

**MITCHELL INSTITUTE**  
for Aerospace Studies



# **Building a Force That Wins:**

## **Recommendations for the National Defense Strategy**

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# Overview

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## **The 2018 National Defense Strategy (NDS) reoriented DOD's planning and resource priorities toward great power competition and conflict**

- Requires the services to size and shape their forces to defeat peer aggression, sustain nuclear deterrence, defend the homeland, and deter a 2nd lesser aggressor
- Adopted a new theory of victory: defeat a peer adversary's *fait accompli* invasion of a U.S. ally or friend (Taiwan, Baltic states, etc.)

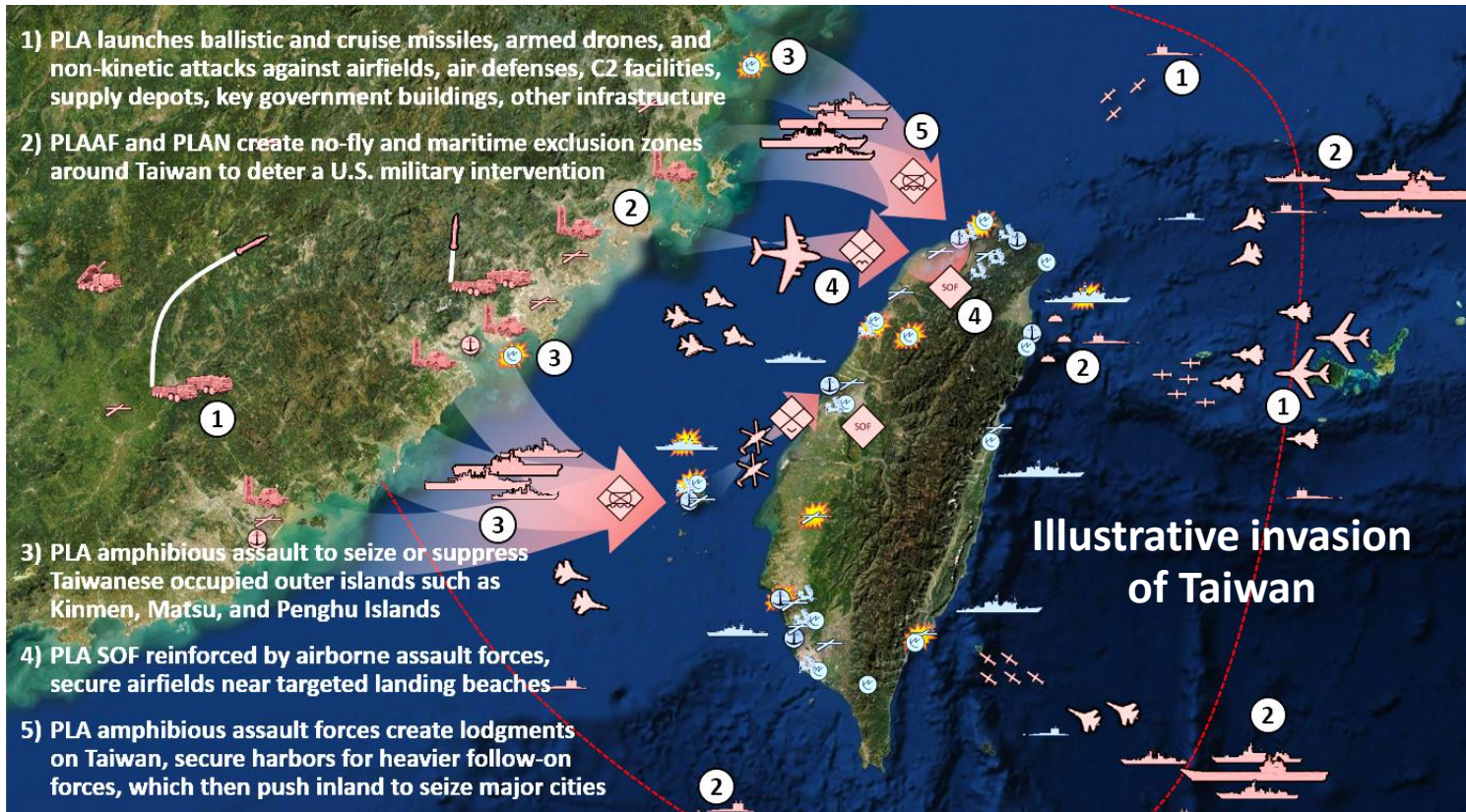
## **Mitchell Institute's report addresses three issues stemming from 2018 NDS guidance that increase risk of future strategic failures:**

1. Sizing & shaping the force for a short *fait accompli* denial operation could create decisive capability gaps in an extended duration conflict with a peer adversary
2. Sizing & shaping the force for one war increases risk a 2nd aggressor would choose to take advantage of a major U.S. engagement in another theater
3. DOD lacks all-domain warfighting concepts that inform force structure and capability tradeoffs needed to maximize combat power given flat/declining defense budgets



# Most stressing challenge for sizing & shaping the force: defend U.S. allies against a peer adversary's *fait accompli* invasion

- Deter/defeat a Chinese or Russian invasion of an area on their periphery that is covered by their A2/AD network (such as Taiwan, the Baltic states)



- **The 1991 Desert Storm warfighting model is outdated:** Deploying an iron mountain of forces before launching a counteroffensive would give China/Russia time to achieve a *fait accompli* and reinforce, making the cost and risk of a counteroffensive prohibitive



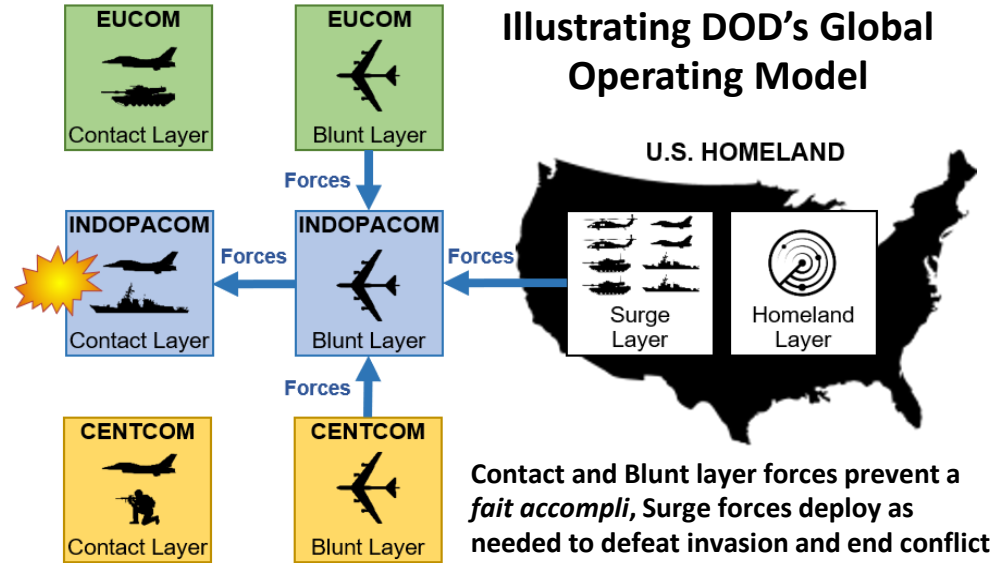
# DOD adopted a new warfighting approach and force employment model

