Future Capability Outlook for the US Air Force
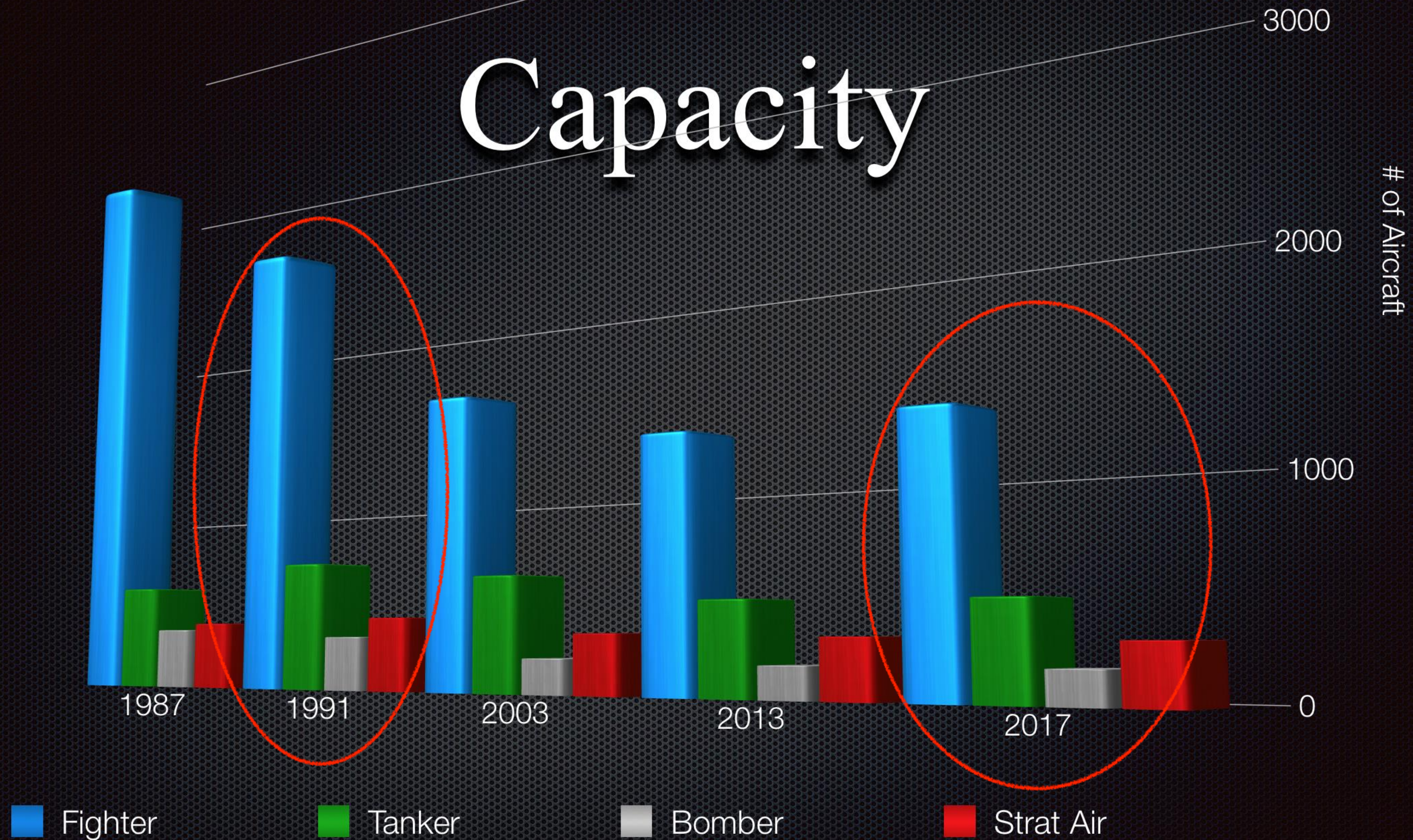
JV Venable
The Heritage Foundation

