DCN: 8221

CITY OF MONTEREY
CITY MANAGER'S OFFICE

TO: Ray S. Carroll, Jr., BRAC Senior Analyst, Review and Analysis

FROM: Fred Meurer, City Manager

DATE: July 26, 2005

SUBJECT: BRAC Costing Data

Syd,

Attached is the square footage by use category by installation and our estimate of the cost of replicating in Dayton, Ohio using Means estimating guide and additional data regarding buildable acreage at NPS. I am also including a Point paper and supporting documents addressing unique aspects of the NPS student body, curriculum and costs.

To start addressing DLI, I have attached the DLI Command Briefs for the installation and mission. The final document is a copy of the Army Audit Agency audit of the City's doing base ops for the Presidio/DLI.

Fred Meurer

Attachments

Cost Estimating Methodology
DLI/NPS Mission Facilities Built
In Dayton, Ohio

The estimated cost to construct facilities in Dayton Ohio needed to continue the mission of the Defense Language Institute and Naval Post Graduate School is $1,098,946,900 as a low and $1,824,417,800 as a high with the median probable cost being $1,385,273,700.

Total square footages of existing facilities at the Defense Language Institute, Naval Post Graduate School, Fort Ord Family Housing, and the Navy's La Mesa Housing Area were determined from available information.

The construction estimate for this includes planning, design, site development, infrastructure improvements, building construction costs, construction support, and contingencies. Not included in the estimate is any funding required for land acquisition and non-mission essential facilities. These were assumed to already be available.

Unit prices were drawn from RS Means Construction Data for the Dayton, Ohio area. An appropriate unit price was selected for each type of building to be constructed based on building function.

Costs were escalated to the midpoint of construction based on the ENR Building Cost Index. An inflation factor of 7.5% per year was used based on the average rate of the ENR Building Cost Index for Cincinnati, Ohio over the past 36 months. The midpoint of construction was set at October 2008 to comply with the mandatory six-year relocation time frame.

Attachments:
Category of Use Summary Estimate Sheets
Building Inventory by Square Footage

I CERTIFY THAT this information is true and correct.

Dated: 25 July 05

Fred Meurer, City Manager

ADELINE OBESO FLORES
Commission # 1414334
Notary Public - California
Monterey County
My Comm. Expires Apr 28, 2007

Adeline Obeso Flores, Notary

BUILDING CONSTRUCTION COSTS				
PRESIDIO OF MONTEREY		**LOW**	**MEDIAN**	**HIGH**
General Instruction Building	**601,305**	$ 99,816,700	$ 116,653,200	$ 144,313,200
Administration General Purpose	**139,845**	$ 10,348,600	$ 13,425,200	$ 17,340,800
Enlisted Barracks	**690,953**	$ 52,512,500	$ 77,386,800	$ 93,969,700
Billeting	**48,345**	$ 2,949,100	$ 4,109,400	$ 5,366,300
Dinning Facilities	**18,165**	$ 1,980,000	$ 2,488,700	$ 3,178,900
Morale & Welfare & Medical Support Buildings	**140,664**	$ 11,667,900	$ 15,386,000	$ 19,487,900
Technical & Educational Support Buildings	**128,050**	$ 12,933,100	$ 16,902,600	$ 22,536,800
Maintenance & General Support Buildings	**22,586**	$ 858,300	$ 1,151,900	$ 1,626,200
Housing	**2,624,000**	$ 212,544,000	$ 275,520,000	$ 388,352,000
Grand Total GSF	**4,467,247**			
Construction Cost (January 2005)		$ 405,610,200	$ 523,023,800	$ 696,171,800
15.00% Site Improvement		$ 60,841,600	$ 78,453,600	$ 104,425,800
15.00% Street and Utility Improvement		$ 60,841,600	$ 78,453,600	$ 104,425,800
7.50% Adjusted Costs (October 2008) @ +7.5/year		**$ 527,293,400**	**$ 679,931,000**	**$ 905,023,400**
6.00% Site Planning (Planning + Surveying)		$ 31,637,700	$ 40,795,900	$ 54,301,500
6.00% Design (Engineering and Architecture)		$ 31,637,700	$ 40,795,900	$ 54,301,500
5.00% Construction Support + Management		$ 26,364,700	$ 33,996,600	$ 45,251,200
10.00% Construction Contigency		$ 52,729,400	$ 67,993,100	$ 90,502,400
***CONSTRUCTION COST (ARMY)**		**$ 669,662,900**	**$ 863,512,500**	**$ 1,149,380,000**
NAVAL POSTGRADUATE SCHOOL				
Housing	**833,439**	$ 68,803,200	$ 89,419,000	$ 125,665,700
Support Buildings	**225,193**	$ 22,744,500	$ 29,725,500	$ 39,634,000
Teaching and Research	**1,014,859**	$ 168,466,600	$ 196,882,700	$ 243,566,200
Grand Total GSF	**2,073,491**			
Construction Cost (January 2005)		$ 260,014,300	$ 316,027,200	$ 408,865,900
15.00% Site Improvement		$ 39,002,200	$ 47,404,100	$ 61,329,900
15.00% Street and Utility Improvement		$ 39,002,200	$ 47,404,100	$ 61,329,900
7.50% Adjusted Costs (October 2008) @ +7.5/year		**$ 338,018,700**	**$ 410,835,400**	**$ 531,525,700**
6.00% Site Planning (Planning + Surveying)		$ 20,281,200	$ 24,650,200	$ 31,891,600
6.00% Design (Engineering and Architecture)		$ 20,281,200	$ 24,650,200	$ 31,891,600
5.00% Construction Support + Management		$ 16,901,000	$ 20,541,800	$ 26,576,300
10.00% Construction Contigency		$ 33,801,900	$ 41,083,600	$ 53,152,600
***CONSTRUCTION COST (NAVY)**		**$ 429,284,000**	**$ 521,761,200**	**$ 675,037,800**
***TOTAL CONSTRUCTION COST**		**$ 1,098,946,900**	**$ 1,385,273,700**	**$ 1,824,417,800**

*Notes:
Includes design, site development, and construction costs only. Costs for land acquisition is not included.
Unit prices were derived from the RSMeans Construction database for Dayton, Ohio.
Adjusted Cost: Annual increase of 7.5% based on the ENR Cost Index (Cincinatti) over the last 36-month period.

Presidio of Monterey			**BUILDING CONSTRUCTION COSTS**		
GENERAL INSTRUCTION BLDG.			LOW	MEDIAN	HIGH
204	Gen Instr Bldg	4,780			
205	Gen Instr Bldg	4,780			
206	Gen Instr Bldg	4,780			
207	Gen Instr Bldg	4,780			
209	Gen Instr Bldg	9,499			
210	Gen Instr Bldg	6,825			
211	Gen Instr Bldg	9,434			
212	Gen Instr Bldg/AAFES, Snack Bar	11,704			
213	Gen Instr Bldg	9,472			
214	Gen Instr Bldg	6,161			
215	Gen Instr Bldg	9,020			
216	Gen Instr Bldg	8,326			
218	Gen Instr Bldg	6,131			
221	Gen Instr Bldg	8,754			
267	Gen Instr Bldg/Smart Class/Eng Maint.	12,406			
326	Gen Instr Bldg	18,403			
450	Gen Instr Bldg	10,235			
451	Gen Instr Bldg	7,600			
452	Gen Instr Bldg	7,424			
453	Gen Instr Bldg	10,334			
610	Gen Instr Bldg	74,658			
611	Gen Instr Bldg	30,600			
619	Gen Instr Bldg	22,918			
620	Gen Instr Bldg	39,737			
621	Gen Instr Bldg	31,990			
623	Gen Instr Bldg	20,412			
624	Gen Instr Bldg	36,897			
631	Gen Instr Bldg	5,682			
632	Gen Instr Bldg	5,533			
634	Gen Instr Bldg	7,185			
635	Gen Instr Bldg	5,682			
636	Gen Instr Bldg	5,682			
637	Gen Instr Bldg	5,683			
848	Gen Instr Bldg	77,977			
LA 1	Larkins School	25944			
MV 2	Monte Vista School	33877			
TOTAL GSF		**601,305**	$ 99,816,700	$ 116,653,200	$ 144,313,200
ADMIN GENERAL PURPOSE					
220	Admin General Purpose	3,714			
228	Admin General Purpose/Outdoor Recreation Ctr	20,501			
254	Admin General Purpose	911			
257	Admin General Purpose	2,262			
272	Admin General Purpose/Gen Instr Bldg	5,658			
274	Admin General Purpose	6,650			
275	Admin General Purpose/Court Room/Law Library	8,943			
276	Admin General Purpose/Substance Abuse Ctr	9,726			
278	Admin General Purpose	571			
339	Admin General Purpose	5,654			
340	Admin General Purpose	5,654			
341	Admin General Purpose	2,485			
614	Admin Gen Purpose/HQ Bldg/Info Sys Process Ctr	27,941			
616	Admin General Purpose/Bn HQ Bldg	20,492			
633	Admin General Purpose	3,287			
830	Admin General Purpose/Co HQ Bldg	7,698			
834	Admin General Purpose/Co HQ Bldg	7,698			
TOTAL GSF		**139,845**	$ 10,348,600	$ 13,425,200	$ 17,340,800
ENLISTED BARRACKS					
622	Enl Brk W/O Din	75,891			
627	Enl Brk W/O Din	75,486			
629	Enl Brk W/O Din	83,698			
630	Enl Brk W/O Din	82,593			
645	Enl Brk W/O Din	23,746			
646	Enl Brk W/O Din	23,746			
647	Enl Brk W/O Din	23,533			
648	Enl Brk W/O Din	23,676			
649	Enl Brk W/O Din	23,533			
650	Enl Brk W/O Din	23,676			
651	Enl Brk W/O Din	23,533			
652	Enl Brk W/O Din	23,533			
829	Enl Brk W/O Dinn	23,746			
831	Enl Brk W/O Din	23,032			
832	Enl Brk W/O Din	23,032			
833	Enl Brk W/O Din	23,032			
835	Enl Brk W/O Din	23,032			
836	Enl Brk W/O Din	22,271			
840	Enl Brk W/O Din/Storage, Gen Purpose	23,132			
841	Enl Brk W/O Din	23,032			
TOTAL GSF		**690,953**	$ 52,512,500	$ 77,386,800	$ 93,969,700