## DOD's new theory of victory: defeat a peer adversary's *fait accompli* strategy

- China and Russia's warfighting strategies combine gray zone and high-end operations protected by their A2/AD complexes to achieve a *fait accompli* before the U.S. and its allies can intervene

## U.S. forces must be prepared to:

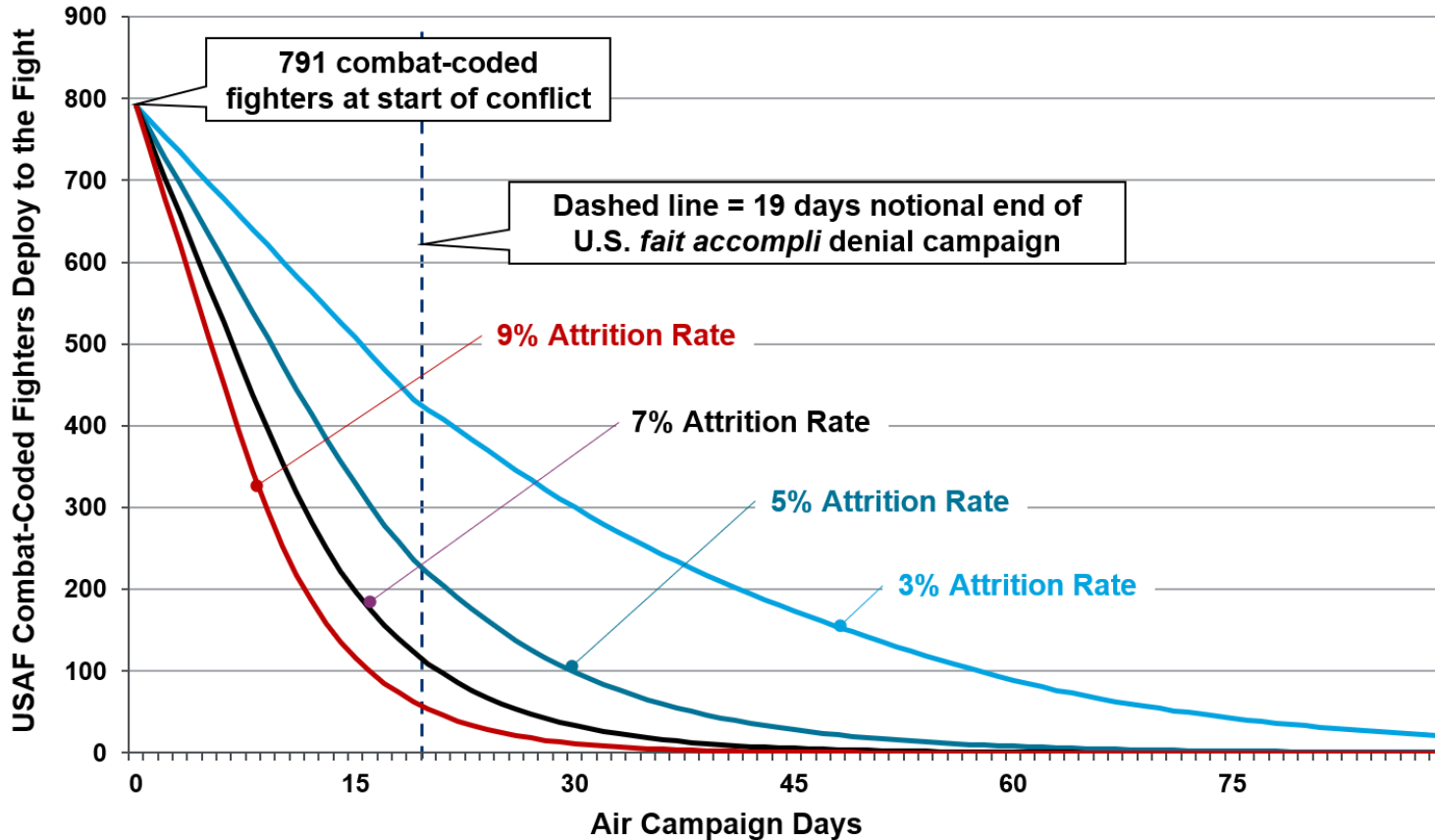
- Respond within hours to counter an assault, blunt, and then defeat invading forces
- Operate in contested environments throughout conflict (operating concepts that assume threats can be "rolled-back" are outdated)





# Risk: Sizing the force for a short *fait accompli* denial campaign could create decisive capability gaps in a longer war