2018 National Military Strategy
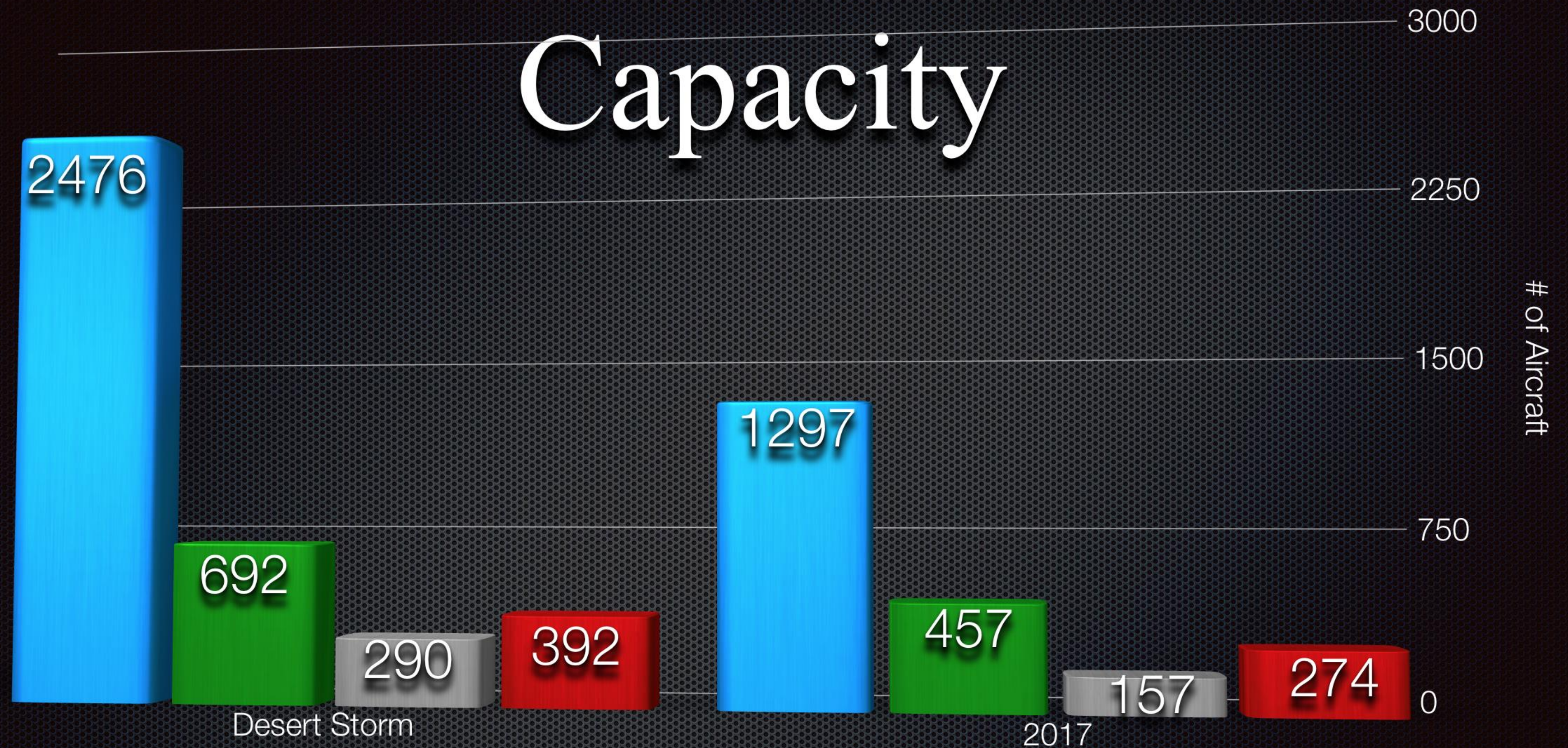
"... the fully mobilized Joint Force will be capable of <u>Defeating aggression by a major power</u>, <u>deterring opportunistic aggression elsewhere</u>..."

"and disrupting imminent terrorist and nuclear strategic WMD threats"

THE AIR FORCE WE HAVE
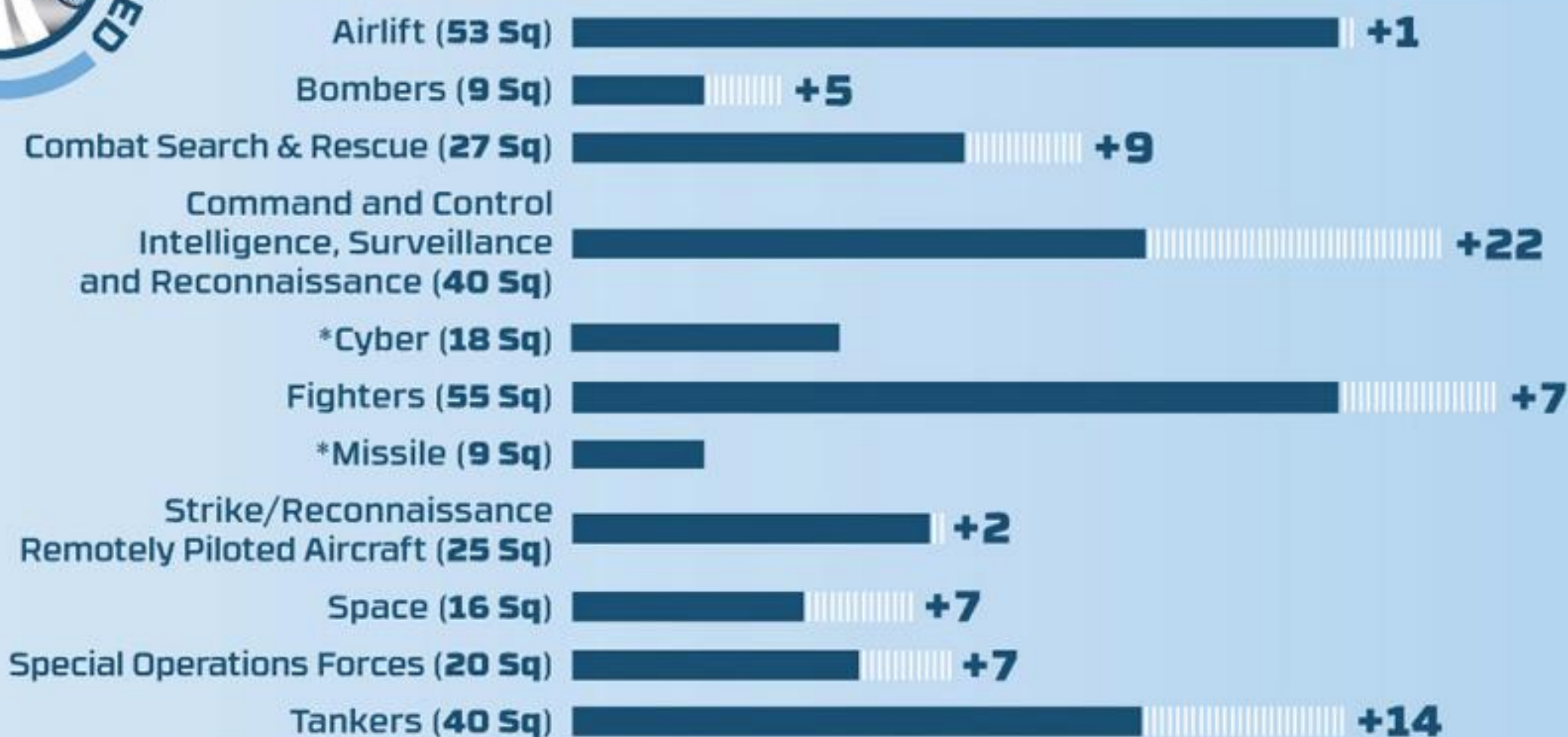
THE AIR FORCE WE NEED

