaluation costs increased over 200 percent. To complete the procurement, the program plans to request approximately \$25 billion (in then-year dollars) for aircraft procurement. As for operations and support costs (O&S), the Marine Corps' V-22's cost per flight hour today is over \$11,000—more than double the targeted estimate.

**V-22 Funding Profile (Then-Year Dollars)<sup>a</sup>**



Source: V-22 December 2007 Selected Acquisition Report.

<sup>a</sup>O&S expenditures to date are not reported in the SAR, O&S funding includes past and future needs