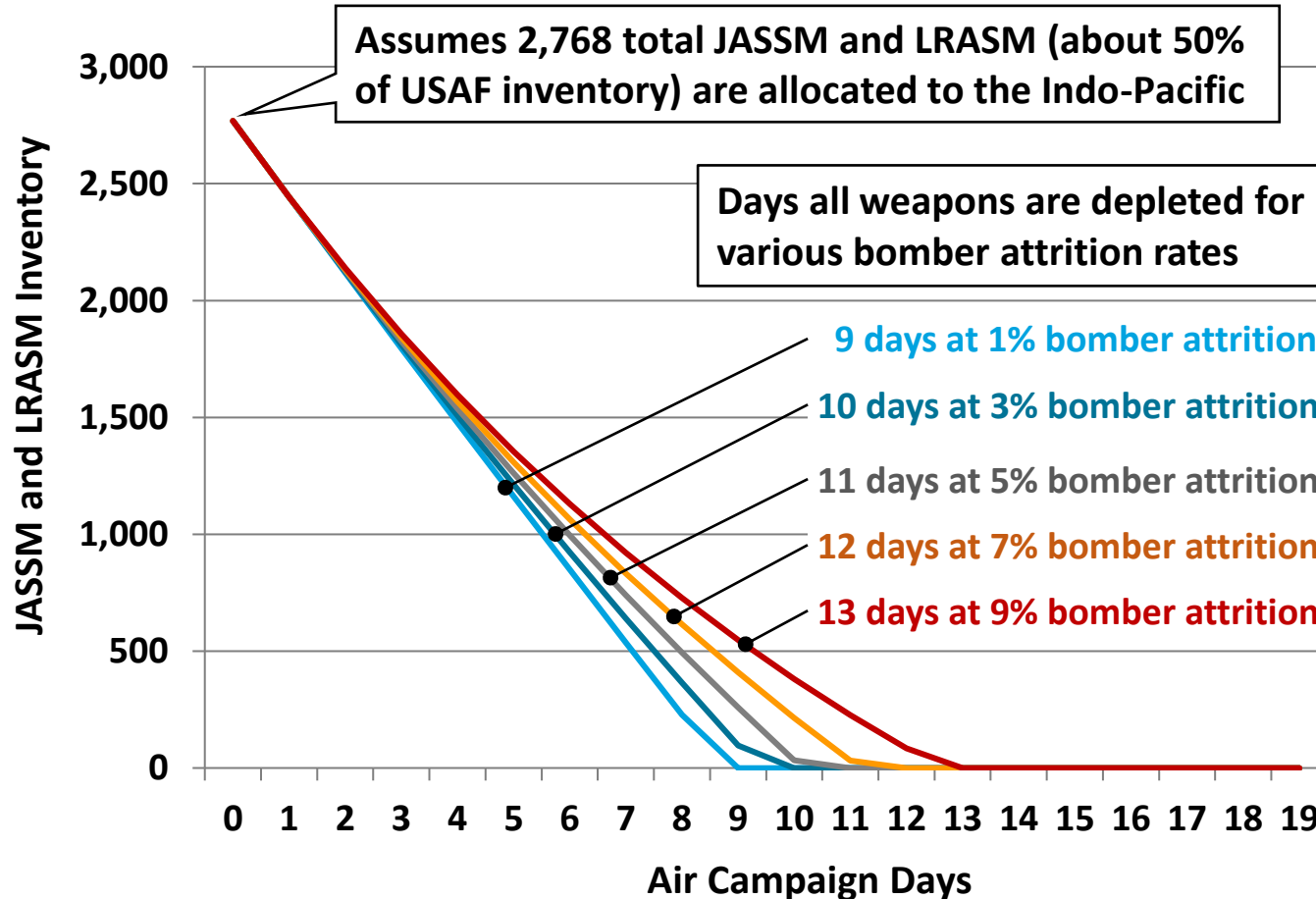
## Example of notional USAF fighter attrition in a 2030 defense of Taiwan scenario



- Day 19: 431 fighters remaining with 3% attrition, 236 with 5% attrition, etc.
- This example does not include hundreds of fighters and other aircraft that could be destroyed by PLA air and missile strikes on the USAF's theater airbases



# Not just platforms ... advanced PGMs and other critical expendables could be quickly depleted



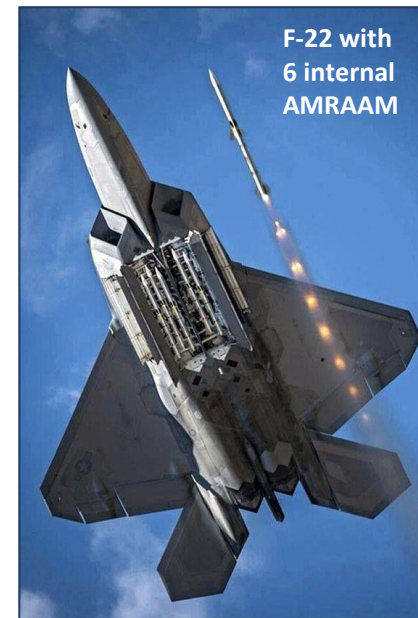
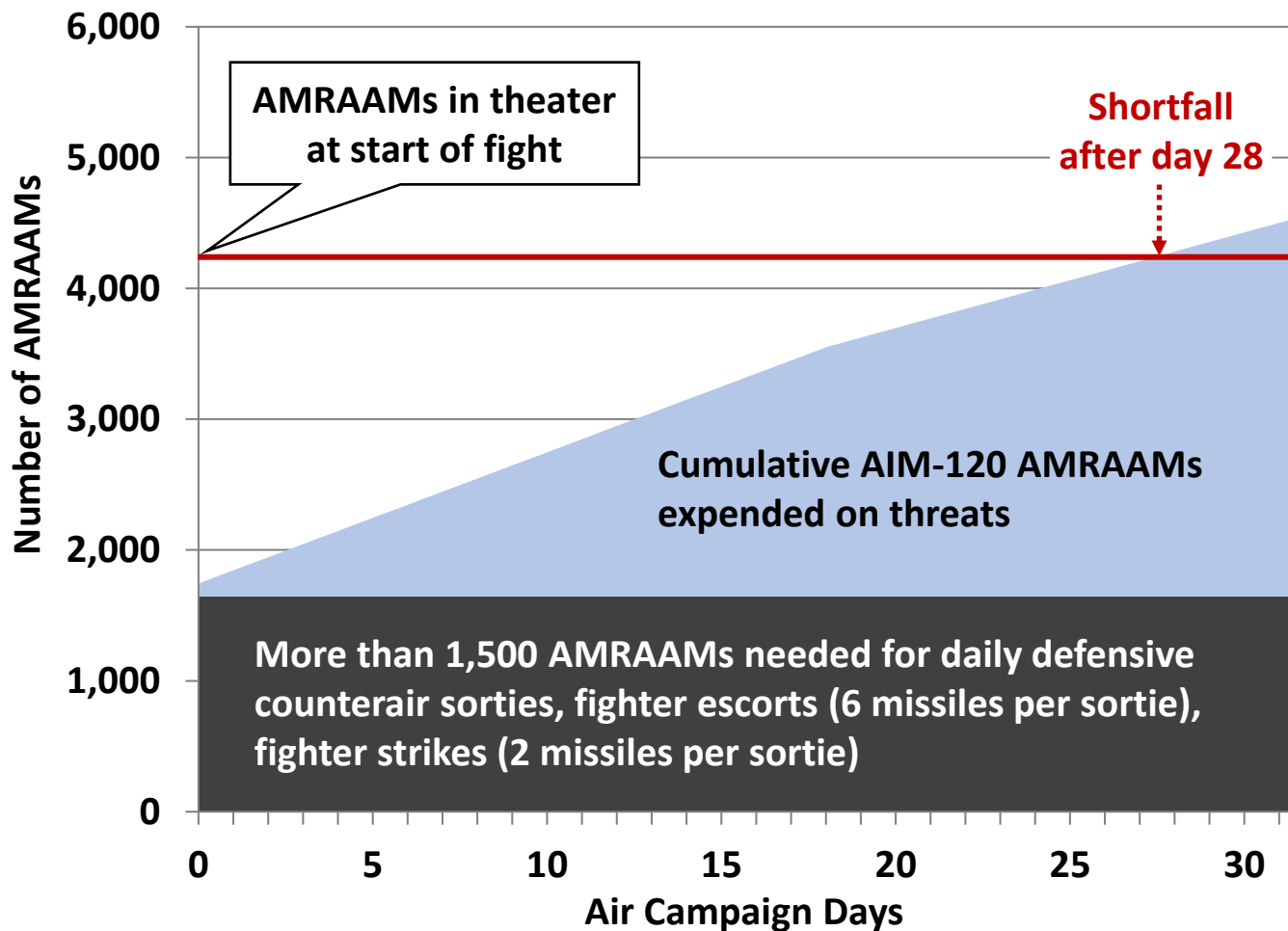
Long-Range Anti-Ship Missile (LRASM)