THE AIR FORCE WE NEED

312

TOTAL FORCE **OPERATIONAL SQUADRONS**

An operational squadron is the core fighting unit of the Air Force.

THE AIR FORCE WE NEED

Category	Growth
Airlift (53 Sq)	+1
Bombers (9 Sq)	+5
Combat Search & Rescue (27 Sq)	+9
Command and Control Intelligence, Surveillance and Reconnaissance (40 Sq)	+22
*Cyber (18 Sq)	
Fighters (55 Sq)	+7
*Missile (9 Sq)	
Strike/Reconnaissance Remotely Piloted Aircraft (25 Sq)	+2
Space (16 Sq)	+7
Special Operations Forces (20 Sq)	+7
Tankers (40 Sq)	+14

Current Total 312

*Modernization needed with no size increase

386

TOTAL FORCE **OPERATIONAL SQUADRONS**

24% GROWTH

FROM / TO

THE AIR FORCE WE NEED OBJECTIVES

2018 NATIONAL DEFENSE STRATEGY

Rebuilding military readiness as we build a more lethal Joint Force
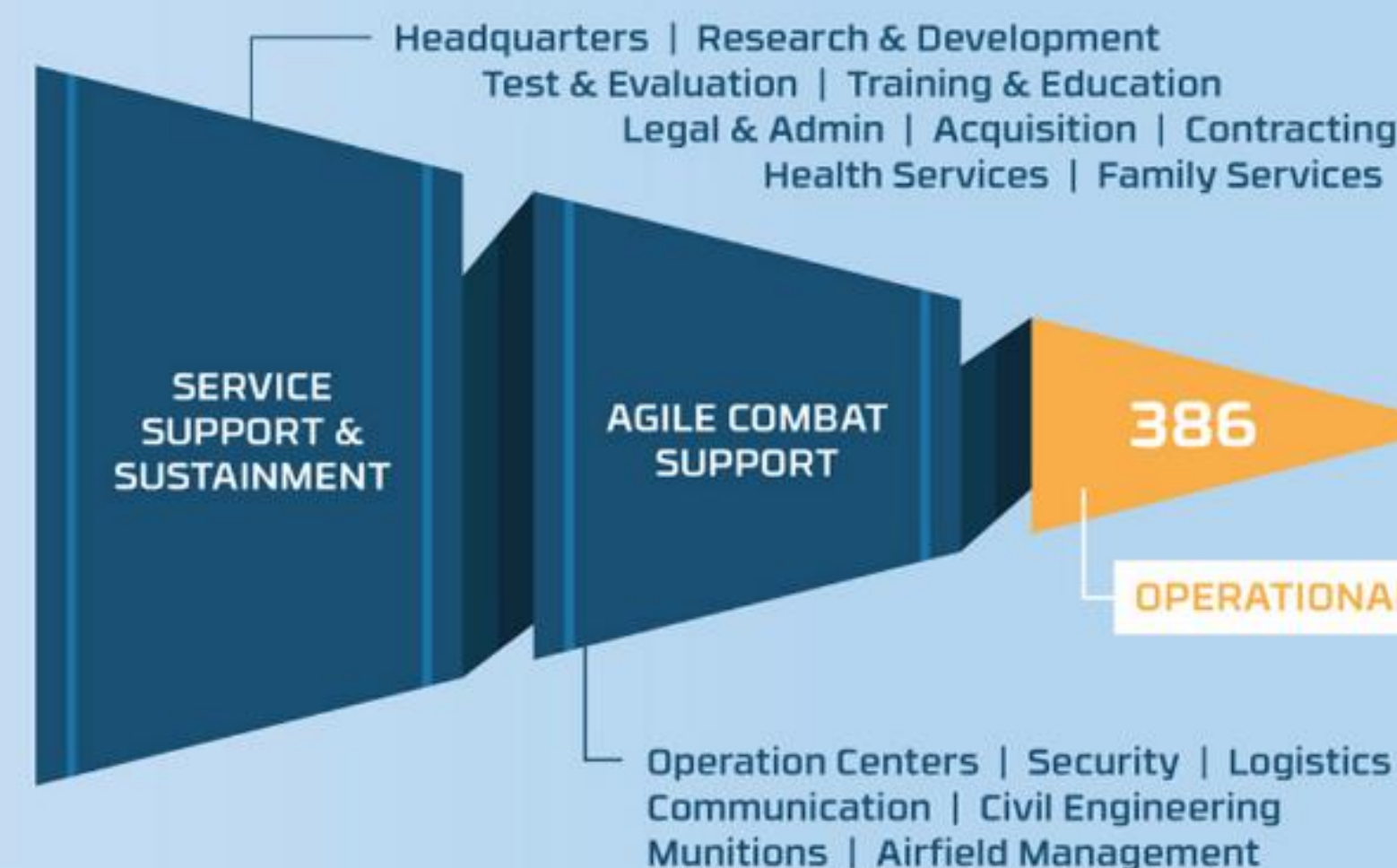
COUNTERING THE THREAT

