An Assessment of Acquisition Outcomes and Impact of Reforms & Initiatives -- 2011

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2012 Assessment Made Observations On The Following

- Cost performance and characteristics of the Major Defense Acquisition Program portfolio
- Timing and amount of knowledge achieved
- Progress in implementing acquisition reforms and department initiatives

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Cost Performance and Characteristics of DOD's Portfolio of Major Defense Acquisition Programs

Obsevations about portfolio's cost

- Estimated cost of 2011 MDAP Portfolio is $1.58T and has grown by $74B, or 5%, in past year
- About $30B resulting from quantity changes, $45B due to RDTE and production inefficiency
- Programs with greatest RDTE growth are in production
- The F-35 program accounts for 21% of the portfolio's total cost and 52%, or about $39B, of its cost growth in the past year
- 91% of funding needed to complete programs in the portfolio is for procurement, most of which is for a few large programs
- 60% of the 96 programs in the MDAP have lost buying power over the past year, depriving DOD of funding for other priorities
- About 40% of MDAPs exceeded cost growth targets in past year
- The number of MDAPs is smaller this year than last and projected to be smaller next year

1yr/5yr/Baseline Trend: FY 2011 MDAP Portfolio Cost Growth Over Time

Fiscal year 2012 dollars in billion	1-year comparison (2010 to 2011)	5-year comparison (2006 to 2011)	Since first full estimate (baseline to 2011)
Increase in total research and development cost	$14 billion 4 percent	$39 billion 14 percent	$113 billion 54 percent
Increase in total procurement cost	$61 billion 5 percent	$192 billion 19 percent	$321 billion 36 percent
Increase in total acquisition cost	$74 billion 5 percent	$233 billion 17 percent	$447 billion 40 percent
Average delay in delivering initial capabilities	1 month 2 percent	9 months 11 percent	23 months 32 percent

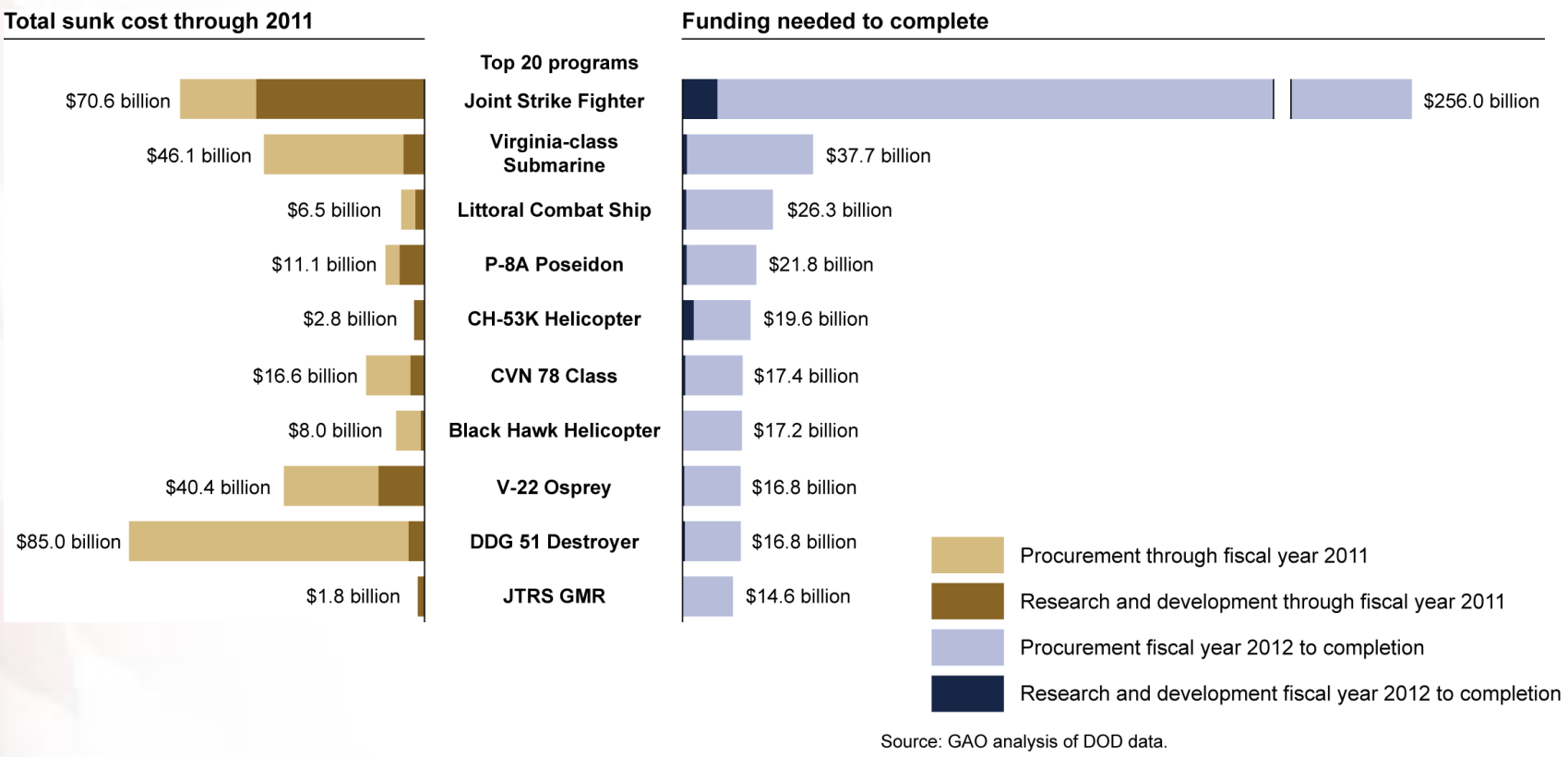
Source: GAO analysis of December 2010 Selected Acquisition Reports, prior Selected Acquisition Reports, and other DOD data.