Assumptions for this example:

- B-52s are the only combat aircraft delivering JASSM/LRASM
  - Each B-52 carries only 12 JASSM/LRASM per sortie (external carry only)
  - B-52s have an 80% mission capable rate
- Entire inventory of JASSM & LRASM in theater depleted in less than 14 days by B-52s
  - Other aircraft would also use JASSM/LRASM – this would accelerate inventory depletion



# Not just platforms ...



Same future China-Taiwan *fait accompli* denial campaign as the previous example

USAF requirements would outstrip AMRAAM inventory in theater by Day 28

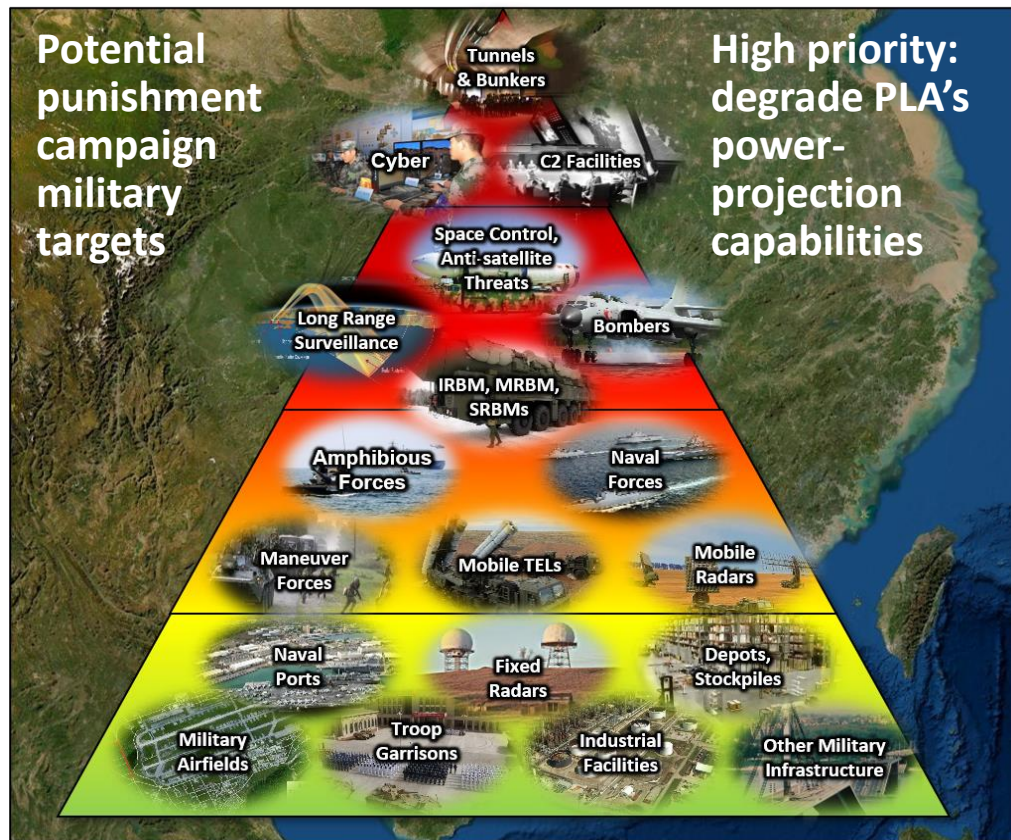
Replenishing AMRAAM stocks from other theaters would impact deterrence and other global mission requirements



# Recommendation: The 2022 NDS should hedge against a protracted war with China

- DOD's theory of victory should hedge against a Chinese decision to continue their offensive with the intent to exhaust the U.S. military
- U.S. forces should be sized to conduct a punishment operation if required after a successful *fait accompli* denial
  - The ability to inflict costs that China considers unacceptable would enhance deterrence

**The Air Force, Space Force, and Navy would be the predominant force providers for a punishment campaign against China**



- 5th gen fighters & bombers, penetrating ISR
- Next-gen counterair systems to deny China control of the air
- USVs & UAVs including low-cost attritables for teaming ops
- EW to suppress area-denial threats and dominate the EMS
- Offensive cyber, offensive space, space domain awareness
- Increased PGM stocks including anti-ship weapons





# Risk: Sizing and shaping the force for one war creates opportunities for a second aggressor

Competition	War
Defend the Homeland	Defend the Homeland
Deter Nuclear & Non-Nuclear Strategic Attack	Deter Nuclear & Non-Nuclear Strategic Attack
Deter Aggression in Three Regions	Defeat Aggression by a Major Power
Degrade Terror & WMD Threats	Deter Opportunistic Aggression in Second Theater
Defend U.S. Interests before Armed Conflict	Disrupt Terror & WMD Threats