- Compete long-term with China and Russia
- Deter and counter rogue regimes (North Korea and Iran)
- Deter opportunistic aggression elsewhere
- Defeat terrorist threats to the U.S.
- Defend interests from challenges below the level of armed conflict

WHAT IT WILL TAKE

- Support from Congress
- Long-term commitment to grow
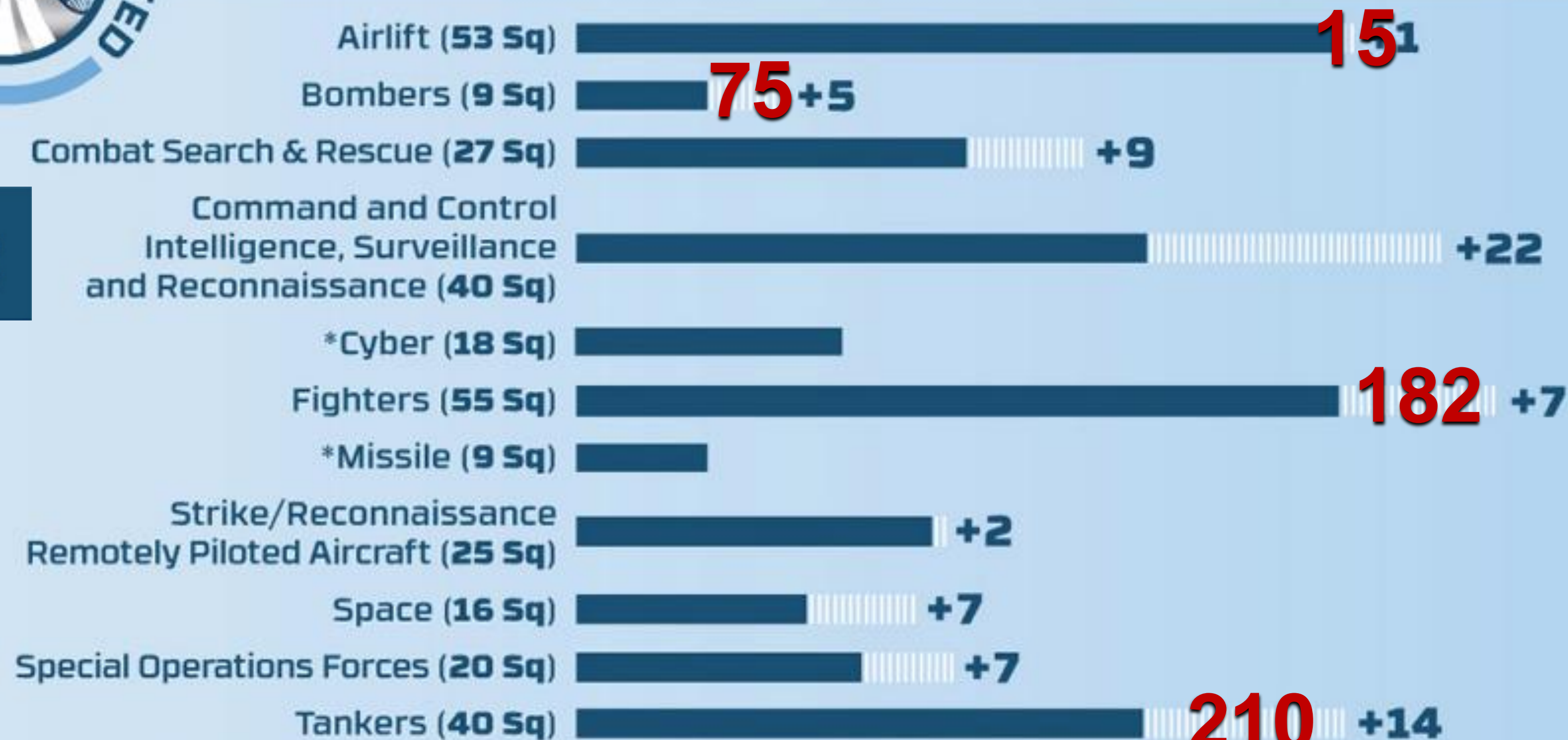- Budget predictability and stability
- Trained, equipped and ready Airmen

THE AIR FORCE WE NEED FRAMEWORK

Headquarters | Research & Development
Test & Evaluation | Training & Education
Legal & Admin | Acquisition | Contracting
Health Services | Family Services

SERVICE SUPPORT & SUSTAINMENT

AGILE COMBAT SUPPORT

386

OPERATIONAL

Operation Centers | Security | Logistics
Communication | Civil Engineering
Munitions | Airfield Management