BILLETING					
315	Billeting Break Rm	200			
354 A	Billeting	1,230			
354 B	Billeting	1,230			
356 A	Billeting	1,011			
356 B	Billeting	1,011			
358 A	Biletting	1,126			
358 B	Billeting	1,126			
359	Billeting	1,563			
364	Billeting	1,312			
366	Billeting 3 - story structure	22,024			
367	Billeting 2 - story structure	16,512			
TOTAL GSF		**48,345**	$ 2,949,100	$ 4,109,400	$ 5,366,300
Dinning Facilities					
627	Attached to 627 Enl Brk	4,800			
627A	Kiosk	1800			
838	Enl Pers Din	11,565			
TOTAL GSF		**18,165**	$ 1,980,000	$ 2,488,700	$ 3,178,900
Morale & Welfare & Medical Support Buildings					
208	Theater W/O Dress Rm	4,460	$ 343,500	$ 441,600	$ 655,700
324	Religious Ed Fac	8,340	$ 600,500	$ 784,000	$ 992,500
325	Chapel	3,341	$ 280,700	$ 354,200	$ 461,100
422	Health Clinic/Dental Clinic	25,848	$ 2,429,800	$ 3,101,800	$ 3,954,800
422	Medical Trailer	1,800	$ 169,200	$ 216,000	$ 275,400
454	Rehabilitation Clinic	3,041	$ 285,900	$ 365,000	$ 465,300
518	Aduitorium, Gen Purpose/Admin Gen Purpose/Storag	12,644	$ 1,062,100	$ 1,454,100	$ 2,048,400
842	Physical Fitness Ctr	72,759	$ 5,602,500	$ 7,421,500	$ 9,167,700
843	Recreation Ctr	8,431	$ 893,700	$ 1,247,800	$ 1,467,000
Total GSF		**140,664**	$ 11,667,900	$ 15,386,000	$ 19,487,900
Technical & Educational Support Buildings					
233	Print Plant	9,348			
235	Supply General Whse	34,008			
261	Classroom Support Shop	3,730			
263	Info Sys Process Ctr	9,012			
273	Army Continuing Ed Ctr/Electronic Maint	9,258			
277	DOIM Main Office	9,062			
343	Telephone Exchange Bldg	2,279			
344	DOIM	6578			
418	Tele Video Ctr	8,143			
420	Tele Video Center	5,500			
617	Technical Library	14,577			
618	Photo Lab/ADP Instr Bldg/Gen Instr Bldg	16,555			
Total GSF		**128,050**	$ 12,933,100	$ 16,902,600	$ 22,536,800
Maintenance & General Support Buildings					
105	Storage, Eng Lab	4,906			
219	POM Police Station	6,131			
268	Engr Hsg Maint Shop	4,745			
269	Electrical Shop	3,308			
271	Engr Hsg Maint Key Shop	1,113			
315	Storage General Purpose	225			
609	Guard House at Franklin Gate	58			
	Guard Trailer Private Bolio	300			
	Guard Trailer Taylor St	300			
701	Multi Purpose Athletic Field				
702	Recreation Shelter	1500			
Total GSF		**22,586**	$ 858,300	$ 1,151,900	$ 1,626,200
Housing					
	Base Housing (Fort Ord)	2560000	$ 207,360,000	$ 268,800,000	$ 378,880,000
	Base Housing (DLI)	64000	$ 5,184,000	$ 6,720,000	$ 9,472,000
Total GSF		**2,624,000**	$ 212,544,000	$ 275,520,000	$ 388,352,000
Grand Total GSF		**4,467,247**			
			LOW	**MEDIAN**	**HIGH**
Construction Cost (January 2005)			$ 405,610,200	$ 523,023,800	$ 696,171,800
15.00%	Site Improvement		$ 60,841,600	$ 78,453,600	$ 104,425,800
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7.50%	**Adjusted Costs (October 2008) @ +7.5/year**		**$ 527,293,400**	**$ 679,931,000**	**$ 905,023,400**
6.00%	Site Planning (Planning + Surveying)		$ 31,637,700	$ 40,795,900	$ 54,301,500
6.00%	Design (Engineering and Architecture)		$ 31,637,700	$ 40,795,900	$ 54,301,500
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10.00%	Construction Contigency		$ 52,729,400	$ 67,993,100	$ 90,502,400
***CONSTRUCTION COST (ARMY)**			**$ 669,662,900**	**$ 863,512,500**	**$ 1,149,380,000**

NAVAL POSTGRADUATE SCHOOL					
Housing					
	Base Housing (NPS)	33439	$ 2,708,600	$ 3,511,100	$ 4,949,000
	Base Housing (La Mesa)	800000	$ 64,800,000	$ 84,000,000	$ 118,400,000
	Barracks (NPS)	17034	$ 1,294,600	$ 1,907,900	$ 2,316,700
Total GSF		**833,439**	$ 68,803,200	$ 89,419,000	$ 125,665,700
Support (NPS)					
171-77		1,764			
219-10		13,200			
219-30		1,600			
441-10		16,302			
540-10		2,852			
610-10		23,382			
721-11		17,034			
724-12		52,035			
730-83		10,530			
740-09		206			
740-43		21,620			
740-60		31,211			
740-89		5,529			
Common Spaces		27,928			
Total GSF		**225,193**	$ 22,744,500	$ 29,725,500	$ 39,634,000
Teaching and Research (NPS)					
171-10		345,758			
171-20		152,214			
171-25		12,292			
171-77		7,072			
310-23		35,594			
310-37		10,080			
610-10		37,655			
610-20		12,009			
610-77		101			
Common Spaces		402084			
Total GSF		**1,014,859**	$ 168,466,600	$ 196,882,700	$ 243,566,200
Grand Total GSF		**2,073,491**			
Construction Cost (January 2005)			$ 260,014,300	$ 316,027,200	$ 408,865,900
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7.50%	**Adjusted Costs (October 2008) @ +7.5/year**		**$ 338,018,700**	**$ 410,835,400**	**$ 531,525,700**
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*Notes:
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Unit prices were derived from the RSMeans Construction database for Dayton, Ohio.
Adjusted Cost: Annual increase of 7.5% based on the ENR Cost Index (Cincinatti) over the last 36-month period.

JURAT

State/Commonwealth of California

County of Monterey

} ss.

Subscribed and sworn to (or affirmed) before me this 25th (Date) day of July (Month), 2005 (Year), by

(1) Fred Meurer
Name of Signer #1

(2) _____
Name of Signer #2

ADELINE OBESO FLORES
Commission # 1414334
Notary Public - California
Monterey County
My Comm. Expires Apr 28, 2007

Adeline Obeso Flores
Signature of Notary Public

Adeline Obeso Flores
Other Required Information (Printed Name of Notary, Residence, etc.)

Place Notary Seal and/or Any Stamp Above

OPTIONAL

Though the information in this section is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Cost Estimating Methodology...

Document Date: July 25, 2005 Number of Pages: 5

Signer(s) Other Than Named Above: -0-

RIGHT THUMBPRINT OF SIGNER #1	RIGHT THUMBPRINT OF SIGNER #2
Top of thumb here	Top of thumb here

From: "Suess, Matt USA" <mesuess@nps.edu>
To: "Dausen, Pete USA" <pgdausen@nps.edu>, "Fred Meurer" <MEURER@ci.monterey.ca.us>, "Fred Cohn" <COHN@ci.monterey.ca.us>, "Les Turnbeaugh" <TURNBEAU@ci.monterey.ca.us>
Date: 7/25/2005 4:29:19 PM
Subject: RE: FW: EE summary spreadsheet.xls

I gave a bad estimate of Del Monte Lake acreage -- it's about 10 acres, vice 20.

I recommend the following estimates:
1. we have area where we have designated for School of International Graduate Studies between Herrmann Hall and DelMonte Ave (will demo Post Ofc & BEQ). (est 2 acres)
2. we have the ballfield area (est 1.5 acres)
3. if consolidation, then we have potential wrt exchange area, ie. question for need for 3 exchanges with 3 gas stations (2 AAFES, 1 NEX) to support 2 campuses... (est 5 acres)
4. we have disturbed area on beachfront (est 2 acres)
5. we have picnic area by Lake DelMonte (est 2 acres)
6. we have area between ADM's house and Lake DelMonte (est 3 acres)
7. we have area between Spanagel Hall, Root Hall, and Meneken Loop; as well as build into the parking lot itself (est 3 acres)

CDR Matt Suess
PWO, Monterey
831-656-2261

-----Original Message-----
From: Dausen, Pete USA
Sent: Monday, July 25, 2005 4:08 PM
To: 'Fred Meurer'; Fred Cohn; Les Turnbeaugh; Suess, Matt USA
Cc: Tulley, Jay USA
Subject: RE: FW: EE summary spreadsheet.xls
Importance: High

Fred,

just got to this email. we had BRAC datacall we are dealing with as well...

wrt acres of buildable space on NPS. it is tight but... for measurement purposes, NPS main campus is 135 acres which includes approx 20 acres of Lake DelMonte. estimates on following land are mine, and rough...
1. we have area where we have designated for School of International Graduate Studies between Herrmann Hall and DelMonte Ave (will demo Post Ofc & BEQ). (est 2-3 acres) 2. we have the ballfield area (est 2-3 acres) 3. if consolidation, then we have potential wrt exchange area, ie. question for need for 3 exchanges with 3 gas stations (2 AAFES, 1 NEX) to support 2 campuses... (est 8-10 acres) 4. we have disturbed area on beachfront (est 2 acres) 5. we have picnic area by Lake DelMonte (est 3-5 acres) 6. we have area between ADM's house and Lake DelMonte (est 6-8 acres) 7. we have area between Spanagel Hall, Root Hall, and Meneken Loop; as well as build into the parking lot itself

(est 1.5-2 acres)

additionally, i would also recommend that areas w/i the former Ft Ord are looked at to include Univ Villages developement as they are designing approx 750K sq ft of educational/light industrial office parks with affordable housing, and two conference areas. i mention UV since they have already rec'd entitlement.

i already talked this over with CDR Suess, so unless he sees something that we missed in our discussion... Matt, feel free to add more or refine estimates...

thanks! hope this helps!

vr, Pete

Peter G. Dausen
Director, Base Operations Support, Campus Planning & Development Svcs
Naval Postgraduate School
1 University Way, Building 220 Rm M4a
Monterey, CA 93943
DSN 756-3037/Com 831-656-3037

-----Original Message-----
From: Fred Meurer [mailto:MEURER@ci.monterey.ca.us]
Sent: Saturday, July 23, 2005 11:03 AM
To: Fred Cohn; Les Turnbeaugh; Dausen, Pete USA
Subject: Re: FW: EE summary spreadsheet.xls

Pete-One more question, actually 2. How many acres of buildable space do you have under Navy/Dod control that could be dedicated to NPS mission expansion if necessary? It was a specific ? Sid Carroll asked me. It is also a military value measure regarding capability to hanle added missions.