Performance of DOD's 2011 Portfolio of MDAPs over the Past Year (cont.)

- RDT&E costs increased $14 billion from 2010 to 2011. JSF, Chemical Demilitarization—Assembled Chemical Weapons Alternatives, SBIRS High, F-22 Raptor, and P-8A Poseidon had the largest increases, totaling $8.3 billion.[a]
- Procurement costs increased $60.6 billion from 2010 to 2011, of which $29.6 billion can be attributed to quantity changes.
- The Littoral Combat Ship, Joint Mine Resistant Ambush Protected vehicle, DDG 51 destroyer, HC/MC-130, and F/A-18 E/F programs experienced the largest cost increases due to increased quantities and account for $52 billion in growth. This is partially offset by large reductions on MEADS and EFV.
- Procurement costs for JSF increased by $34.7 billion over the last year without any changes to its quantities.

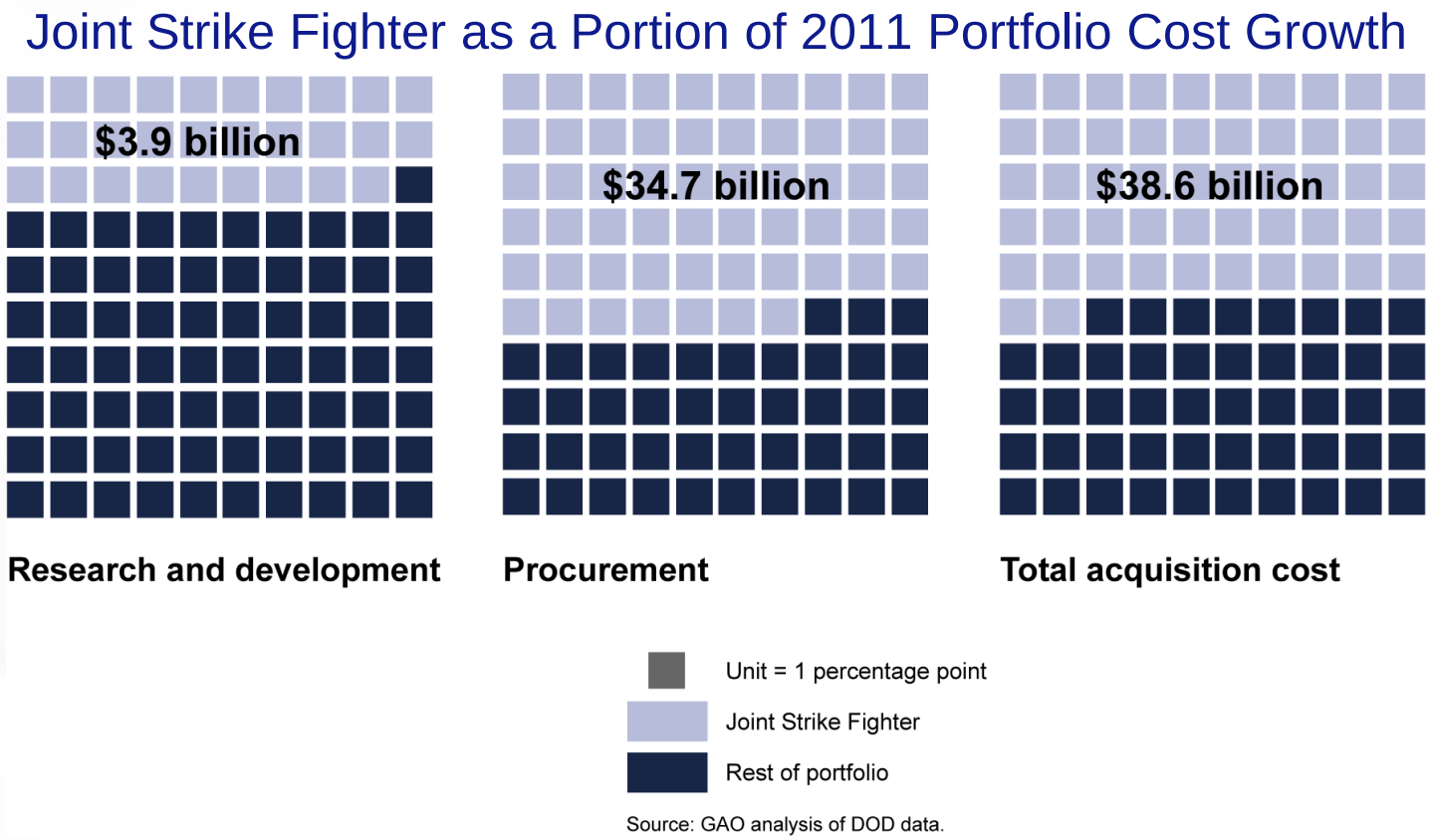
[a] The NPOESS SAR showed an increase of $0.9 billion, but the program has been cancelled.

Joint Strike Fighter Drives Much of Portfolio's Remaining Funding Needs



Source: GAO analysis of DOD data.

Joint Strike Fighter Accounts for Significant Portions of the Portfolio's Growth



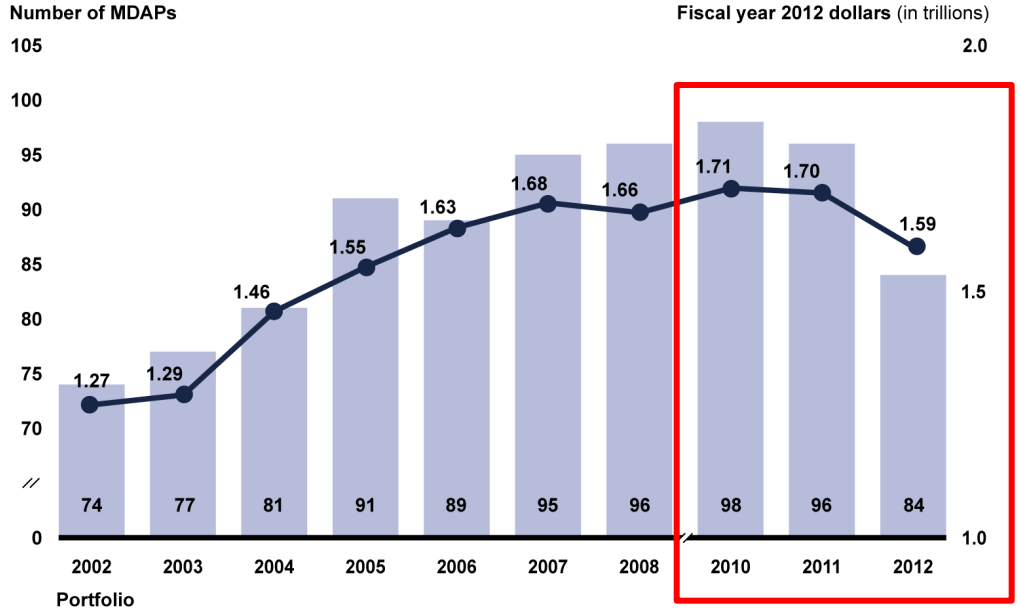
Significant Amounts of RDT&E are Supporting Concurrency or Upgrade Efforts on Programs in Production