THE AIR FORCE
WE NEED

312

Category	From	To
Airlift (53 Sq)		15**1**
Bombers (9 Sq)	**75**	+5
Combat Search & Rescue (27 Sq)		+9
Command and Control Intelligence, Surveillance and Reconnaissance (40 Sq)		+22
*Cyber (18 Sq)		
Fighters (55 Sq)	**182**	+7
*Missile (9 Sq)		
Strike/Reconnaissance Remotely Piloted Aircraft (25 Sq)		+2
Space (16 Sq)		+7
Special Operations Forces (20 Sq)		+7
Tankers (40 Sq)	**210**	+14

Current Total 312

*Modernization needed with no size increase

386

TOTAL FORCE
OPERATIONAL SQUADRONS

24% GROWTH

■ FROM ||||| TO

Money Matters

165.6B **+25%**

155.8B

146.3B

132.2B

	2017	2018	2019	2020	
OCO	12.3	13.9	14.8	12.8	+15%
MILCON	1.8	2.4		2.3	
Procur	22.4	24.8	21.8	25.9	
			26.0		
RDT&E	19.6	25.6	30.9	35.4	+80%
PER	29.2	30.7	31.9	34.2	+17%
O&M	46.9	49.2	49.9	54.6	+16%

Legend: O&M MILPERS RDT&E Procurement MILCON OCO
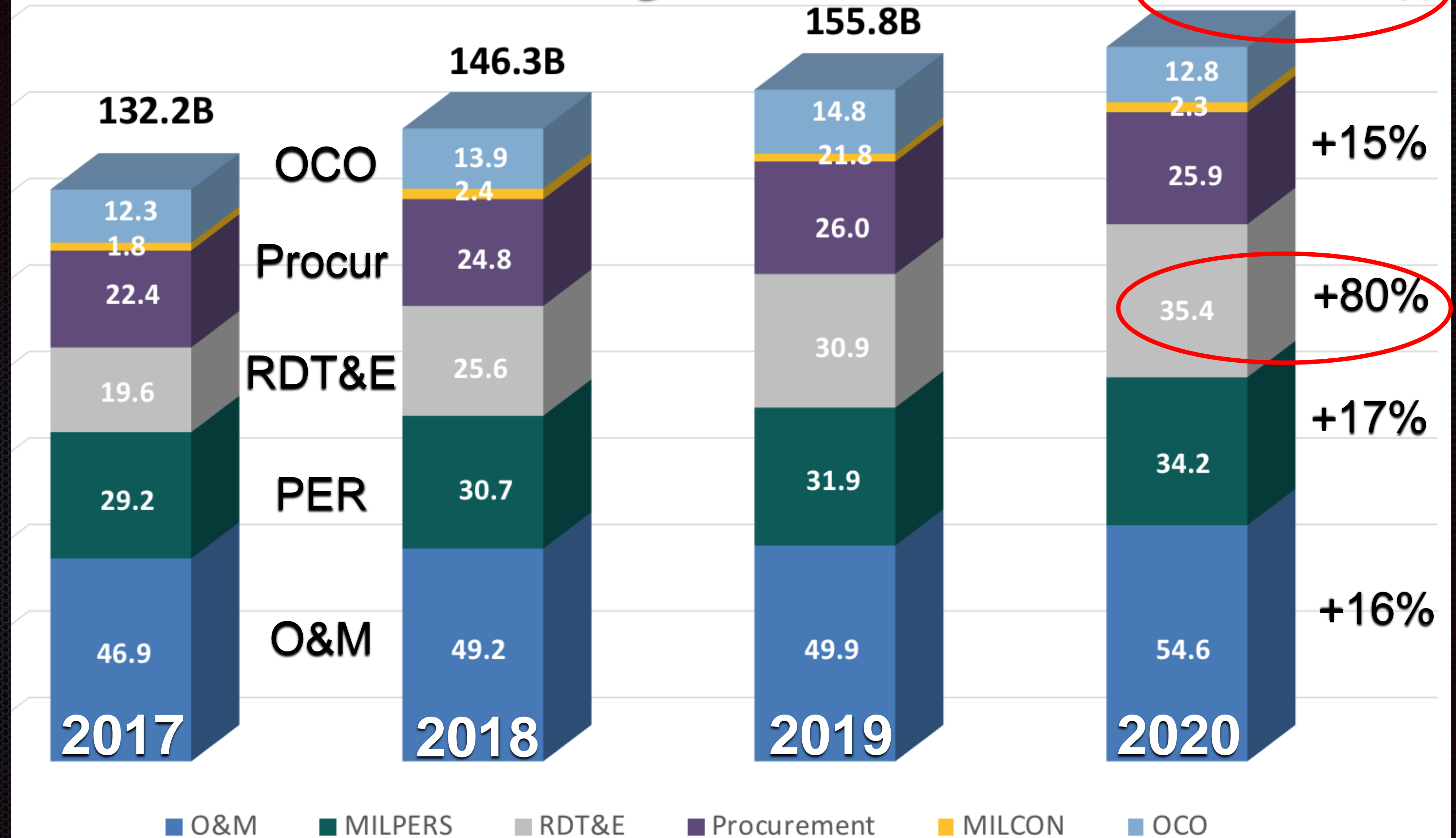
Capability (NDS)

"The Joint Force must be able to strike diverse targets inside adversary air and missile defense networks..."