>>> Les Turnbeaugh 7/22/2005 5:17:34 PM >>>
Thanks Pete
Freds... I'll have our numbers double checked against Pete's figures Monday A.M. to see if there's much or any changes .

>>> "Dausen, Pete USA" <pgdausen@nps.edu> 07/22/2005 5:09:08 PM >>>
Les, Fred, Fred,

as requested.

please review this data and ensure it provides what you need.

this data will not include housing as we are in housing privatization contract, however, student housing will need to be considered in new location as well.

thanks! vr, Pete

Peter G. Dausen
Director, Base Operations Support, Campus Planning & Development Svcs

Naval Postgraduate School
1 University Way, Building 220 Rm M4a
Monterey, CA 93943
DSN 756-3037/Com 831-656-3037

-----Original Message-----
From: Tulley, Jay USA
Sent: Friday, July 22, 2005 4:56 PM
To: Dausen, Pete USA
Cc: Suess, Matt USA
Subject: EE summary spreadsheet.xls

Mr. Dausen,
Here is the revised list with a second tab which summarizes the square footage.
VR,
JT

CC: "Tulley, Jay USA" <jhtulley@nps.edu>

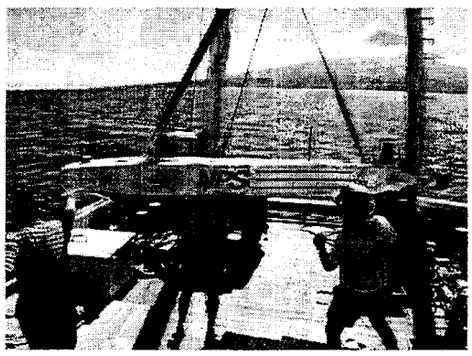
NAVAL POSTGRADUATE SCHOOL

SUPPORT FOR COMBATANT COMMANDERS

and the

OFFICE OF THE SECRETARY OF DEFENSE

The Naval Postgraduate School's unique combination of operationally experienced students and defense-oriented faculty provide a superb setting to conduct interdisciplinary research on complex issues related to national and homeland defense. As such, many of the research and academic programs at NPS relate to the operational level of war. A number of projects at NPS are performed directly for or in support of the various U. S. Combatant Commands, or are conducted side by side the Commands as part of larger integrated field experiments. Other NPS projects support or are supported by the Office of the Secretary of Defense (OSD). While many of these projects are classified, below are some unclassified examples of NPS support to the Commands, Fleets & OSD.



USPACOM
Pacific Command

Campus-Wide Integrated Project to Study Undersea Warfare in the Littoral. Thirteen System Engineering and Analysis students will lead a campus-wide integrated study on the challenges of Undersea Warfare in the Littoral. This work will focus on most challenging threats and will involve coordination with COMPACFLT, ASW Command, and TF ASW.

Campus-Wide Integrated Project to Study Maritime Counter-Terrorism in Southeast Asian waters. Twenty System Engineering and Analysis students are leading a campus-wide integrated study on defeating maritime terrorism and pirate-supported terror in the Southeast Asia waterways. NPS Singapore students will be integrated into this study. PACOM Science Advisor is aware of this project in consonance with PACOM's maritime domain ACTD proposal.

Coalition Operating Area Surveillance & Targeting System (COASTS). Develop and implement low cost, state-of-the-art, unclassified testbeds in partnership with coalition allies to reduce or mitigate border and port security vulnerabilities, and leverage & expand research through other NPS programs. COASTS uses sensors on manned and unmanned platforms, in combination with 802.11 and 802.16 wireless technologies to provide situational awareness overlay. Participants include USPACOM, NSA,US Border Patrol, US Coast Guard, Coalition Partners, Thailand (current), Singapore, Korea & others (proposed).

Southeast Asia Tsunami Relief: Hastily Formed Networks—Phuket & Khao Lok, Thailand. Taking advantage of a pre-arranged visit to Thailand by NPS faculty, NPS was able to support tsunami relief operations "on the fly", providing broadband internet to victims, families, NGOs, local government, media, and volunteers. NPS organized a team of participants from COASTS (a NPS integrated research project), and in-country agencies to set up a hastily formed network ISO tsunami relief. Many lessons were learned and reported. NPS faculty returned in mid-February and mid-March to enhance the network and build in redundant, remote monitoring/imaging capability.

Joint Defender TBMD Modeling. A PC-based operational planning tool for use by area air defense planners is being developed by Operations Research faculty and students. This model was tested in an unclassified Korean scenario and used to aid Naval War College in PACOM CONOPS (Concept of Operations) evaluation. It is being evaluated by NWDC staff for further development.

Unmanned Vehicle TACMEMO Development and Field Experimentation. In addition to TACMEMO (Tactical Memorandum) development for utilizing UAVs in Maritime Missions, NPS faculty and students are designing a field experimentation program with Singapore and Thailand for use of UAVs for ISR.

Regional Security Education Program (RSEP). NPS faculty teach on Carrier Strike Groups and Expeditionary Strike Groups in-transit, delivering graduate level education to forward-deploying forces, to enhance their strategic situational awareness and enable them to understand the regional threat environments in which they operate. Using in-person lectures, direct interaction with regional experts, and a supporting website, RSEP provides strike group Commanders critical and timely regional security knowledge, strategic level perspective, knowledge in support of forward engagement, theater security operations, bilateral/coalition cooperation, improved mission planning and current cultural and societal issues. Past presentations have focused on Middle East, Iraq, NE and SE Asia, DPR Korea, Horn of Africa, and China.

Maritime ISR and Detection (MISRAD). NPS hosted an inter-agency workshop on MISRAD under the auspices of PACOM. The workshop looked at the end-to-end supply chain that moves containers from the overseas manufacturer through the maritime traffic system to ports in the US. The particular focus of MISRAD is on WMD, particularly nuclear devices and special nuclear materials. The MISRAD group brings operators, sensor producers, intelligence professionals, port operators and shippers together to attack this problem from all sides.

Maritime Domain Protection. NPS drafted a proposed National Maritime Domain Protection Architecture with Concept of Operations and Command Structure. NPS also tested the proposal in an interagency/joint war game, developed a MDP Library Base for classified interagency reference, and extended current data mining and fusion techniques and systems based on

requirements generation. We are now examining port infrastructures in support of force protection.

Center for Executive Education (CEE): Development program for transition in USPACOM intelligence. Application of NPS' CEE program to J2/JICPAC leadership and unique theater intelligence management needs. This CEE education program provides frameworks/tools for the leadership team to input to intelligence strategy, implement change, and shape organizational structure and processes.

Center for Civil-Military Relations (CCMR). CCMR supports the PACOM Theater Security Cooperation Plan and the Global War on Terrorism by helping improve U.S. influence in the Asia-Pacific Region in Southeast Asia, the South Pacific, South Asia and Indian Ocean, and Indonesia, Taiwan and Bangladesh in particular. CCMR programs focus on improving access, training and readiness in these regions and developing competent coalition partners. CCMR provides in-residence courses and Mobile Education Teams (MET's) to participating countries, to instruct in Planning Peace Operations; Civil-Military Relations; Democracy: Methods, Techniques & Application; Developing Simulations/Scenario Development Training; Strategic Planning; and Response to Global Terrorism. CCMR contribution to PACOM planning helps establish strategic communications for creating regional dialogue on U.S. security policy in PACOM's area of responsibility.

Concept of Operations (CONOPS)/Tactics/Techniques/Procedures (TTPS) for foreign language/speech translation technologies in a coalition military environment. Research in foreign language and speech translation machine technologies for the Advanced Concept Technology Demonstration (ACTD) titled "Language and Speech Exploitation Resources": (LASER), currently in its fourth year. This research utilizes the LASER ACTD process to study how various foreign language machine translation technologies can be used in a DOD environment, & focuses on the creation of CONOPS and TTPS for the employment of these technology devices in military exercises& ops.

COMTHIRDFLT Science Advisor tour. Richard Kimmel (NPS/IS department) was selected for the Office of Naval Research Science & Technology advisor program, is detailed to COMMANDER THIRD FLEET (C3F), San Diego, CA.

NPS USPACOM Liaison Desk: Provides research support as requested by USPACOM Science Advisor and J39 in support of experimentation. Examples include web based influence operations for exercise COBRA GOLD 04 in conjunction with NPS liaison desk for USPACOM: support, construct and operate a cyber-based capability to support the planning and execution of full-spectrum information operations. NPS developed and provided a fully functional prototype website for implementation during the COBRA GOLD 2004 command post exercise.

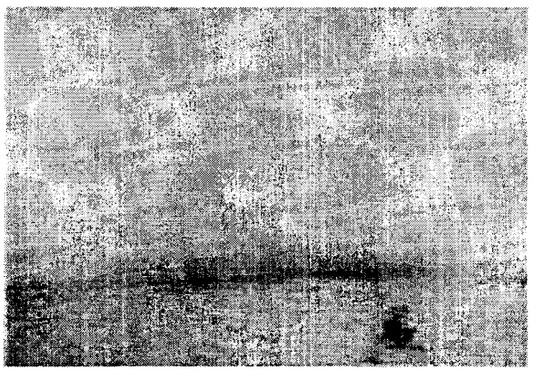
Support to USARPAC (US Army Pacific) for Homeland Defense. Provides education, applied research, training, exercise and planning program support to strengthen DoD's capabilities for terrorism prevention and all-hazards response in the Pacific area of responsibility.

Direct Support to CTF-73 to evaluate HSV in PACOM. An Ops Research student is conducting research on the use of HSVs in a logistic role for CTF-73 and how to modify contingency support plans.