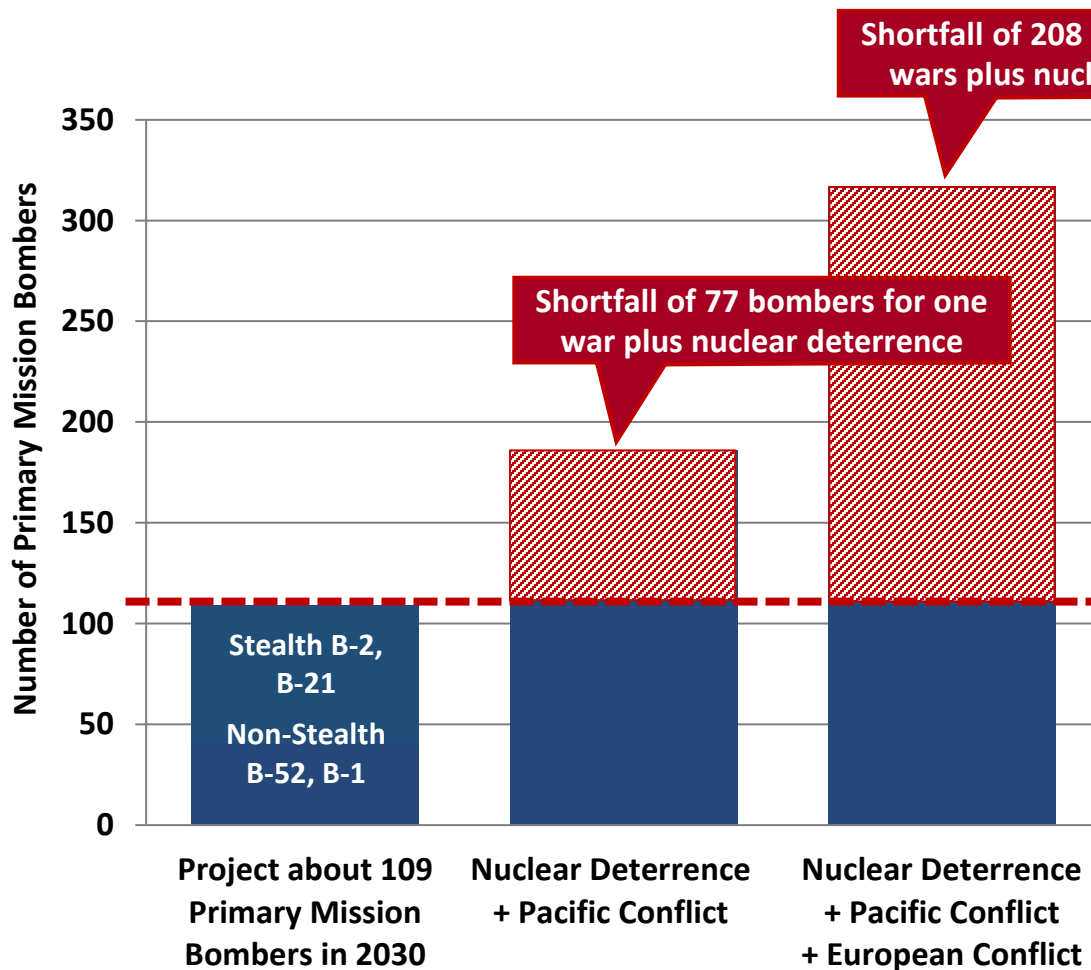


From 1990 to 2018 DOD maintained a two-war planning construct

“We do not want a potential aggressor in one region to be tempted to take advantage if we are already engaged in halting aggression in another” *(DOD 1993 Bottom-Up Review)*



