



INSTITUTE FOR DEFENSE ANALYSES

**Building a Lethal Workforce Cost  
Effectively: Helicopter Pilots as a Case  
Study (Conference Presentation)**

Stanley A. Horowitz

April 2018

Approved for public release;  
distribution is unlimited.

IDA Document NS D-9044

Log: H 18-000147

INSTITUTE FOR DEFENSE ANALYSES  
4850 Mark Center Drive  
Alexandria, Virginia 22311-1882



*The Institute for Defense Analyses is a non-profit corporation that operates three federally funded research and development centers to provide objective analyses of national security issues, particularly those requiring scientific and technical expertise, and conduct related research on other national challenges.*

**About this Publication**

The views, opinions, and findings should not be construed as representing the official position of either the Department of Defense or the sponsoring organization.

**For More Information:**

Stanley A. Horowitz, Project Leader  
[shorowit@ida.org](mailto:shorowit@ida.org), (703) 575-4685

David J. Nicholls, Director, Cost Analysis and Research Division  
[dnicholl@ida.org](mailto:dnicholl@ida.org), (703) 575-4991

**Copyright Notice**

© 2018 Institute for Defense Analyses, 4850 Mark Center Drive, Alexandria, Virginia 22311-1882  
(703) 845-2000.

This material may be reproduced by or for the U.S. Government pursuant to the copyright license under the clause at DFARS 252.227-7013 (a)(16) [Jun 2013].

## **Executive Summary**

---

This document considers whether and how the military workforce can be used more efficiently. Specifically, it examines inter-Service differences in staffing philosophy to address possible adoption by the other Services of the Army's approach to its helicopter pilot workforce, where over half of pilots (who are warrant officers) spend the overwhelming majority of their careers flying. Our research finds that such adoption could lead to training costs being reduced by over \$100 million per year. Pilot inventories could also be reduced or pilot shortfalls ameliorated.



# **Building a Lethal Workforce Cost Effectively: Helicopter Pilots as a Case Study**

Stanley Horowitz

**Western Economic Association Conference**

**June 2018**

# **Challenge: Meet total force manpower demands to deliver operational/ support capabilities without unnecessary cost**

Workforce rationalization plan, statutes, policies say:

if a requirement is not military-essential, it should be met by government civilians if inherently governmental/critical, and the most economic solution (government civilian or contracted services)

If a requirement is military-essential, it should be met by Service members who can deliver required operational capabilities as affordably as possible

# Underlying issue is how to maximize the operational contribution of military personnel while minimizing unnecessary expense

Officers spend many years being prepared for higher positions through education and staff assignments

This is critical for developing leaders, but there is an opportunity cost. Should all do it?

For pilots, more time spent in leader development means fewer flying hours per pilot (thus less proficiency), plus more pilots are needed overall

Means more pilots must be acquired, trained, and retained

We will examine helicopter pilots as a case study

Insights may have implications for other pilot communities: fixed wing, Navy Flight Officers (NFOs), Unmanned Aerial System (UAS) operators

# Background on helicopter pilots

All Services have helicopter pilots

There is variation in staffing policy: the Army uses a mix of warrant officers (WOs) and regular line officers (RLOs)