USCENTCOM
Central Command

Direct NPS Educational Support to CENTCOM. CENTCOM Area of Responsibility (AOR) countries send their officers and defense civilians to NPS for master's degrees and to attend in-residence short courses ranging from one to eleven weeks. NPS also sends mobile education teams to countries in CENTCOM AOR to assist in the development of democratic policies and programs. Most recently a team of educators went to Afghanistan, and will do the same in Iraq. NPS also conducts region and country specific education programs for active Army, National Guard and Reserve Forces deploying to CENTCOM AOR, to include Iraq and Afghanistan. In addition, NPS conducts regional security education of sailors and marines deploying to CENTCOM AOR.

Helicopter Brownout. Helicopter Brownout is a $100 million per year problem, leading to significant hardware loss, injuries, and fatalities. The NPS project objective is to find ways to define landing zones which will have reduced probability of producing brownout. The challenge is to remotely sense soil and surface characteristics in denied territory. Both civilian remote sensing systems and national technical means were and are being studied. NPS identified a system that meets the requirements and is testing it for suitability. The payoff for this work will be to dramatically reduce the loss rate for men and hardware, particularly in the SOCOM and CENTCOM AORs.



Defense Resource Management Institute at NPS: 1,710 participants representing 25 of the 27 CENTCOM countries have participated in DRMI programs since 1965, including the current King of Jordan, his brother and his sister. In the last 10 years, NPS conducted mobile courses in Ethiopia (2), Jordan, Kenya (5), Tajikistan and Uzbekistan. Prince Feisel of Jordan commented on the value of networks from his time at NPS, noting that he was amazed that he had to come all the way to Monterey to meet other people in his region of the world. He said he now felt that he could just pick up the phone and call them when there is problem.

Coalition Intelligence Architecture Development. NPS faculty member traveled to MacDill AFB in Florida, As Saliyah in Qatar, and Baghdad and Basra in Iraq in Jan/Feb 2004 to write a study recommending improvements to the Coalition and Iraqi intelligence architecture, for General John Abizaid, Commander CENTCOM. He worked as a member of General John Abizaid's personal staff, in the Commander's Advisory Group.

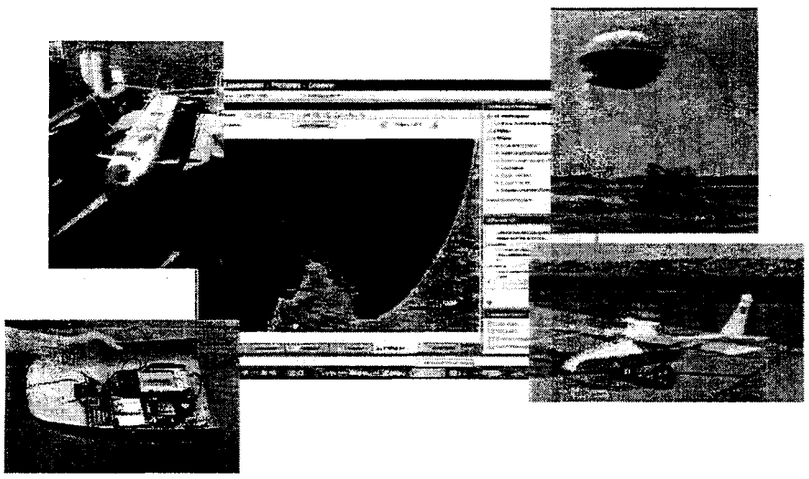
He then traveled to Kuwait City in Kuwait, and Baghdad in Iraq in Oct/Nov 2004 to work as a member of the Strategy Division of the office of the Deputy Chief of Staff for Strategy, Plans, and Assessment (DCS-SPA) in the headquarters of the Multinational Force-Iraq, in the US Embassy in Baghdad. The DCS-SPA, headed by a US Air Force major general, worked directly for General George Casey, Commander MNF-I, who is directly subordinate to General Abizaid.

USSOCOM
Special Operations Command

Man Hunting Workshop in support of U. S. Special Operation Forces (SOF). The traditional scope of military operations has never developed a doctrinal framework or process to capture fugitives, consequently military planners and intelligence analyst are not educated or trained in the investigative processes necessary to find fugitives. NPS conducted a research seminar to develop an investigative framework to understand the nature of man hunting in order to locate and apprehend fugitive insurgents and propose developmental courses of action.

Tactical Network Topology (TNT) (previously STAN). TNT is an integrated program of quarterly field experiments that develop and demonstrate new technologies to support near term needs of the warfighter. Major emphasis is on wireless networks, autonomous vehicles, sensor networks, situational awareness and target tracking and identification. Measures of performance of the technologies and operators using the technologies are also addressed. TNT is a faculty-student program working in parallel with partners that include various branches of the military, Combatant Commands, industry, and national labs. In particular, USSOCOM's Futures Directorate (J9) will be conducting experiments at NPS in conjunction with the USSOCOM Advanced Technology Directorate. These experiments will focus on identifying key gaps and deficiencies resulting from applications of advanced technology, particularly network communications, unmanned systems, and net-centric applications.

TNT includes a wide range of projects including the light reconnaissance vehicle (LRV) and special operations force (SOF) systems engineering and integration. The latter is an umbrella project to provide systems engineering applications to USSOCOM in support of all NPS work on LRVs, to integrate NPS experimental efforts and develop case studies.

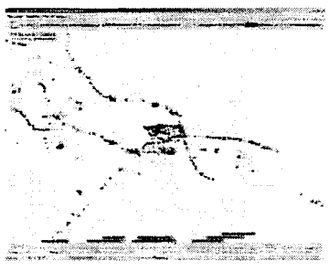


Special Operations Forces SIGINT Maritime Support to Joint Threat Warning System, (JTWS) Research, Development, Test, and Evaluation. This proposal describes Research, Development, Test, and Evaluation (RDT&E) actions, to support the Joint Threat Warning System (JTWS) Program. This will include investigating integration of smart dust technology into the JTWS Component Architecture Framework (JCAF), investigations into integrating SOF SIGINT maritime capabilities into the Tactical Network Topology effort, and classified signals analysis.

Applied warfighter Ergonomics (AWE) Research Center. This research incorporates the Human Systems Integration (HSI) research efforts to support the Tactical Network Topology (TNT) project. There are two major areas: HSI assessments of field portable devices and a research center with lab and field based research capability to assess human systems integration efforts for warfighters. The thrust of the effort will be on assessment of field portable devices to be used by warfighters.

Skytrack: Broadband switched-beam UAV-to-land vehicle communications subsystem. This is a project to develop, implement and validate a mobile UAV tracking antenna subsystem to operate with multiple UAV signal sources, in the 2.4 and 5.8 GHz ISM frequency bands.

Dynamic Mapping of IED Incidents over Space and Time. Innovative thesis work uses software from a faculty research project to display, animate, and statistically analyze the SIGACT (significant activity) data from Operation Iraqi Freedom (OIF). Identifying change points in insurgency behavior is critical to effective counterinsurgency. Due to the continuous nature of the conflict and the volume of apparently random incidents, statistical process control techniques are used to signal changes in insurgent tactics and movement. This research by faculty and students at NPS continues to improve the programming components of the project. The NPS IED mapping program is also currently being used in-theater in Afghanistan in Operation Enduring Freedom.



Case Studies for the Future. To assist in the development of operational concepts for Special Operations Forces that can be tested in exercises in theatre. Tools such as case studies, statistical analyses & mathematical modeling are used. A series of briefings and research papers are being developed, delivered, with supporting documentation, including proposed exercises plans to incorporate research results into SOF training.

Special Operations/Low Intensity Conflict (SOLIC) Academic Curriculum. Unique curriculum designed to provide students with the ability and background to think analytically and originally about the broad fields of political violence, unconventional warfare, and the role of SOLIC in U.S. foreign policy and defense planning.

USJFCOM
Joint Forces Command

Support for Extended Awareness Experimentation program. NPS provides experimentation and other analytic support to the Extended Awareness series of experiments, conducted by the Joint Operational Test Bed System (JOTBS) under USJFCOM. This includes involvement in the planning and conduct of the events leading up to two limited objective experiments.

NPS/CIRPAS UAV Predator flight support. This project supports JFCOM's UAV test objectives with Pelican and Predator air vehicles and one GCS/GDT.

Joint Intelligence Interoperability Board (JIIB) Systems Baseline Assessment (JSBA 04). This project supports the assessment of the Joint Intelligence Interoperability Board Systems Baseline Assessment. The study examines requirements and methodologies; organizes and maintains JSBA analytical models and tools and the associated data; executes model run activities, and analyzes results. NPS also provides analytical support, including scenario development and verification, execution of model runs, and direct analyses for a variety of intelligence, surveillance, and reconnaissance (ISR) assessments.

Extensible Modeling and Simulation Framework (XMSF) viewer for the Distributed Continuous Experimentation Environment (DCEE). The distributive continuous experimentation environment (DCEE), managed by the J9, U.S. JOINT FORCES COMMAND , has established a framework of common terminology for information to be exchanged between components using an enhancement of the real-time platform reference federation object model. This project will prepare for and conduct a demonstration of the benefits of XMSF concepts in the DCEE with the XMSF DCEE viewer.

Standing Joint Force Headquarters Process Modeling. The Standing Joint Force Headquarters (SJFHQ) processes will be analyzed and modeled to capture new processes that emerge with an emphasis on inter-agency, and service/functional component interactions. Information on SJFHQ will be obtained from available J9 sources, from observing planned events at PACOM, EUCOM and SOUTHCOM, interviews, and the development of use cases and user stories. Paper process models will be developed to show information flow timelines. Outputs of executable simulations developed from paper models are provided as inputs to discussion of requirements and end states.

Joint Task Force requirements determinations. This research will document the rationale, establishment and operation of recent JTFs, conduct a literature review of JTFs from military and academic sources to provide lesson learned for future JTF development and operation, develop a research protocol to be used in identifying and evaluating the decision processes, and procedures and mechanisms through which JTF are formed.

Design and analysis of simulation for advanced joint C4ISR node. This project designs, implements and analyzes the results of simulations to examine the costs and benefits of AJCN payloads following the statement of work from JSJFCOM. The intent of the simulation, for example, develops a cost-benefit analysis to determine the advantages of multiple AJCNs on single platforms, and helps develop TTPs for employing AJCNs.