# Example: Long-range strike shortfalls may be the USAF's most significant capacity gap

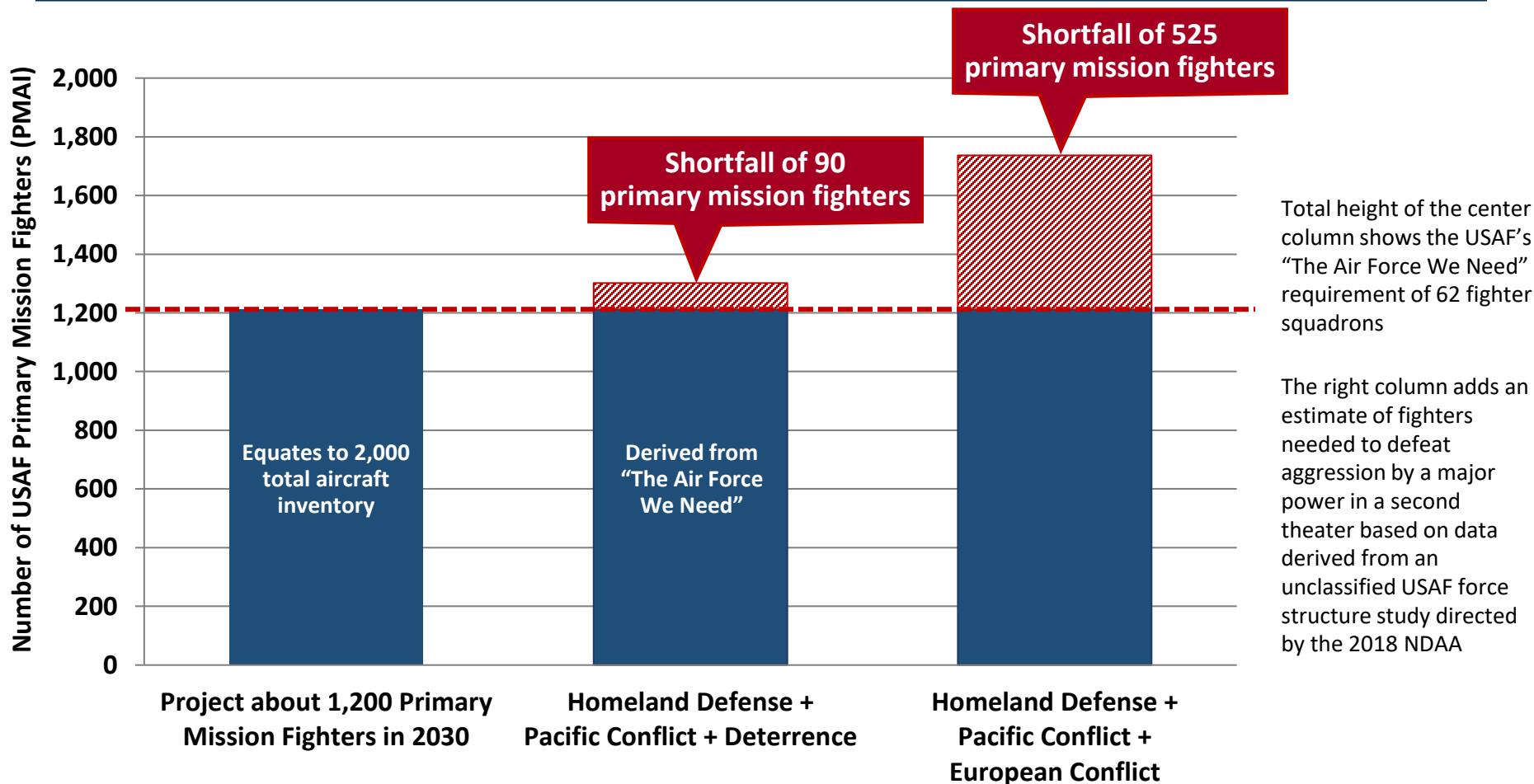


- Current bomber force size falls short of requirement for 1 peer conflict plus nuclear deterrence – more than twice that shortfall for two wars
- Unlike in the past, it would be difficult to “swing” bombers from one conflict to a second fight in another theater

- The USAF must add 5 bomber squadrons by 2030 to meet requirements and eventually grow the force to include at least 240 stealth bombers



# Similar story for the USAF's fighter force



Total height of the center column shows the USAF's "The Air Force We Need" requirement of 62 fighter squadrons

The right column adds an estimate of fighters needed to defeat aggression by a major power in a second theater based on data derived from an unclassified USAF force structure study directed by the 2018 NDAA

- **A major concern: will the future USAF "high-low" force mix have sufficient 5<sup>th</sup> gen stealth fighters to fight (or even credibly deter) a second peer aggressor?**
  - Future force in this example is 44% 5<sup>th</sup> gen, today is only 20% 5<sup>th</sup> gen, 80% legacy



# Recommendation: DOD as a whole should have a two-war force, not every service

- Would better deter and hedge against a second peer aggressor (or even a rogue state) would take advantage of a U.S. military fully engaged in another theater
- Determine pacing scenarios each service must use to size and shape its future force based on predominate forces needed for peer conflicts

**Air Force:** size to defeat both Chinese and Russian aggression; forces critical to defeating *fait accompli* threats in both regions

**Navy and Marine Corps:** size primarily to deter/defeat Chinese aggression in the Indo-Pacific

**Army:** size primarily to deter/defeat Russian aggression against NATO





## **Risk: Joint Warfighting Concepts could support spending on excessively redundant capabilities**

- **In order to be useful for planners and programmers, operating concepts should:**
  1. Address how the U.S. military will operate differently in the future
  2. Inform cross-service and cross-domain tradeoffs to help maximize DOD's combat power as a whole
  3. Have buy-in from those who will use them to inform DOD's requirements and resource priorities
- **A Joint Warfighting Concept that is the product of a consensus-driven doctrine development process will likely fall short of some of these criteria**
  - Ladened with each of the service's equities to protect their programs of record
  - Increases risk DOD will waste resources on excessively redundant programs desired by multiple services and exacerbate existing shortfalls for other mission areas (like airbase defense)



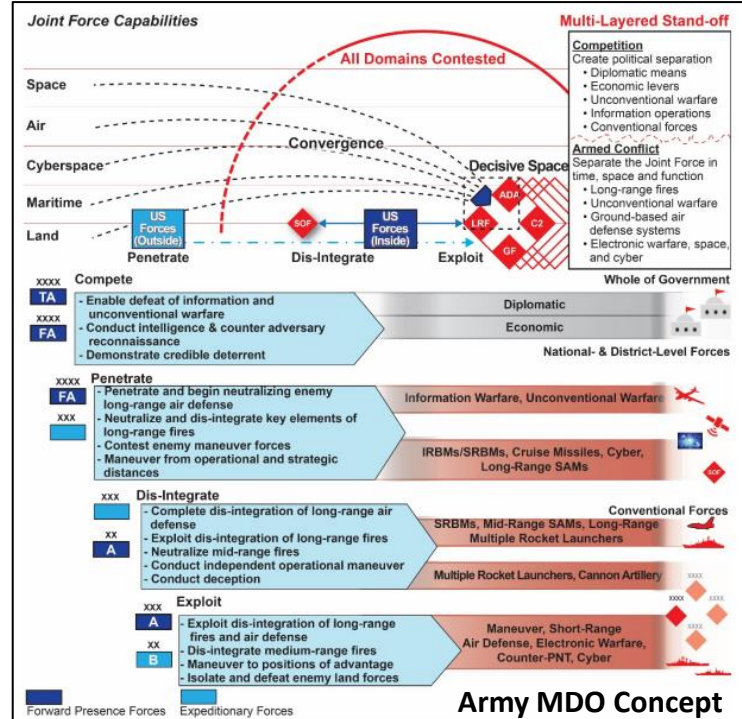
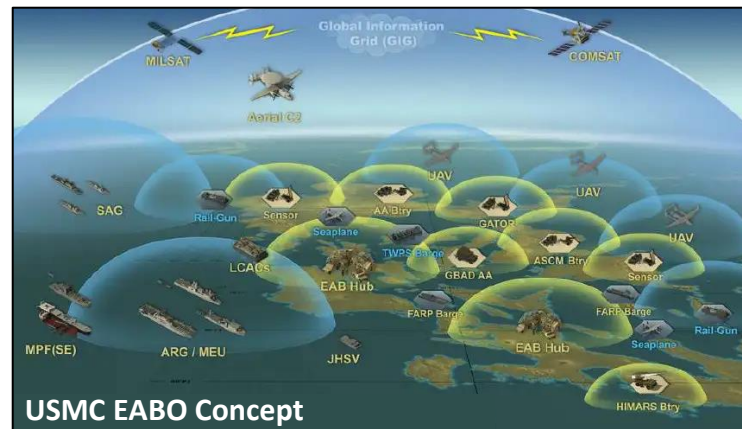
*"Each service is going to have the ability to do defense as well as long-range strike, from their own formations."*