Air Force, Navy, and Marine Corps use only RLOs

No Service uses enlisted pilots

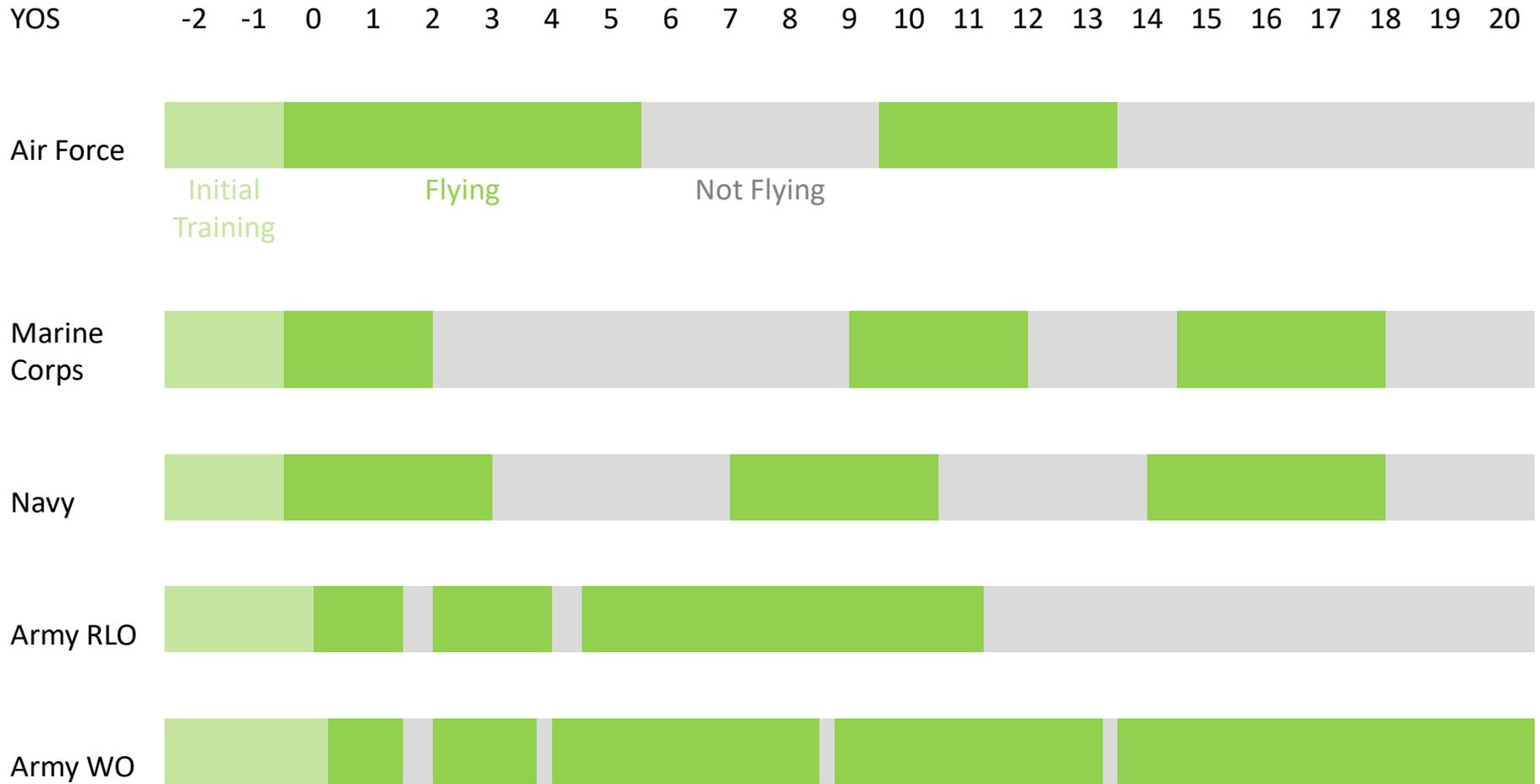
Only the Army does not require fixed-wing training

FY 15 Pilot Counts using Primary MOS Identifier				
Army WO	Army RLO	USMC	Navy	USAF
4,500	4,000	1,800	1,500	600

**Issue: Can we fill helicopter pilot seats with increased or same capability but at lower cost?**

**Key observation:** RLOs spend less time flying than WOs; after 10 years of service (YOS), RLOs spend little time flying. Implies higher training costs, lower proficiency, and larger pilot inventory requirement.

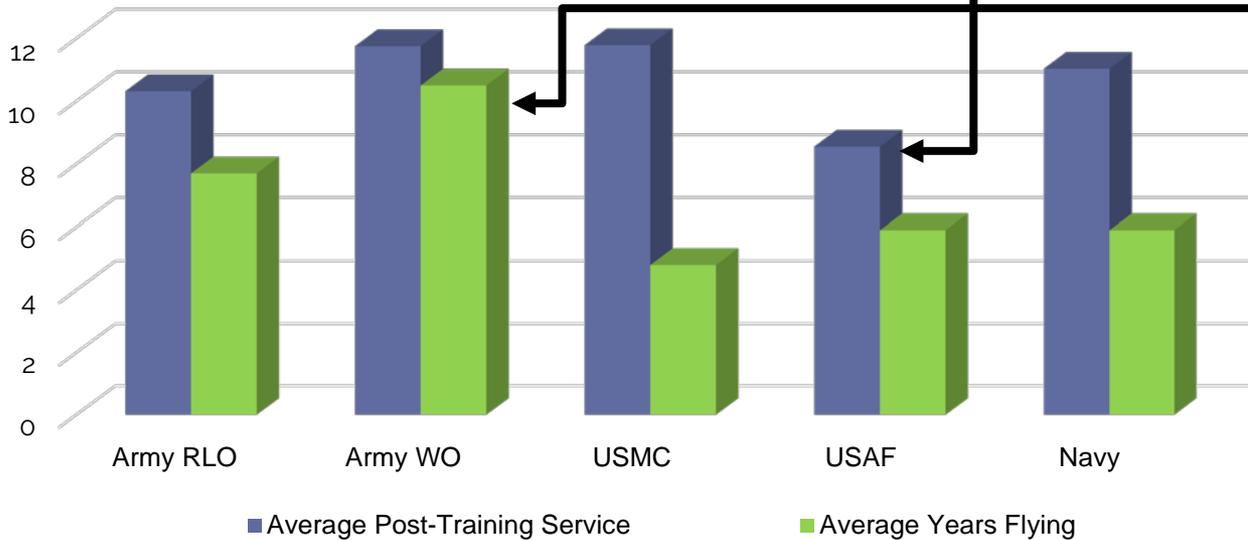
# These illustrative timelines for 20-year careers show the differences in career management philosophies