USNORTHCOM
Northern Command

Homeland security leadership development. Under a MOU with USNORTHCOM, NPS develops and provides graduate education and research programs for USNORTHCOM in the area of homeland defense and security, and other MS programs in fields of direct value to HD/S. In addition, NPS takes HD/S mobile education teams (METs) to governors, and state and local leaders for short courses in first response and HD/S issues.

Center of Excellence in learning technology support for Homeland Defense and defense support to civil authorities. This project determines how Advanced Distributed Learning can best be used to reduce costs and constraints, and improves effectiveness of pre-exercise education, training and coordination. Determines how ADL can be used to individualize and tailor training and education for individuals performing the entire spectrum of homeland defense and military support to civil authorities operations.

OFFICE of the SECRETARY OF DEFENSE (OSD)

Armoring Vehicles against Improvised Explosive Devices IEDs. Supporting a request from the Office of the Deputy Secretary of Defense, NPS faculty and students are working on a short term project exploring protection schemes that have the potential of decreasing the vulnerability of lightly armored vehicles, such as Bradley APCs. Initial concepts will be assessed for increasing absolute protection and weight efficiency of armor, using lightweight assembly of discrete elements, arrayed in a manner that increases the number of angled contact surfaces that a projectile will have to encounter. This serves to deflect the flow of bomb fragment streams out of harm's way. The initial work on this project simulates an IED class bomb, and assesses the baseline effectiveness of steel armor against the threat. The project uses technical surveys and supporting data from SPAWAR and LLNL, with NPS faculty/student expertise in explosive ordnance and testing, shaped charge development, effectiveness analyses, hydrodynamic code development and simulation.

Voice Authentication "Iraqi Enrollment" Project. The Voice Authentication "Iraqi Enrollment" Project is an initiative that explores the use of voice authentication and verification technologies for implementation in Iraq and potential uses in other stabilization and reconstruction efforts, such as Afghanistan. This faculty/student project is examining a proof of concept for a voice authentication and verification system that can improve visitation screening for detainees at the Baghdad Detention Facility Abu Ghraib, and security screening for access to the International "Green Zone."

World Wide Consortium on the Grid (W2COG). OSD sponsors the World Wide Consortium for the Grid (W2COG) initiative to accelerate fielding of network centric operations capability by matching *top down* governance for Global Information Grid (GIG) policy with *bottom up* meritocracy for technical detail. W2COG uses operational mission thread analysis, field

POINT PAPER

BACKGROUND

< Officer graduate education is vital in order for the armed forces to remain competitive in an environment of rapid change and technological development.

< Its has been suggested that the most cost-efficient means to meet the advanced education requirements of Navy and Marine Corps officers is to rely on civilian institutions.

< The uniqueness of a military graduate institution and the hidden monetary costs of civilian institutions demonstrate that NPS is, in fact, the best option.

DISCUSSION

Student Body

< **Most of the students have been out of college for at least five years.**

< **DoN looks at job performance and military school rankings in determining future academic potential.** Based on prior academic profiles and GRE scores, top level civilian institutions would have accepted only a quarter of the Navy and Marine Corps officers currently enrolled and ***performing successfully*** at NPS.

After a review of the academic files and other data of 321 current NPS students, department chairmen or other key faculty members from top-level civilian academic institutions determined the following acceptance rate of current NPS students into quality civilian institutions:

Field of Study	*Accepted*	*Possibly Accepted*	*Rejected*	*Total*	*Reviewer*	*Institution*
Aero Engineering	*6 (14%)*	*14 (32%)*	*24 (54%)*	*44*	***Dr. Thomas Adamson, Jr., Professor Emeritus***	***University of Michigan***
Aero Avionics	*2 (7%)*	*9 (32%)*	*17 (61%)*	*28*	***Dr. Thomas Adamson, Jr., Professor Emeritus***	***University of Michigan***
Oceanography	*1 (2%)*	*9 (14%)*	*53 (84%)*	*63*	***Dr. Nick Fofonoff Dr. Doug Caldwell***	***MIT/WHOI Oregon State University***
Mechanical Engineering	*9 (12%)*	*4 (5%)*	*65 (83%)*	*78*	***Dr. John R. Lloyd, University Distinguished Professor***	***Michigan State University***
Electrical Engineering	*18 (36%)*	*3 (6%)*	*29 (58%)*	*50*	***Dr. Steven Long, Professor***	***Department of Electrical Engineering, University of California, Santa Barbara***
Computer	*3*	*3*	*52*		***Dr. Yale Patt,***	***Department of Electrical***

Science	***(5%)***	***(5%)***	***(90%)***	***58***	***Professor***	***Engineering and Computer Science, University of Michigan***
Total	***39 (12%)***	***42 (13%)***	***240 (75%)***	***321***		

< **If not provided the opportunity to pursue technical degrees at NPS, many officers would be forced either to pursue non-technical degrees (business, management, liberal arts, etc.) or to pursue technical degrees at lower ranking schools leading to a shortage of technical knowledge in the DoN.**

Academic Programs

< **A solid theoretical foundation is built at NPS through required refresher and background courses**. Many civilian institutions falsely assume a thorough prior preparation or assume that students will take refresher courses through their own initiative.

> *"I believe that the Department of Aeronautics and Astronautics at the Naval Postgraduate School does an exceptional job in giving officers graduate training. A curriculum has been developed which gives people from varied backgrounds and with varied periods of absence from academic life the training needed to bring them to the graduate level in aeronautical and astronautical engineering." Professor Thomas Adamson, Jr., Professor Emeritus, Department of Aerospace Engineering, University of Michigan; at NPS April 22, 1994.*
>
> *"A civilian department of physical oceanography is looking for students with proven ability and background required to begin making advances in the state of the art within two years. It needs student with advanced backgrounds in mathematics and physics, and offers little in the way of help to students without those backgrounds." Professor Nick Fofonoff of MIT/WHOI and Professor Doug Caldwell, Oregon State University; at NPS May 9, 1994.*

< **The focus at NPS is on master's students and on master's theses**. Master's students are given the attention of the faculty; ***the emphasis is first on teaching and second on research.*** Top-level civilian institutions tend to focus on Ph.D. programs, concentrating on theoretical topics and neglecting practical application; ***the first priority of the faculty at these schools is research.***

< **NPS courses are designed specifically to address military problems and applications**. The curriculum is quickly changeable based on the needs of the Navy and the Educational Skill Requirements (ESR's) outlined by military sponsors. Civilian programs rarely directly address military applications, changes in civilian curricula occur slowly, and these changes would not be dictated by the Navy.

> *"From my perspective, your program is designed with different objectives in mind than most civilian programs and serves an important function that would not be easy to replicate." Steven Long, Professor of Electrical Engineering , University of California, Santa Barbara: at NPS January 14, 1994.*
>
> *"NPS offers a unique educational opportunity that would not be feasible to establish in a civilian, major research university." John R. Lloyd, University Distinguished Professor, Michigan State University: at NPS March 21, 1994.*
>
> *"Without NPS, the Navy would lose control of their curricula. The curriculum sponsors would not get their requirements met." Professor Stephen Pollock,*

< **NPS students write theses on military topics with oversight from faculty experienced in working with military applications. The research contained in NPS theses make active contributions to operations within the DoN**. It is unlikely that many students in civilian institutions would have the opportunity to write military theses, and it would be even less likely that they would have access to faculty members experienced in military applications.

< **DoN has control over the quality of instruction and the integrity of graduate programs at NPS.** Civilian graduate programs can vary greatly in quality from one school to the next.

Military Environment

< **The diversity of the student body at NPS offers the opportunity for interservice, interspecialty and international interaction.** Civilian institutions would not provide this important benefit.

< **DoN control of NPS allows for the use of classified materials in the classroom, for the maintenance of classified materials in the library and for the opportunity to write theses on classified topics**. Civilian institutions do not provide these opportunities.

< **Military content in coursework at NPS keeps students focused on military concerns.** Time spent at civilian institutions most likely would be devoid of any military content and would not add to the ongoing military education of Navy and Marine Corps officers.

Administrative Control

< **DoN control of NPS makes detailing much more manageable**. Admission to NPS occurs four times per year, and the length of its graduate programs is fairly certain . Course scheduling is done around student needs. Civilian graduate programs usually admit students only once or twice per year, and the length of a student's program can vary depending on the preparation of the student, the frequency of course offerings, the occurrence of scheduling problems and progress toward thesis completion.

Conclusion

< **The education provided at the Naval Postgraduate School cannot be replicated at any civilian institution.**

< **The cost differential if it exists does not justify the loss of relevance that civilian graduate degrees would entail.**

< **The technological demands of today's Navy demand that the Naval Postgraduate School remain an integral part of Navy and Marine Corps Officer development.**

NCHEMS

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Fax: (303) 497-0338 • Website: www.nchems.org

M E M O R A N D U M

TO: Richard Elster
Provost, Naval Postgraduate School

FROM: Dennis P. Jones

SUBJECT: Site Visit Observations

DATE: May 10, 2005

You asked that I write a brief summary of the conclusions I reached as a result of my site visit to NPS on May 5-6. These conclusions and observations are presented below in three categories: 1) the changing nature and intrinsic capacity of the School, 2) costing issues, and 3) other matters.

The Capacity of NPS

As noted in my verbal summaries to you and the President, NPS is a far different institution from the one I visited in 1999. It serves a broader clientele in more varied and responsive ways. I particularly note:

1. The continued service to international students. In this day of multinational forces and collaborative responses to international threats, education that brings U.S. officers into a closer working relationship with their counterparts from other countries is a critically important contribution.

2. The emerging array of services to civilians, particularly individuals involved in homeland security. NPS is the only educational institution I know that brings representatives of military and civilian agencies together to address the threats to national security that defy historic approaches to both defense and diplomacy.

3. The expanding research capacity of NPS and its ability to quickly devise practical solutions to real-world problems.

4. The formalization of the Institutes that bring together students from multiple programs to work on a practical problem of military significance. The array of programs at NPS and the fact that students and faculty have a deep understanding of key problems makes NPS a

unique environment for problem-based learning that is of direct import to the Navy and other branches of the U.S. military.

The strengthening of NPS along all these dimensions has served to blur the School's focus in some ways. This is not a bad thing; indeed, it reflects a strength. As part of the ongoing strategic planning activities at the School, it may be time to reassess the clientele NPS expressly seeks to serve.