Program	Growth in last year (millions)	Reason for additional funding	Start of production
Joint Strike Fighter	$3,922	To reduce risk	2007
SBIRS High	$785	To meet requirements	2001
F-22 Raptor	$780	For modernization	2001
P-8A Poseidon	$742	For new increment of capability, to correct deficiencies, update estimates	2010
Virginia-class	$727	For enhancements, cost reduction initiatives, testing	1997
Global Hawk	$722	For inclusion of new capabilities, testing	2001
DDG 51	$656	For inclusion of new capabilities	1985
Trident II	$624	For modernization and replacement	1987
Apache Block IIIA	$506	For software development	2010

Source: GAO analysis of December 2010 Selected Acquisition Reports and other DOD data.

Number of MDAPs Decreased in FY 2011 and is Expected to Decrease Further

- In 2011, 6 programs estimated at $29 billion entered the portfolio, 4 programs estimates at $108 billion exited

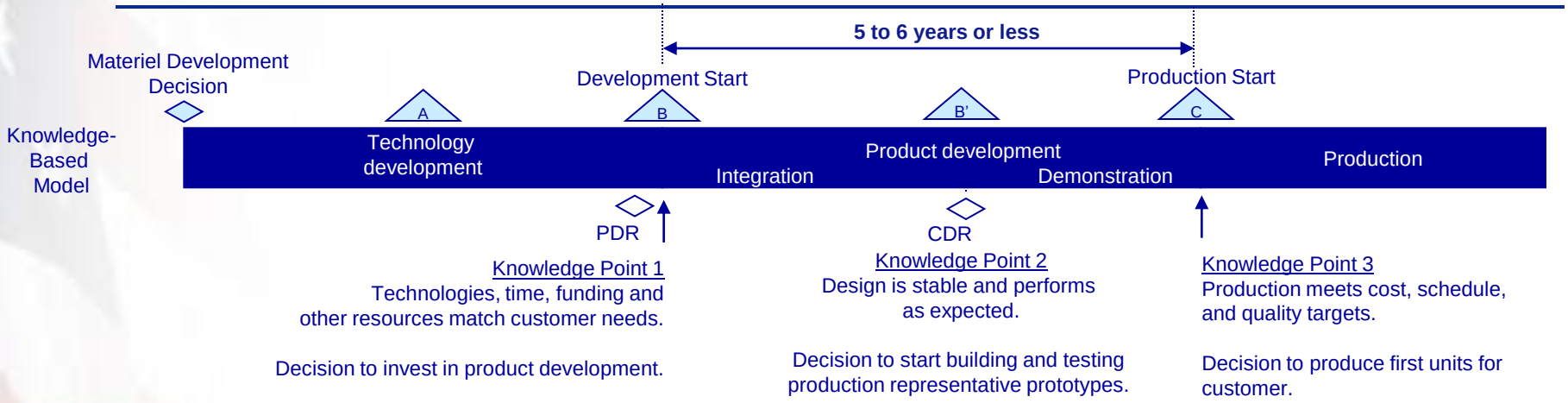


- Looking forward to the 2012 portfolio, at least 1 program is expected to enter, 13 programs expected to exit

Source: GAO analysis of DOD data.

Timing and Amount of Technology, Design, and Manufacturing Knowledge Achieved

A Knowledge-Based Approach is Key to Successful Program Outcomes



- Model provides framework for incremental, time certain (development constrained to 5 to 6 years or less), and knowledge-based approach to weapon system acquisitions.
- Success requires structured, disciplined application and adherence to model.
- Knowledge points align with key investment inflection points.
- Controls are in place for decisions makers to measure progress against specific criteria and ensure managers capture key knowledge before moving to next phase.