**But, most pilots don't stay for 20-year careers**

# Warrant officers tend to have longer service – and fly more

Years of Service by Service/ Component



USAF pilots have shorter careers, fly 69% of the time

Army WO pilots fly 90% of the time; provide more flying years per pilot

	Army RLOs	Army WOs	USAF	USMC	Navy
Training cost per flying year	97,000	70,500	160,000	197,500	160,000

# The warrant officer career management model could save a substantial amount in training costs

	Number of pilots	Fraction of time flying	Number of Pilots flying	Training Costs (\$M/year)		
				Current	Following WO model	Percent savings
Army RLOs	4,000	0.75	3,000	289	212	27%
Army WOs	4,500	0.9	4,050	287	287	0%
Air Force	600	0.69	414	66	37	44%
USMC	1,800	0.4	720	142	65	54%
Navy	1,500	0.54	810	130	73	44%
Total DoD	12,400		8,994	902	667	26%

All RLOs prepare for leadership roles

Some pilots must be on the leadership track and fill non-flying positions required for experience/perspective...

perhaps not all

# Cost implications of shifting other Services to Army's dual-track management strategy for helicopter pilots

47% of Army pilots are on leadership track

If other Services mirrored that ratio, their flying billets could be filled by a 30% smaller pilot force

Impact of dual-track management strategy on pilot requirements						Annual training cost (\$M)	
With 47% on leadership track							
	Flying billets	Number on leadership track	Number on flying track	Total pilots	Current total pilots	Current cost	With 47% on leadership track
USAF	414	243	274	517	600	66	41
USMC	720	509	574	1,083	1,800	142	86
Navy	810	521	587	1,108	1,500	130	93
Total	1,875	1,273	1,435	2,708	3,900	338	220

3-Service annual training cost saving of one-third (\$118 million)

Reduction in the pilot force could save \$180 million per year or provide officers for other critical activities

Potential saving over the FYDP: **\$1.5 billion**

Extending concept to fixed-wing pilots/NFOs/UAS operators would yield much greater savings

# Helo operational capability can be provided more affordably, freeing funds for warfighting, capitalization

## The way ahead could include:

Navy, Air Force, and Marine Corps could use some WO pilots – Navy tried this, canceled program while stating that they produced “quality aviators”

Institute a flying officer track in Navy, Air Force, and Marine Corps – issue of appropriate pay/promotion

Extend this analysis to fixed-wing pilots, NFOs, UAS operators – potential major impact

Consider enlisted pilots, as Air Force has done for UAS

Consider civilian pilots in non-military-essential roles

Helo case study must be taken in context. Many moving parts, including increasing demand for UAS operators, overall pilot shortfalls, training bottlenecks, cultural bias, etc.

**IDA**

The logo consists of the letters 'IDA' in a bold, black, serif font. Below the letters is a thick, dark red horizontal bar that tapers slightly to the right.

**REPORT DOCUMENTATION PAGE**

*Form Approved  
OMB No. 0704-0188*

The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

**PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.**

<b>1. REPORT DATE</b> ( <i>DD-MM-YYYY</i> )	<b>2. REPORT TYPE</b>	<b>3. DATES COVERED</b> ( <i>From - To</i> )
---	-----------------------	--

<b>4. TITLE AND SUBTITLE</b>	<b>5a. CONTRACT NUMBER</b>
	<b>5b. GRANT NUMBER</b>
	<b>5c. PROGRAM ELEMENT NUMBER</b>

<b>6. AUTHOR(S)</b>	<b>5d. PROJECT NUMBER</b>
	<b>5e. TASK NUMBER</b>
	<b>5f. WORK UNIT NUMBER</b>

<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b>	<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>
---	---

<b>9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b>	<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b>
	<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>

**12. DISTRIBUTION/AVAILABILITY STATEMENT**

**13. SUPPLEMENTARY NOTES**

**14. ABSTRACT**

**15. SUBJECT TERMS**

<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b>	<b>18. NUMBER OF PAGES</b>	<b>19a. NAME OF RESPONSIBLE PERSON</b>
<b>a. REPORT</b>	<b>b. ABSTRACT</b>	<b>c. THIS PAGE</b>			<b>19b. TELEPHONE NUMBER</b> ( <i>Include area code</i> )