Costing Issues

Over the past few years, NPS has developed some of the most detailed and extensive costing procedures being utilized in American higher education. In this arena, I would note the following:

1. The procedures being used to calculate costs—whether activity-based costing (bottom-up), allocation of costs to cost centers (top-down) or marginal costs—are technically sound. They reflect procedural best practice.

2. Different procedures yield consistent results. This lends credence to the results.

3. I suggested two specific calculation changes to George Conner and the others who are working on these studies.

    a. That the costs of new facilities included in the marginal cost calculations (those that generate the very interesting cost curves) be included as annualized costs rather than one-time costs—that is, that some small fraction of facilities costs (say 1/50) rather than total construction costs be included in the calculation when new buildings are brought on line.

    b. That the cost per student be calculated the way civilian universities would make the calculation—calculating FTE students as total student credit hours for the year divided by 36 quarter hours per FTE student. Instead of 1,931 students being served by actual count, NPS is serving about 3,360 FTE students (as typically calculated). This change makes an enormous difference in per-student costs. (NPS is much more efficient than is generally recognized.)

4. Finally, I would note that your capacity to generate cost data has surpassed your ability to effectively use it. The level of detail is no longer necessary. You can save staff time and energy by focusing attention on key managerial questions rather than on the costing methodologies themselves.

Other Matters

As a corollary observation, I would note that the support infrastructure—accounting systems, procedures that treat NPS as a government agency rather than an institution of higher education (for example, the requirement that annual appropriations be spent by September 30 or lost—an invitation to poor management), and other rules within which NPS operates are increasingly insufficient and inappropriate to the task. In the near term, there will be a need to assess the need

for changes in support and governance structures as well as operating procedures under which NPS functions. NPS is rapidly reaching a size and a complexity that are beyond the current systems.

As always, I thoroughly enjoyed my visit to NPS. I trust the above comments are helpful. If you have questions or comments, please contact me.

The NSA Department and Civilian Programs: A 2004 Comparison

prepared by
Stephen G. Brooks, Ph.D.

April 2005

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Section 1: Background and Overall Conclusions

Purpose of the Study

The purpose of this study was to compare the National Security Affairs Department at the Naval Postgraduate with a broad range of similar civilian programs. A similar comparison study was performed by this author in 1994. The motivation remains the same as in the 1994 study: "The...programs included in this study were carefully chosen to provide a broad level of comparison to the National Security Affairs department at the Naval Postgraduate School. Many of the programs are specifically oriented to international affairs, and most of the remaining schools allow for an international concentration within their program. We examined universities whose programs are well-known on a national basis as well as schools that have more regional reputations. Furthermore, both private and public schools were selected for comparison."

The current comparison study both replicates and expands the 1994 analysis. In terms of additions, several new criteria were added to the present study to provide a more complete comparison. The sample of programs in this study is also larger: all schools examined in the 1994 comparison study were included, along with Princeton and Yale as well as additional programs for Columbia and George Washington.

In terms of replication, the method of comparing the programs was the exact same as in the 1994 study except when necessary changes were required to better reflect the current educational climate. For example, the criteria used to classify courses as having a military/security focus was slightly updated: in addition to the five criteria used in the 1994 study, two new categories were included – (1) peacebuilding and peacekeeping operations and (2) homeland security. These new categories were added due to changes in the security climate over the past ten years

In order to ensure comparability across schools, the same criteria were used to evaluate each program. The primary sources for the information in this study were the web-pages of the respective institutions and programs. When possible, missing information was filled in through telephone interviews with admissions staff or graduate directors. The sources for the data are explained in greater detail in the appendix.

List of Programs Surveyed

Naval Postgraduate School (Department of National Security Affairs)
MA in Security Studies

American University (School of International Service),
MA in International Affairs

American University (School of Public Affairs),
MA in Political Science

University of California, San Diego (School of International Relations and Pacific Studies),
MPIA, Masters in Pacific and International Affairs

Columbia University (School of International and Public Affairs)
MIA, Masters in International Affairs
MPA, Masters of Public Administration

George Mason University
MPA in Public and International Affairs (concentration in International Management)

Georgetown (Edmund A. Walsh School of Foreign Service)
MA in Security Studies

George Washington University (Elliott School of International Affairs)
MA in Security Studies
MIPP, Masters in International Policy and Practice

James Madison
MPA, Masters in Public Administration

John Hopkins (John H. Nitze School of Advanced International Studies)
MA in International Relations (Security Studies specialization)
MIPP, Masters in Policy and Practice

Harvard University (Kennedy School of Government)
MC/MPA, Mid-Career Masters of Public Administration

MIT
MA in Political Science (Defense and Arms Control specialization)

Old Dominion
MA in International Politics

Princeton University (Woodrow Wilson School of Public and International Affairs)
MPP, Masters of Public Policy (1 yr, mid-career)

University of Southern California
MA/MPA, Masters in International Relations and Public Administration

Stanford University
MA in International Policy Studies

Tufts University (Fletcher School of Law and Diplomacy)
MALD, Masters of Law and Diplomacy

Yale University
MIA, Masters in International Affairs

Background of the Author

Stephen G. Brooks is an Assistant Professor of Government at Dartmouth College. He received a Ph.D. in Political Science with Distinction from Yale University in Spring 2001. While a graduate student at Yale, he was awarded fellowships from the National Science Foundation and the Institute for the Study of World Politics. He also received fellowships from Harvard University to spend the 2002-2003 academic year in residence at the Kennedy School of Government and from Princeton University to spend the 1998-99 and 1999-00 academic years in residence at the Woodrow Wilson School. At Dartmouth, he teaches courses on international politics, with a special focus on international security. He has published articles in *International Organization, International Security, The Journal of Conflict Resolution*, and *Foreign Affairs* and several edited volumes. He is the author of "Producing Security: Multinational Corporations, Globalization, and the Changing Calculus of Conflict," published in 2005 by *Princeton University Press.* The book is based on his Ph.D. dissertation, which was awarded the American Political Science Association's Helen Dwight Reid Award for the best doctoral dissertation in international relations, law, and politics, completed in 2001 or 2002.

Overall Conclusions

In terms of serving the needs of military curricula sponsors, the data displayed in the tables clearly show that the NSA department is superior to civilian programs. Five key conclusions emerge in this regard:

(1) *The NSA department offers a more comprehensive, intense educational experience*:

The NSA department offers many more class contact hours per year than any civilian program. Over the course of one year of instruction, the NSA Department offers 587 class contact hours. In comparison, the next closest civilian program offers 373 class contact hours per year, while the average for all of the civilian programs is just 315 hours. The NSA department's higher level of class contact hours reflects the higher number of instructional hours per week (14.6 hours at NSA as compared to an average of 9.2 for civilian programs) as well as the larger number of courses taken by its students each year (16 courses at NSA as compared to an average of 10 for civilian programs).

(2) *The NSA department's course offerings are best tailored to meet the educational needs of officers:*

NSA offers 79 military/security courses per year; all but four of the civilian surveyed programs offer fewer than 30 such courses. NSA military/security courses are also much more evenly spread throughout the year, allowing officers to receive extensive year-round instruction. In particular, during the summer term NSA offers 22 military/security courses, while all but three of the civilian programs offer fewer than 5 military/security courses.

(3) *The NSA department's faculty is comparable in quality but much more focused on military/ security issues:*

NSA has a larger number of faculty with a specialization in military/security issues than any civilian program. Most of the civilian programs have fewer than five faculty members who focus on military/security issues, while NSA has more than four times as many. Compared to NSA, most of the civilian programs surveyed also have a lower proportion of: (a) faculty who received a Ph.D. from a top 10 program in the field of international politics and (b) faculty who received a Ph.D. from a top 15 program in political science.

(4) *Most of the officers admitted to NSA would not likely be admitted to civilian programs:*

The officer students in NPS are selected less for their earlier academic performance and more for their recent operational performance and promise. Most of these students would likely be unable to gain admission to civilian programs of comparable quality, the majority of which have an acceptance rate of less than 50 percent. The average GPA of students studying at NPS is 2.95, which is far lower than for all of the civilian programs in this study (the least competitive civilian program has an average student GPA of 3.3, while more than half of the programs have an average student GPA of 3.4 or above).

(5) *NSA is cost-effective.*

Although NSA offers more courses throughout the year and its students receive many more class contact hours, NSA's cost per course ($3,155) is below the median level of civilian programs ($3,213).

Additional Considerations:

The above five conclusions are based on systematic data analysis, all of which is shown in the tables in the following section. The data in these tables can easily be verified using the criteria specified in the appendix of this study. When making an evaluation of how the NSA department matches up with civilian programs, it should be kept in mind that there are other relevant educational criteria for which systematic data analysis is precluded. The author of this study has held long-term affiliations at Yale, Harvard, Princeton, and Dartmouth. Based on my experience at these four civilian institutions, my assessment is that factoring in these additional educational criteria will only strengthen the overall conclusion that NSA is better suited to the needs of military curricula sponsors than civilian programs.

The three most important additional criteria that need to be considered are: (1) the degree to which the faculty is involved with, and does research for, DoD, (2) the ability of officer students to do classified work in their courses and research, and (3) the amount of attention and guidance officer students receive from faculty. NSA professors are routinely in direct contact with military decision makers and also do extensive research for DoD; in comparison, the vast majority of professors at the four civilian institutions noted above have no contact whatsoever with DoD. As a result, NSA professors are better able to provide officer students with a relevant and accurate learning environment, as well as being in a much better position to consult with DoD. NSA professors are also a standout in terms of having security clearances; in comparison, only a very small proportion of professors at these four civilian institutions have a security clearance. As a result, while officer students at NSA are easily able to pursue classified research and instruction, this would be very difficult, perhaps impossible, at these four civilian institutions. Concerning the attention and guidance given to officer students, NSA is also far superior to these four civilian institutions. The NSA faculty is tasked with educating only one kind of student: MA students who are officers. In contrast, the faculty at these four civilian institutions are tasked with educating three kinds of students: undergraduates, MA students, and Ph.D. students (Dartmouth is the lone exception in this regard, since it does not have a Ph.D. program but does have an MA program). My assessment is that MA students at these four civilian institutions are typically given a much lower priority by the faculty in comparison with educating Ph.D. students and undergraduates. For these and other reasons, I conclude that officer students at NSA will receive much greater attention from faculty than they would at civilian institutions.