Knowledge At Three Critical Junctures Still Not Consistent

- 20 of 37 programs in the current portfolio entered development with critical technologies nearing maturity; 4 had technologies fully mature
- 8 of 37 programs had stable designs at CDR or start of ship fabrication; only 5 tested system-level prototypes
- 26 of 32 programs plan to demonstrate critical processes on a pilot line at production start; 4 plan to have these processes in control
- 15 of 24 programs plan to complete production representative prototype testing,

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Progress In Implementing Acquisition Reforms and Department Initiatives

New Acquisition Reforms and DOD Policy Initiatives Could Improve Outcomes

- **The Weapon Systems Acquisition Reform Act of 2009 inserted a number of requirements whether programs planned to:**
  - Hold PDR before system development start.
  - Complete competitive prototyping as part of technology development phase.
  - Describe measures taken to ensure competition throughout the program lifecycle in their acquisition strategies.
  - Consider trade-offs among cost, schedule, and performance objectives at Milestone B approval to ensure affordability.
- **In addition, DOD has introduced new initiatives intended to control costs and requirements**
  - Early Materiel Development Decision required for all programs.
  - Introduction of affordability targets at major program milestones
  - Use of “should cost” to strengthen negotiations with contractors

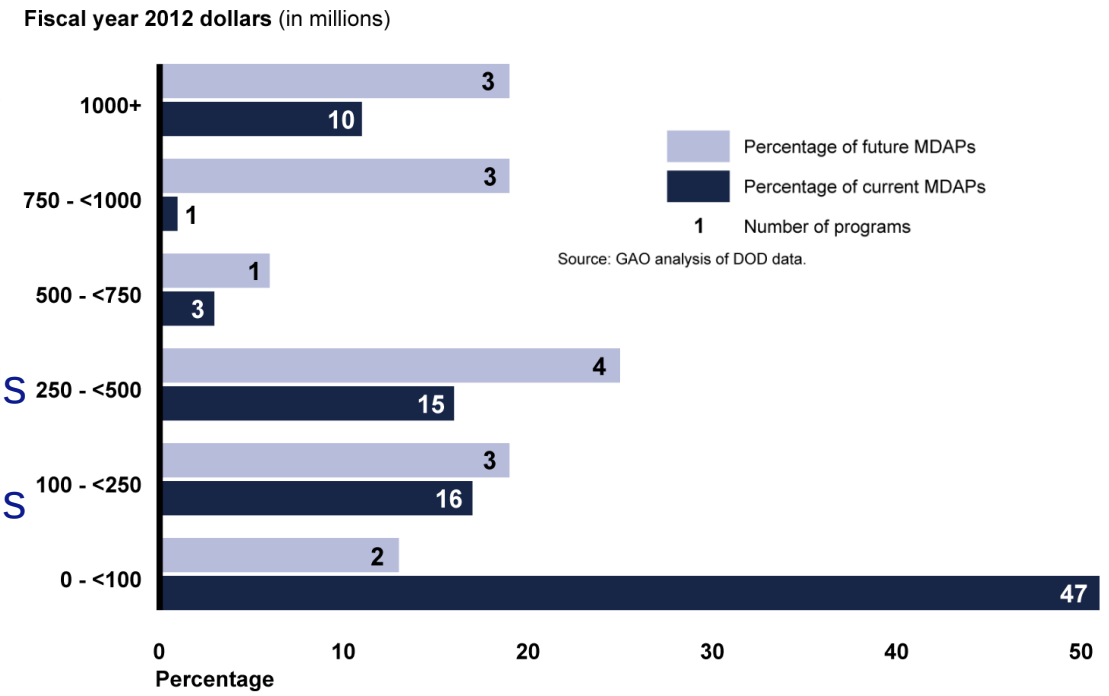
Programs Have Begun to Implement Reforms and New Initiatives

- **Programs in our 2011 assessment have begun to implement acquisition reforms that could improve cost and schedule outcomes.**
  - Early systems engineering – 11 of 16 pre-MDAPs in our assessment have scheduled a preliminary design review before Milestone B.
  - Competitive prototyping – 13 of 16 pre-MDAPs plan to develop competitive prototypes prior to Milestone B.
  - Competition – 11 of 16 programs plan to incorporate competition into their acquisition strategy after Milestone B.
  - Trade-offs – Each of the 3 programs that entered system development or were re-certified had the requirement for making major cost, schedule, and performance tradeoffs before development start waived.
- **Programs are still in the process of implementing new DOD initiatives.**
  - 6 of 16 pre-MDAP programs in our assessment reported holding MDD.
  - 4 of the 16 future and 19 of the 37 current MDAPs reported having affordability targets.
  - 6 of the 16 future and 23 of the 37 current MDAPs reported having "should costs."