"investments will prioritize developing resilient, survivable, federated networks and information eco-Systems..."
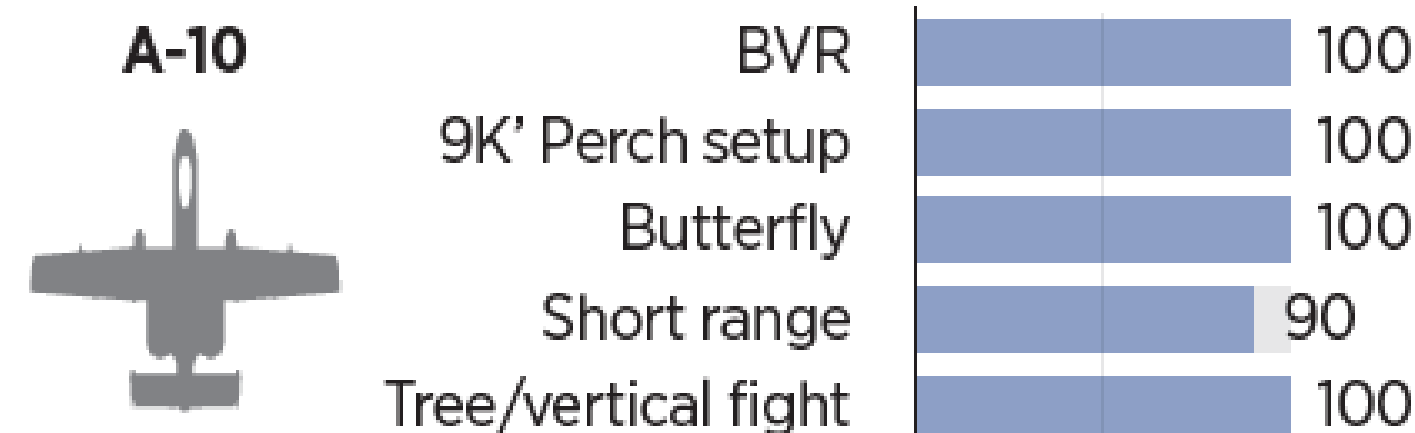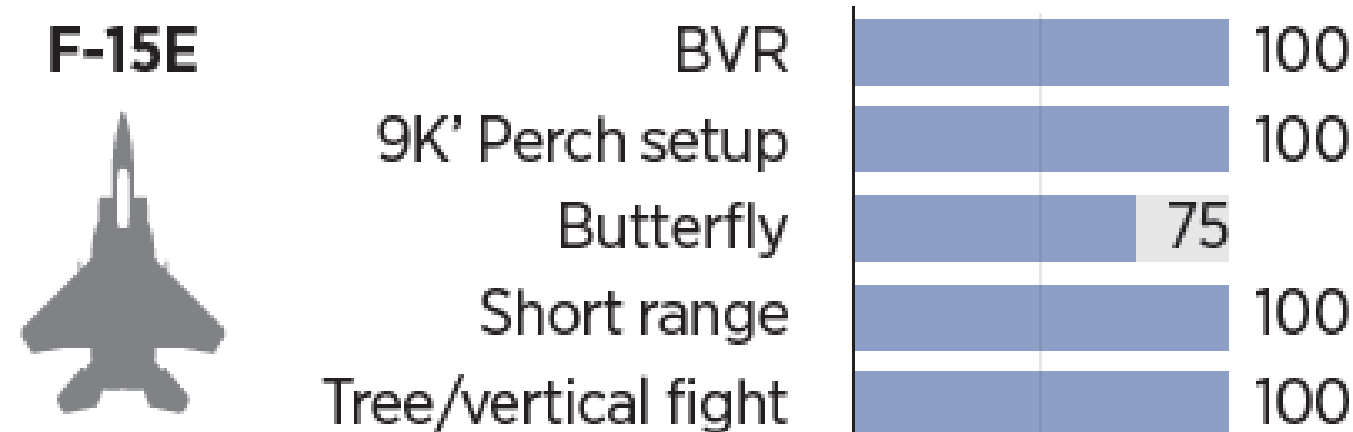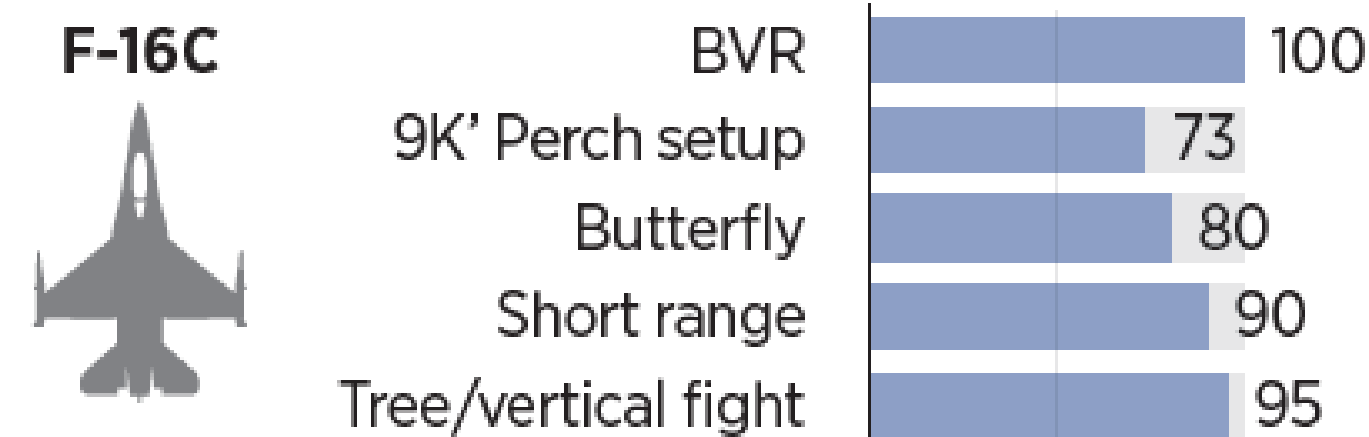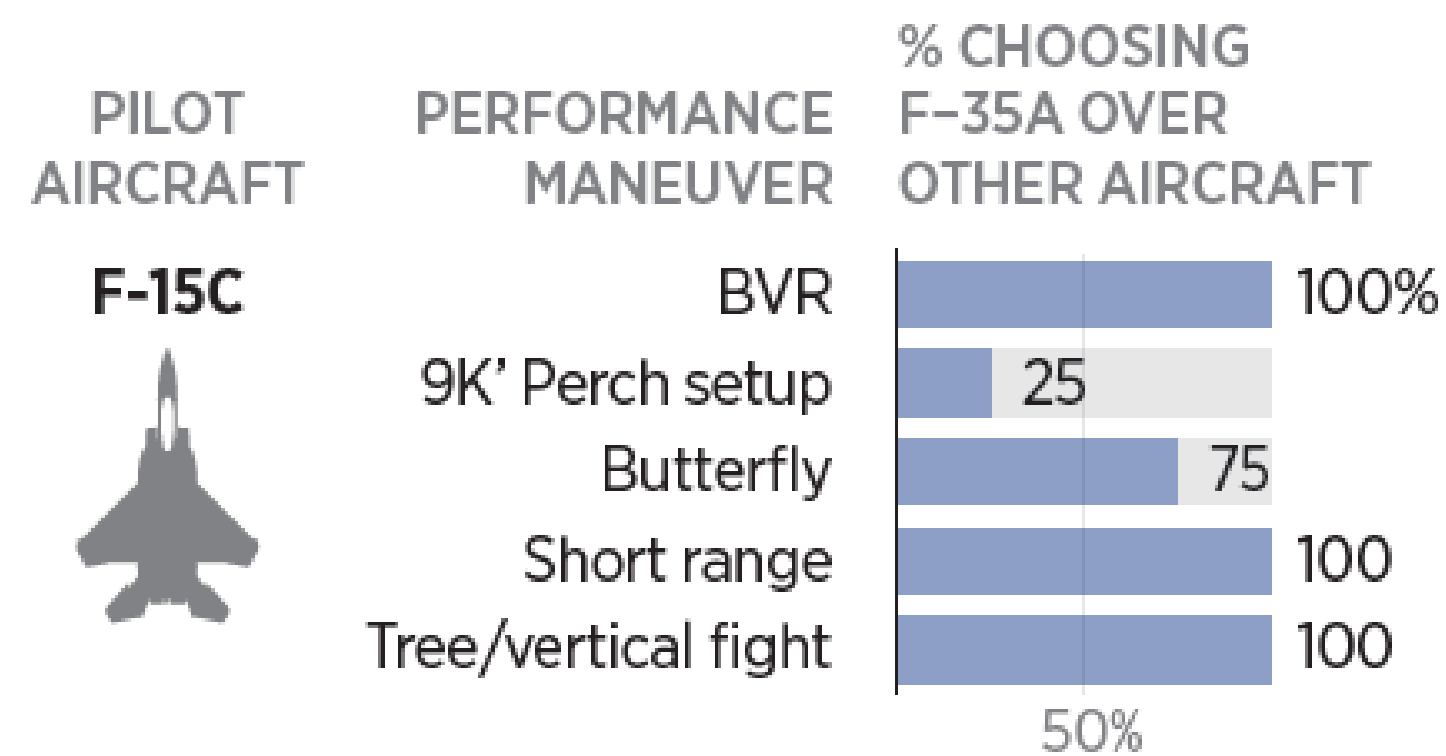
Capacity & Capability