Section 2: A Comparison of NSA and Civilian Programs on Twenty-Two Dimensions

Table 1: Number of Hours Per Week of Class

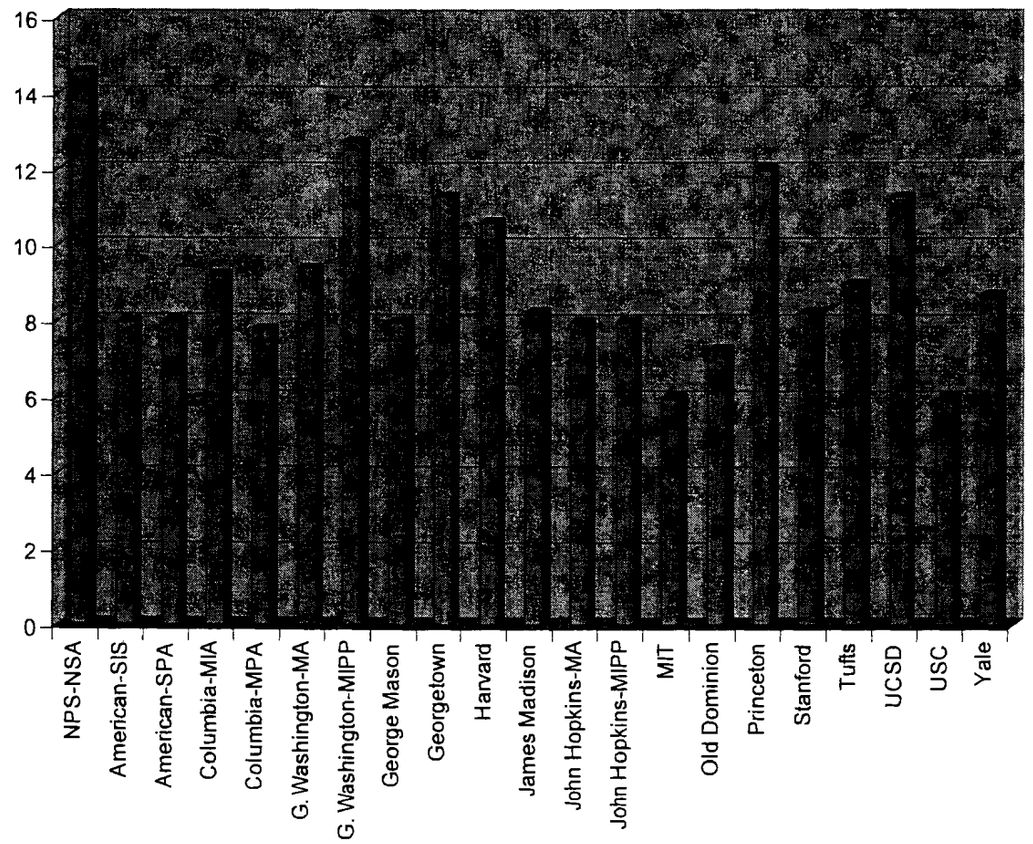


Table 2: Number of Courses Taken Per Year

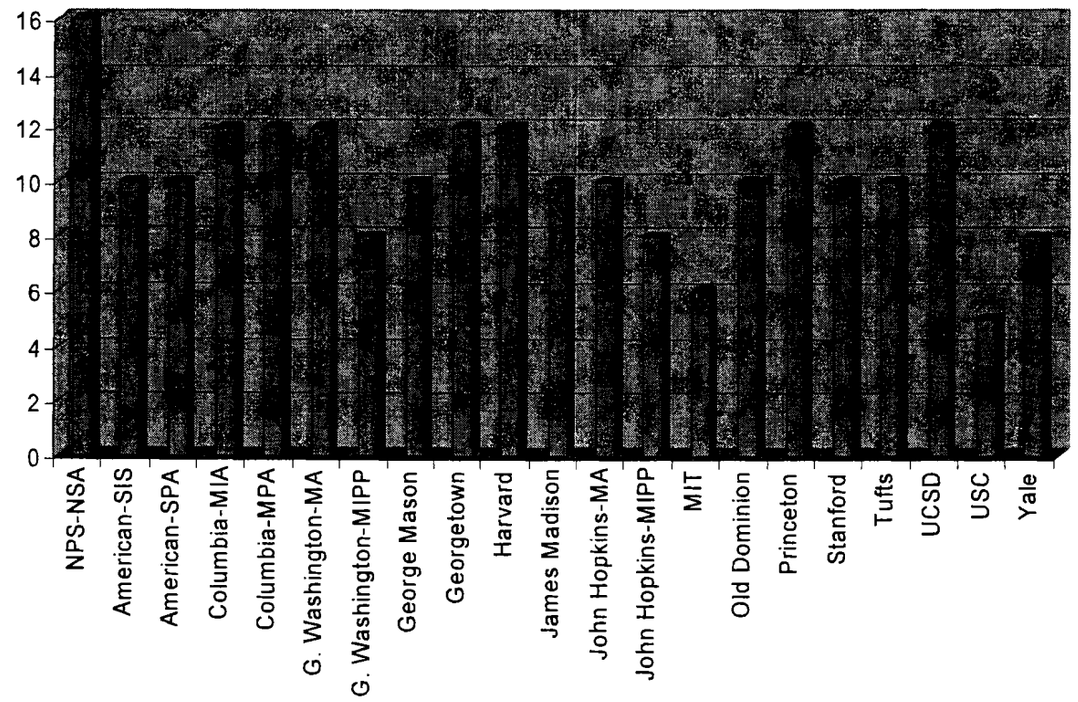


Table 3: Maximum Number of Courses Taken in Summer

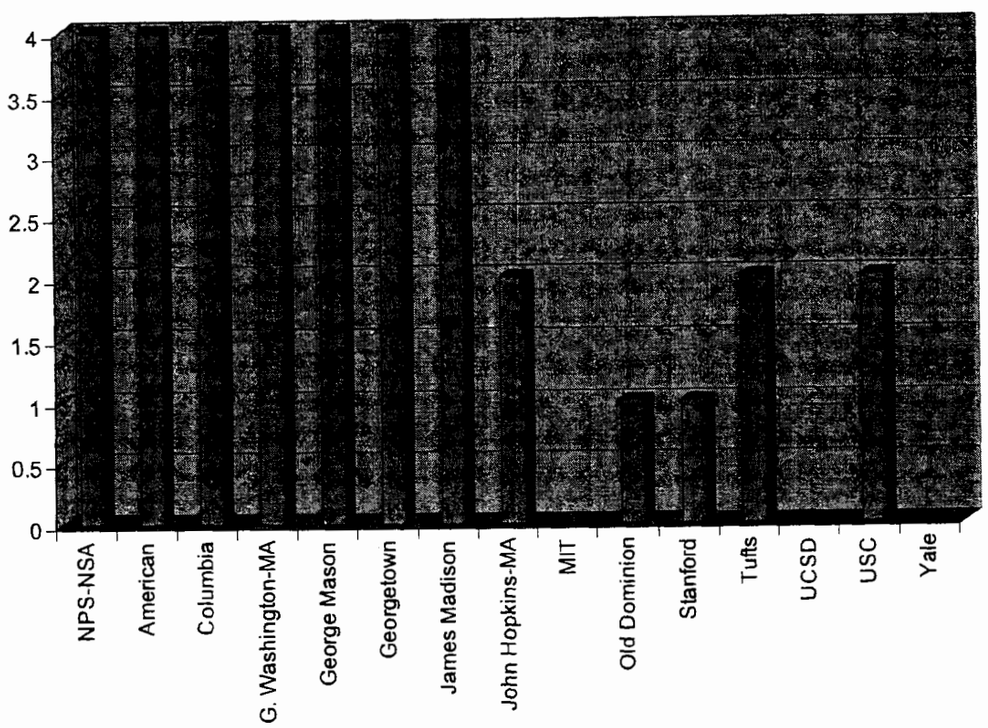


Table 4: Number of Courses Offered Over the Summer

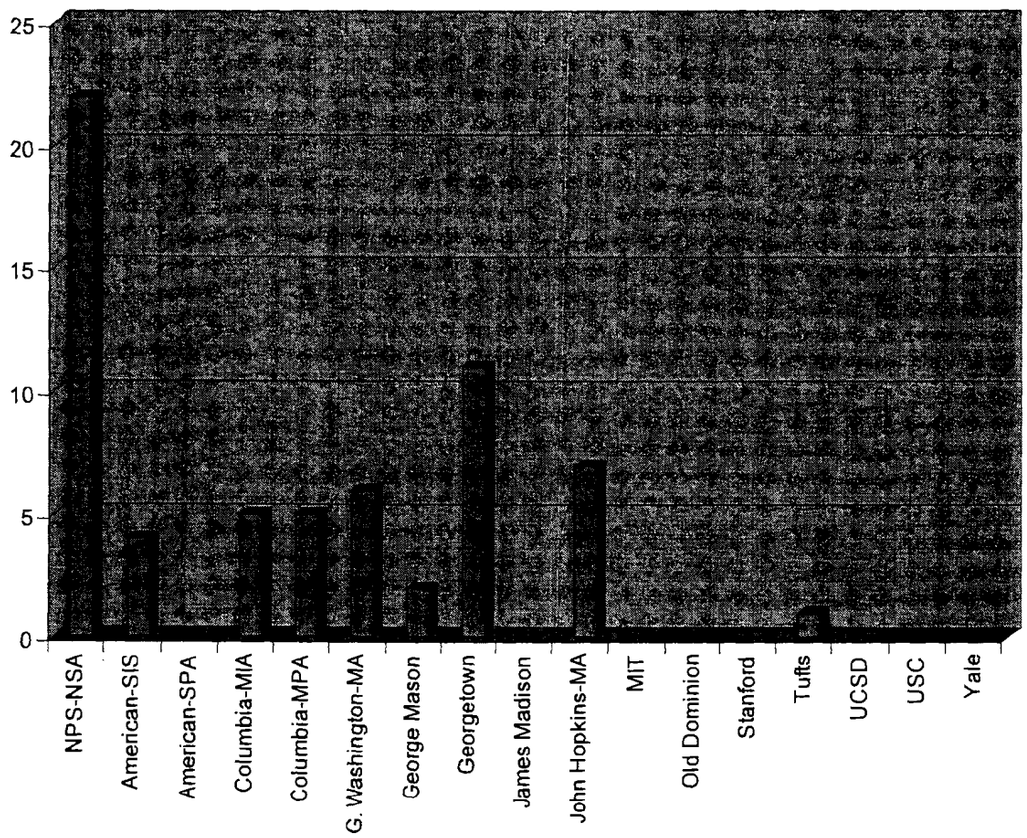