Reforms and Initiatives are Increasing Activities in Technology Development Phase

The focus on pre-Milestone B activities results in increased spending in the technology development phase, which could have beneficial effects if the funds are spent on activities such as prototype demonstrations and systems engineering analysis.

Funding for Future and Current Programs during Technology Development



Key Takeaways

Good trends

- Out with the old, in with the new – **it's improving the portfolio's health**
- More mission area reviews to reduce duplication – **it's freeing funding**
- More SE time & energy from MDD through A to B – **it's reducing risk**
- CAPEs new role and responsibility may be best thing – **it's forcing change**

Things to think about

- MDD continue to force incremental solutions – **it's easier to plan/execute**
- Continue to scrutinize reqments – **it's the only way to reduce cycle time**
- Reconsider the role of our S&T community – **it will impact EVERYTHING!!**
- Demand knowledge – **it will make things more predictable, less risky**
- Demand a 5-year cycle time from B to IOC – **it will force knowledge**
- Find a mechanism to disseminate/imp lessons – **it creates role models**

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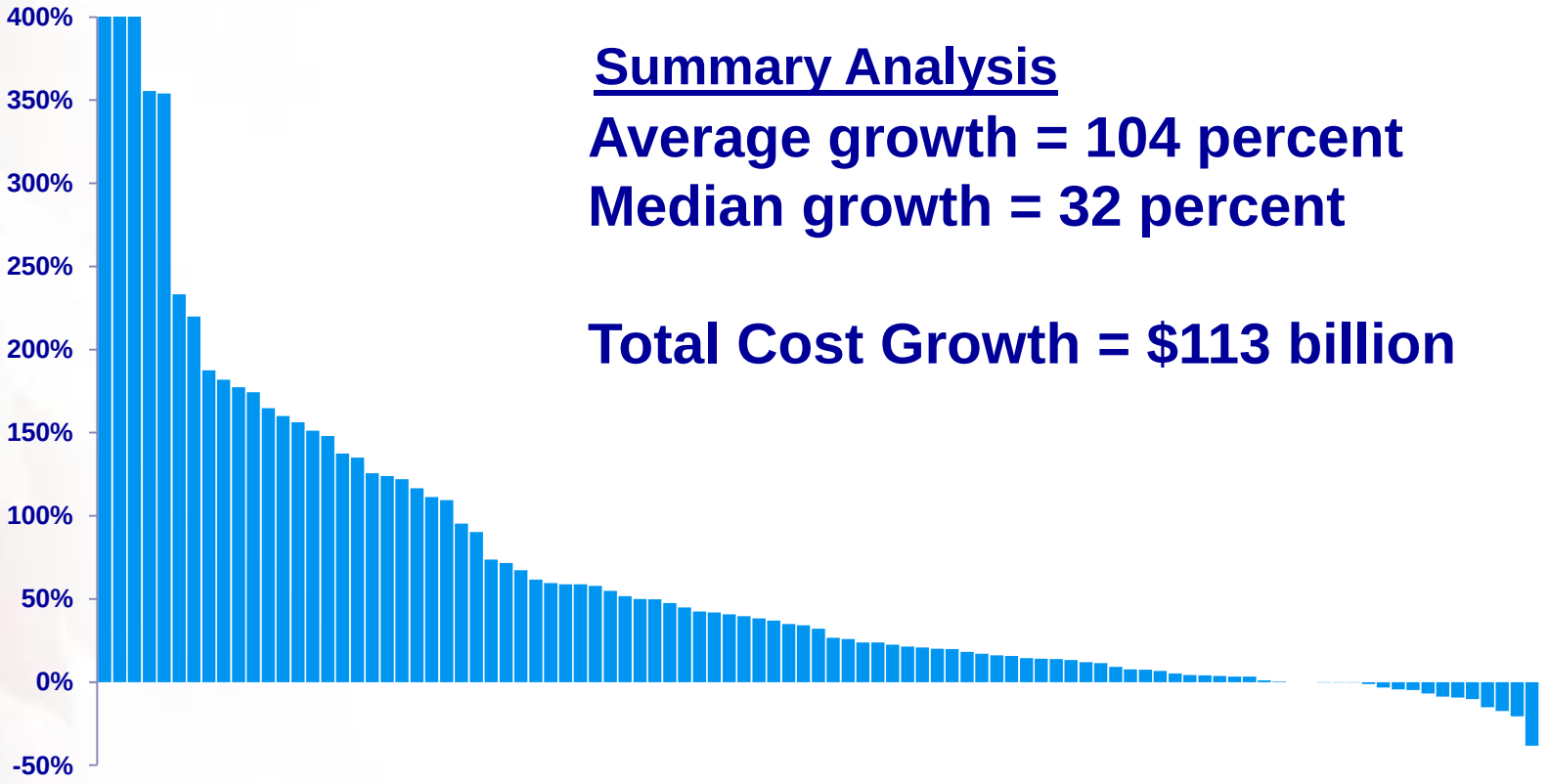
RDT&E Percentage Cost Growth From Baseline per MDAP