VCJCS General John Hyten on the draft Joint Warfighting Concept



# The 2018 NDS stressed the need to create new, innovative operating concepts

- Operating concepts describe objectives military forces should achieve and how they should be organized and employed to achieve them
- Each service has developed their own concepts for future peer conflict
  - Joint Staff is developing a Joint Warfighting Concept for all-domain warfare
- Significant commonality across concepts:
  - Based on 2018 NDS planning assumptions
  - Integrate operations across all domains, including space, cyberspace, and EMS
  - Must generate combat power from inside contested areas
  - Conduct dispersed operations to increase survivability, disadvantage enemy
  - Most require significant resource growth





# Service strategies/concepts inform their future planning forces

- “Planning forces” are independent service assessments of what they believe is needed to support the NDS; they also create competing demands for more resources

**“Battle Force 2045,” 546 ships (84% growth including unmanned)**

Navy	Current		2045
Aircraft carriers	11	⚖️	11
Big deck amphibious ships	10	↓	9
Other amphibious ships	23	↑	57
Large surface combatants	91	↓	74
Small surface combatants	30	↑	66
Attack submarines	54	↑	72
Ballistic missile submarines	14	↓	12
Combat logistics force	29	↑	69
Support vessels	34	↓	33
Unmanned surface vehicles	0	↑	119
Unmanned underwater vehicles	0	↑	24

**“Force Design 2030,” divest “2nd land army” capabilities**

USMC	Current		2030
Active component infantry battalions	24	↓	21
Cannon artillery batteries	21	↓	5
Rocket/missile artillery batteries	7	↑	21
Tank companies	7	↓	0
Light armored recon companies	9	↑	12
Assault amphibian companies	6	↓	4
Fighter/attack squadrons	18	⚖️	18
Medium tiltrotor squadrons	17	↓	14
Heavy lift helicopter squadrons	8	↓	5
Light attack helicopter squadrons	7	↓	5
Aerial refueler transport squadrons	3	↑	4
Unmanned aerial vehicle squadrons	3	↑	6
Bridging companies	3	↓	0

**“The Air Force We Need” 386 operational squadrons (24% growth)**

Air Force	Current		2030
Airlift squadrons	53	↑	54
Bomber squadrons	9	↑	14
Combat search & rescue squadrons	27	↑	36
C2ISR squadrons	40	↑	62
Cyber squadrons	18	⚖️	18
Fighter squadrons	55	↑	62
Missile squadrons	9	⚖️	9
Remotely piloted aircraft squadrons	25	↑	27
Space squadrons	16	↑	23
Special operations forces squadrons	20	↑	27
Tanker squadrons	40	↑	54

- OSD traditionally assesses planning forces on a service-by-service basis instead of determining the size and capabilities mix of the future joint force as a whole



# Recommendation: Need all-domain warfighting concepts that maximize DOD's future combat power

Cost-per-effect analyses must inform new all-domain operating concepts and acquisition priorities

### Costs included:

- Cost of expended munitions
- Cost to acquire new long-range fires battery & stealth bomber
- 30-year operating and support costs for each system

### Not included:

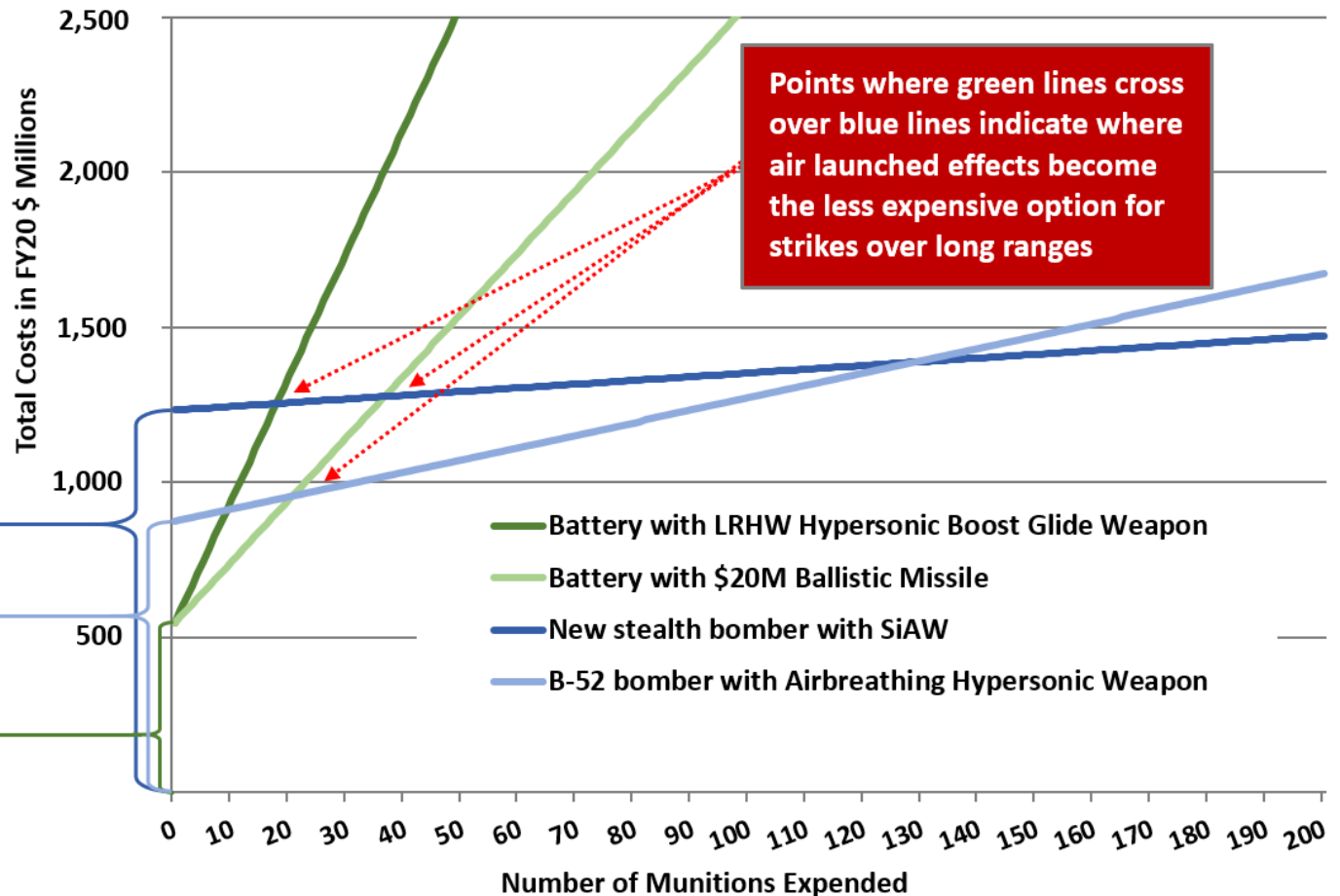
- Excludes cost of C2ISR network that provides target data to ground battery and cost of logistics to support battery deployed to a theater