- Need 72 Fighters/Yr to Grow Beyond Retirements
- Fleet is 18% 5th Generation Fighters
- How Should US *Balance* Capacity & Capability?
- Generational Relevance
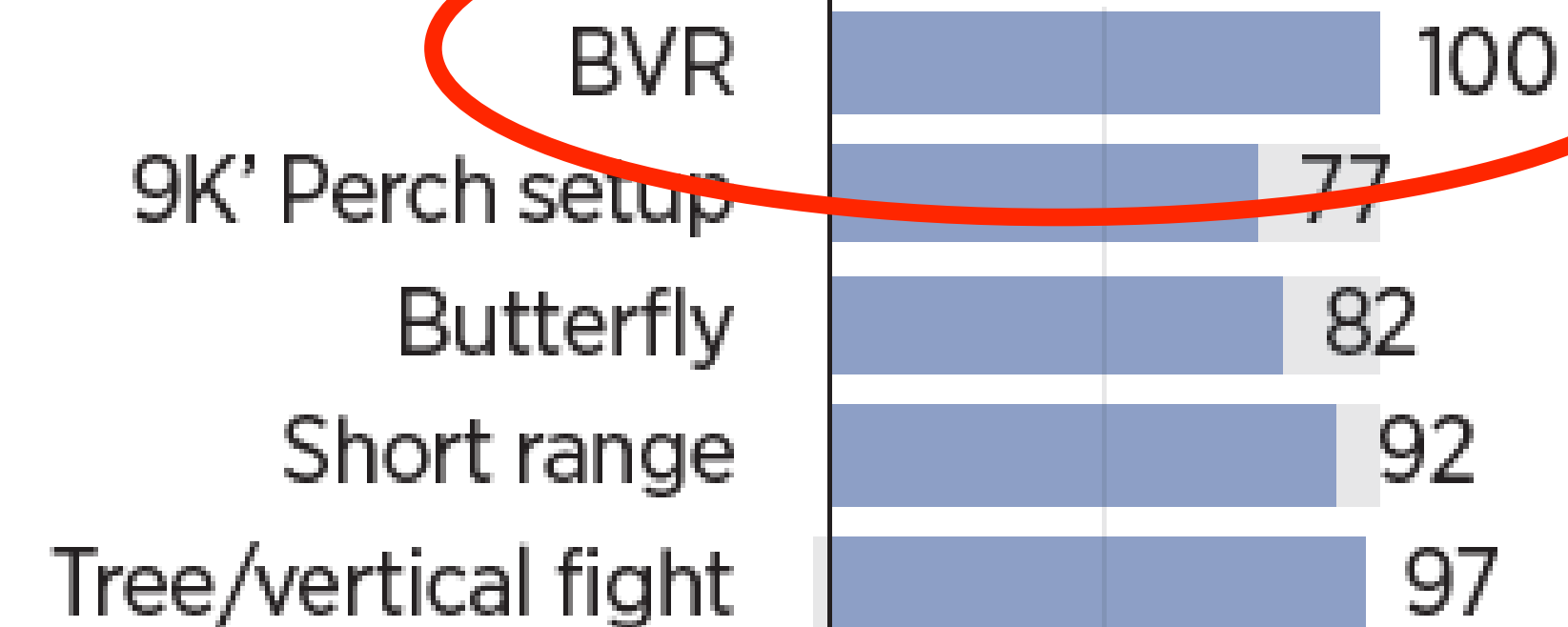
The Evolution of Fighter Aircraft