Summary Analysis

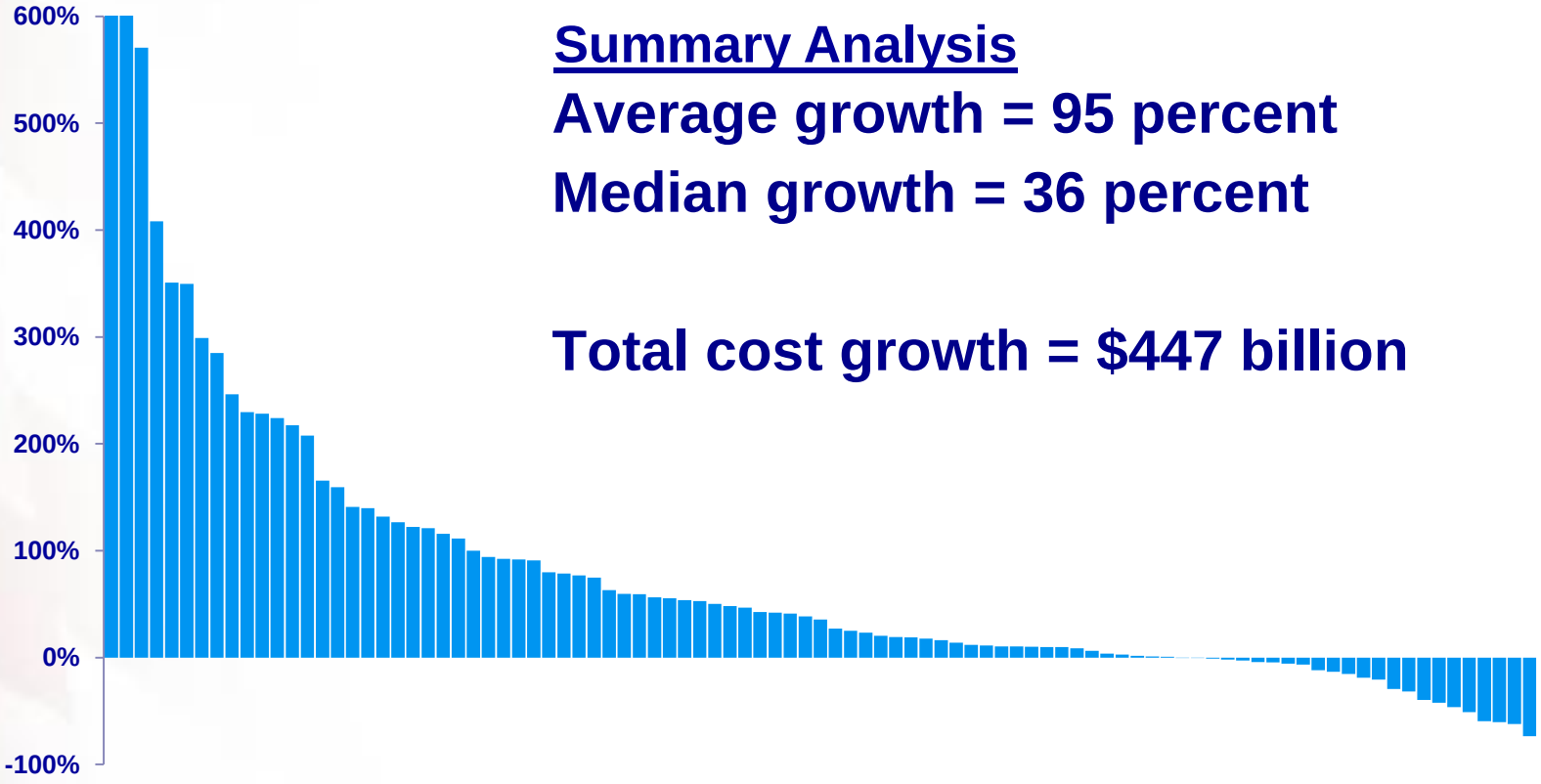
Average growth = 104 percent

Median growth = 32 percent

Total Cost Growth = $113 billion

Note: Three programs have greater than 400 percent RDT&E cost growth, ranging from 729% to 3313% (GMLRS, MH-60S, C-130J).

Total Percentage Cost Growth per Major Defense Acquisition Program



Summary Analysis

Average growth = 95 percent

Median growth = 36 percent

Total cost growth = $447 billion

Note: Two programs have greater than 600 percent total cost growth (1365% and 1523%).

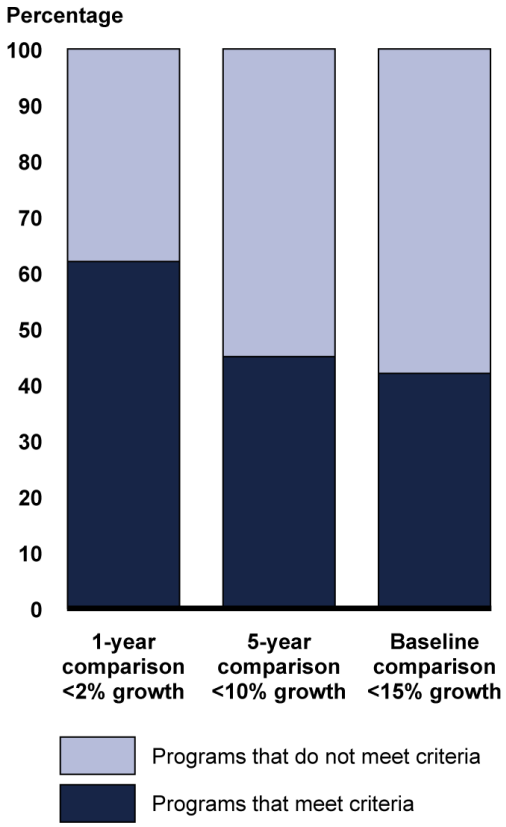
Changes Between FY 2010 and FY 2011 MDAP Portfolios

Programs added since FY 2010 Total cost: $29 billion		Programs removed from FY 2010 portfolio Total cost: $108 billion	
Apache Block IIIB New Build	HC/MC-130 Recapitalization	Bradley Armored Fighting Vehicle Upgrade	C-17A Aircraft
KC-130J	Small Diameter Bomb Increment II	CVN 68	EA-6B Improved Capability III
		Minuteman III Propulsion Replacement Program	MC-1B Predator UAS

Expected Changes Between FY 2011 and FY 2012 MDAP Portfolios

Programs added since FY 2011	Programs removed from FY 2011 portfolio	
KC-46 Tanker Replacement Program	Airborne Signals Intelligence Payload	Advanced Threat Infrared Countermeasure/Common Missile Warning System
	B-2 Radar Modernization Program	C-5 Avionics Modernization Program
	Expeditionary Fighting Vehicle	F-22 Raptor
	Force XXI Battle Command Brigade and Below	Increment 1 Early-Infantry Brigade Combat Team
	Joint Mine Resistant Ambush Protected vehicle	Large Aircraft Infrared Countermeasures
	Longbow Apache	Space Based Space Surveillance Block 10
	Lewis and Clark-class Dry Cargo/Ammunition ship (T-AKE)	

1yr/5yr/Baseline: Less Than Half of MDAPs Meet GAO High-Risk Cost-Growth Targets



Source: GAO analysis of DOD data.

The number of programs represents those in the 2011 portfolio—those with December 2010 SARs—which break down several programs into smaller elements for reporting purposes. One program, Airborne Signals Intelligence Payload (ASIP) –Baseline, was not included in 5-year comparison because data were not available to make that comparison. BMDS is not included.