**Starting point:** cost to acquire new stealth bomber then operate & sustain it for 30 years

**Starting point:** cost to operate and sustain B-52 for 30 years

**Starting point:** cost to acquire new long-range fires battery then operate & sustain it for 30 years

## Comparing cost effectiveness of long-range strike alternatives







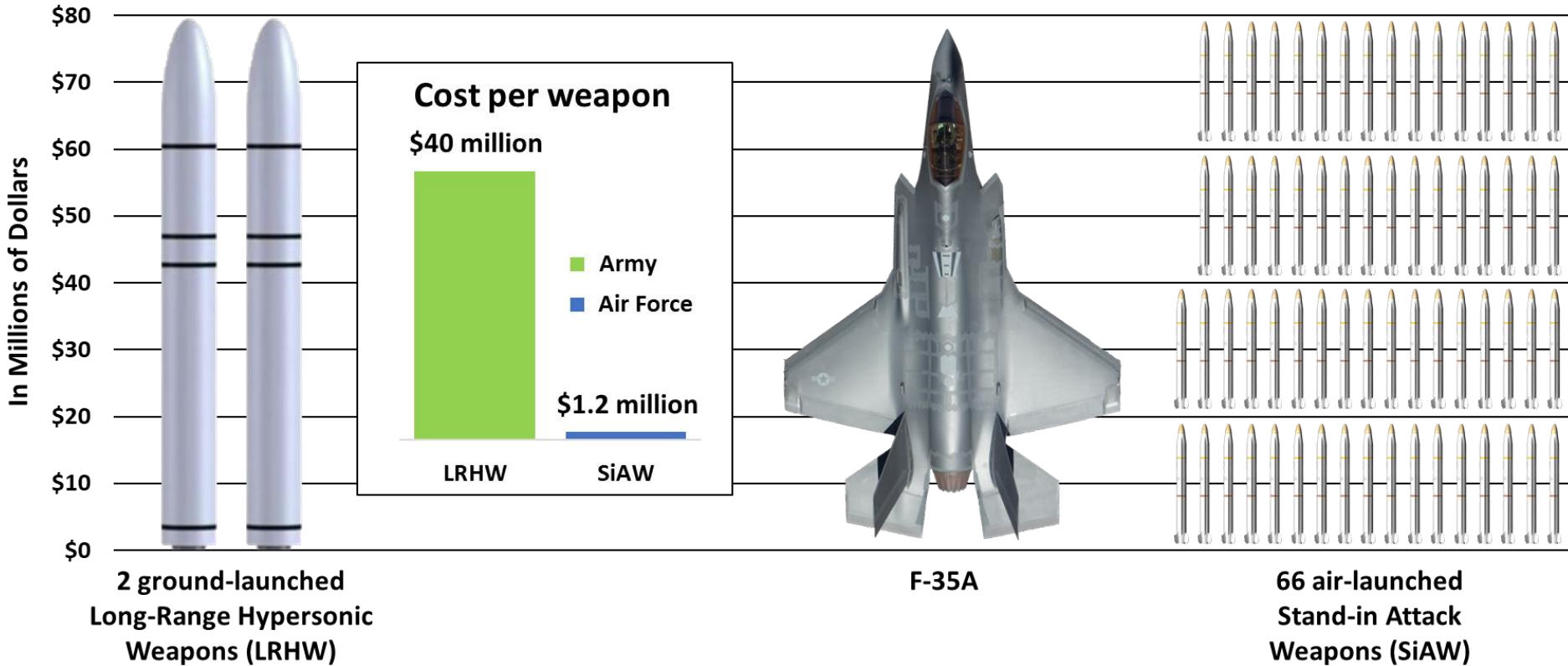
# Cost-per-effect analyses should inform force structure and capability tradeoffs

\$80 million for  
2 weapons

\$80 million for a  
reusable 5<sup>th</sup> gen fighter

or

\$80 million for  
66 weapons





# Summary of recommendations for the 2022 NDS

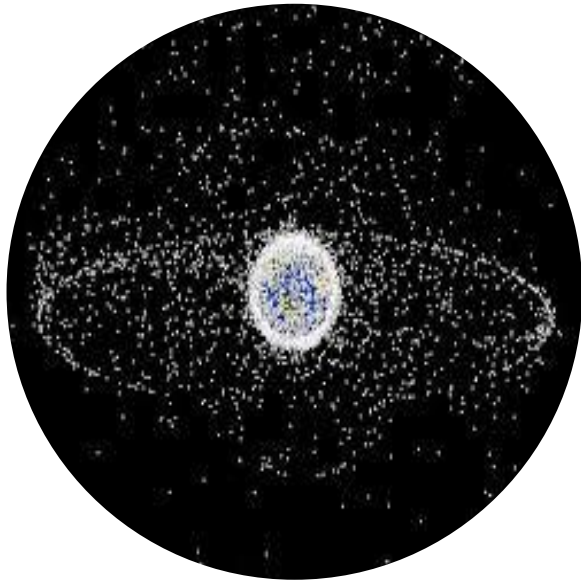
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- **U.S. theory of victory should hedge against a Chinese decision to continue operations to exhaust the U.S. military**
  - Sizing and shaping the force for a *fait accompli* denial plus a follow-on punishment operation would enhance deterrence and reduce risk that China would take advantage of an undersized U.S. military
  - Will require additional air, naval, and possibly space and cyber capabilities
- **Return to a 2-war force sizing construct to deter / hedge against a second opportunistic aggressor**
  - DOD as a whole should have a 2-war force
  - Differentiate how each service should size and shape based on predominate forces needed in Europe and the Indo-Pacific
- **DOD senior civilian and military leadership should be directly involved in the development and approval of all-domain warfighting concepts**



# Need a focused review of service roles & missions to inform all-domain warfighting concept development

Complete review at the front end of the concept development process



*Consolidating space roles & missions from other services*



*Future long-range strike force providers*



*Responsibility for airbase air and missile defense*

**DOD senior civilian and military should lead development of all-domain concepts used to assess cross-service/cross-domain priorities**



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