■ LEVEL COMPARABLE TO 5TH GENERATION

	1st Generation	2nd	3rd	4th	4th+	5th
Era	Korea	1955–1965	1965–1975	1975–1995	1995–present	2005–present
Speed	Subsonic jet	Mach 1+	Mach 1–2+	Mach 1–2+	Mach 1–2+	Mach 1–2+
Weaponry	Gun only	Gun and IR tail aspect missile	Gun and all aspect radar missile	Gun and all aspect IR + radar missile	Gun and all aspect IR + radar missile	Gun and all aspect IR + radar missile
Engagement	</= 1,500 feet	1–3 miles (tail only)	Limited all aspect	All aspect look down	All aspect look down	All aspect look down
Energy and Maneuverability	Low energy, high maneuverability	Low energy, low maneuverability	Low energy, low maneuverability	High energy, high maneuverability	High energy, high maneuverability	High energy, high maneuverability
Detection of Enemy Fighter	None	>/=10 NM	>/=20 NM	</=50 NM	>/=100 NM	>/=100 NM
Sensor Fusion	None	None	None	None	Limited	Full
Stealth	None	None	None	None	Reduced RCS	Full

Pilots Prefer Flying F-35A

PILOT AIRCRAFT	PERFORMANCE MANEUVER	% CHOOSING F-35A OVER OTHER AIRCRAFT
F-15C	BVR	100%
	9K' Perch setup	25
	Butterfly	75
	Short range	100
	Tree/vertical fight	100
		50%
F-16C	BVR	100
	9K' Perch setup	73
	Butterfly	80
	Short range	90
	Tree/vertical fight	95
F-15E	BVR	100
	9K' Perch setup	100
	Butterfly	75
	Short range	100
	Tree/vertical fight	100
A-10	BVR	100
	9K' Perch setup	100
	Butterfly	100
	Short range	90
	Tree/vertical fight	100

All surveyed pilots		
	BVR	100
	9K' Perch setup	77
	Butterfly	82
	Short range	92
	Tree/vertical fight	97

"I would now take the F 35 to combat any day and anywhere in the world."

Balance

- Nations *Weather* Balance
  - Sustain Capacity with Residual Capability
- *Buying* Balance Is Different. F-15X Fielded by 2030
  - 5th Gen SAMs In Syria Now. Where in 2030?
  - Long Term Viability of *New* 4th Gen Worth Cost?

NDS Capability Essentials

- Obtain and Maintain High Situational Awareness
  - AF Multi-Domain Command & Control
  - AF Airborne Battle Management System
- Big Acquisitions Should:
  - Employ in IADS or Support that Employment
  - Feed Federated Network

Future AF Capability Outlook

- NDAA Sets Acquisition Agenda for 2020
- 72 x F-35s/Year - Improves Mix to 50/50 by 2030
- Future is the F-22, F-35, B-21, KC-46
- US Weathers 4th Gen Fleet until F-35 Fielded… and
- Next Gen Sensor/Shooter is Developed

Discussion to Follow