Table 5: Number of Military/Security Courses Offered Over the Summer

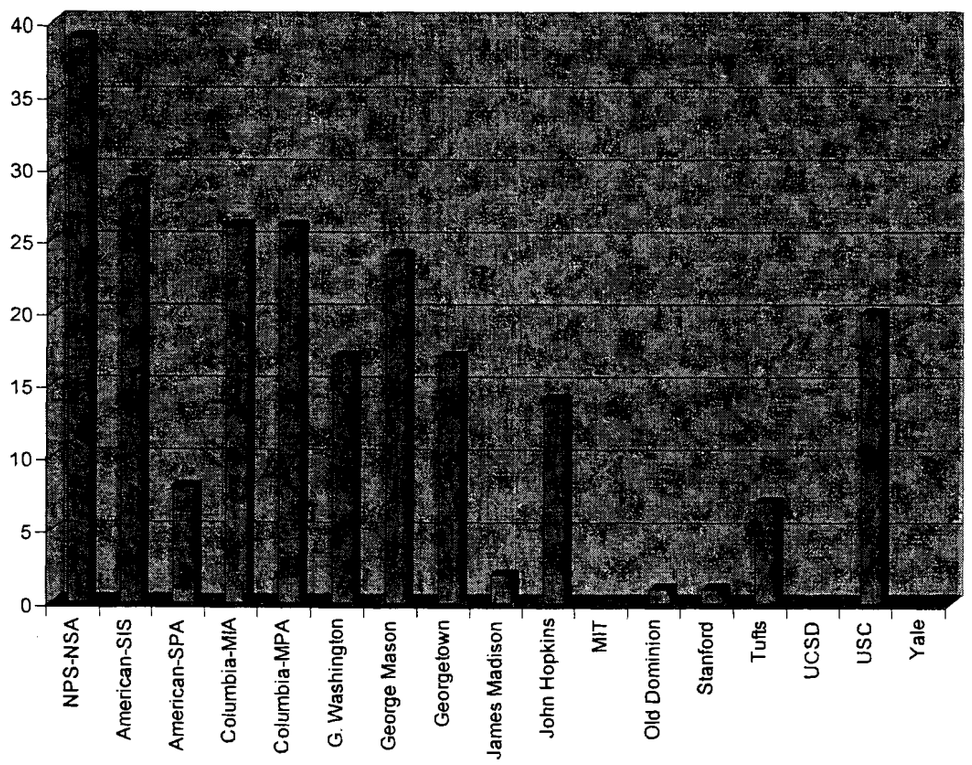


Table 6: Class Contact Hours Per Year

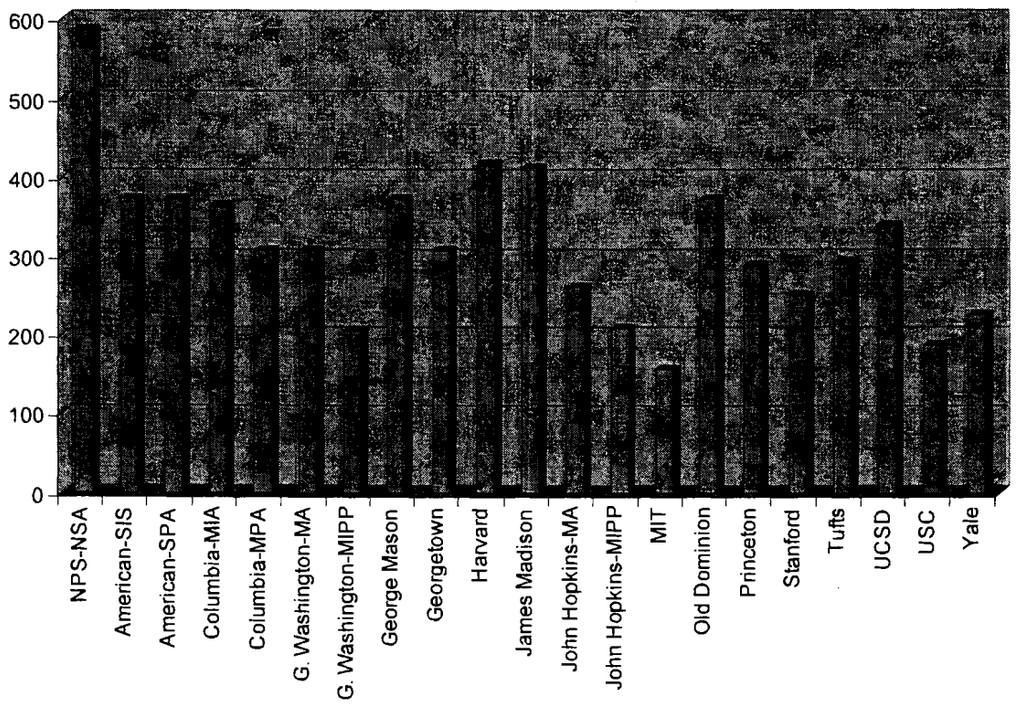


Table 7: Total Hours of Instructional Time to Complete Degree

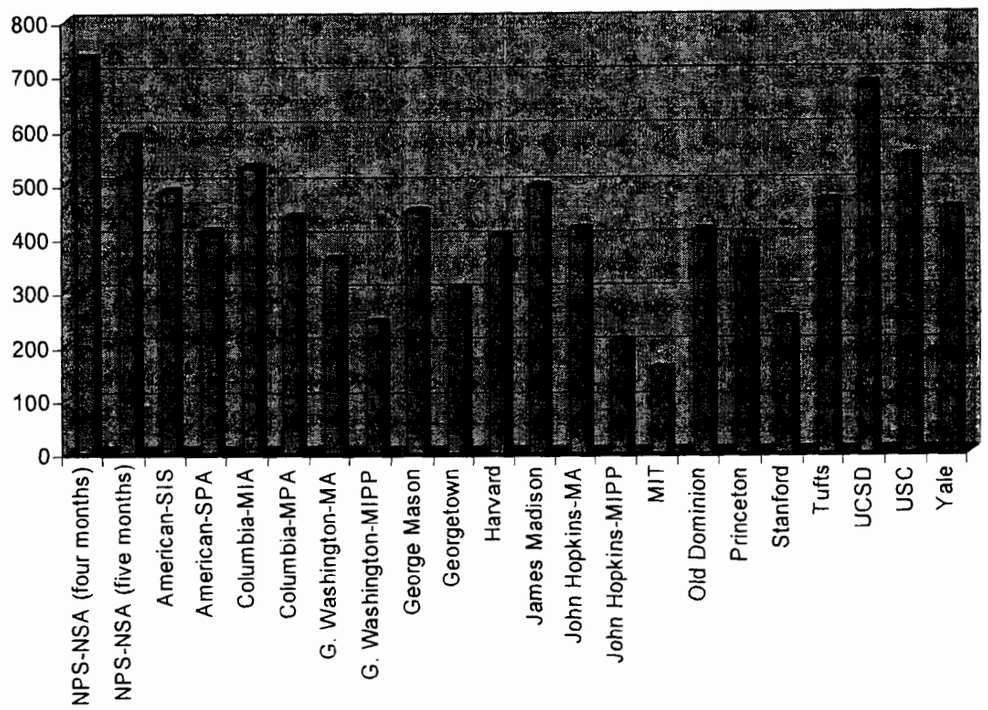


Table 8: Total Number of Military/Security Courses Offered per Year

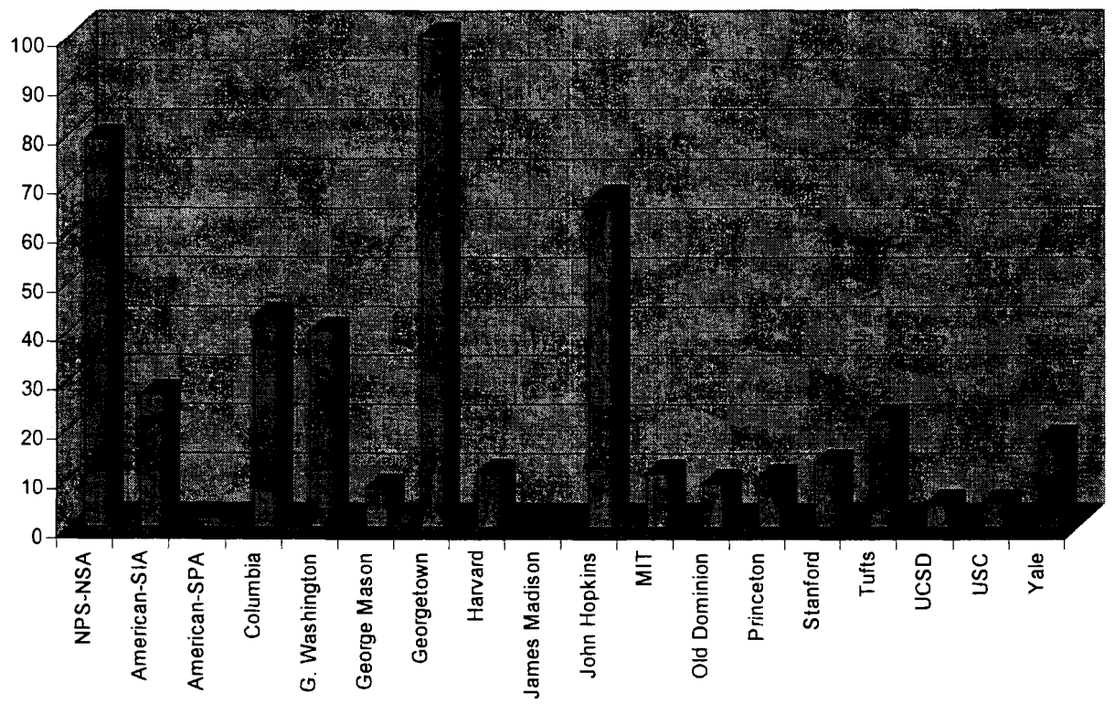


Table 9: Number of Full-time Faculty

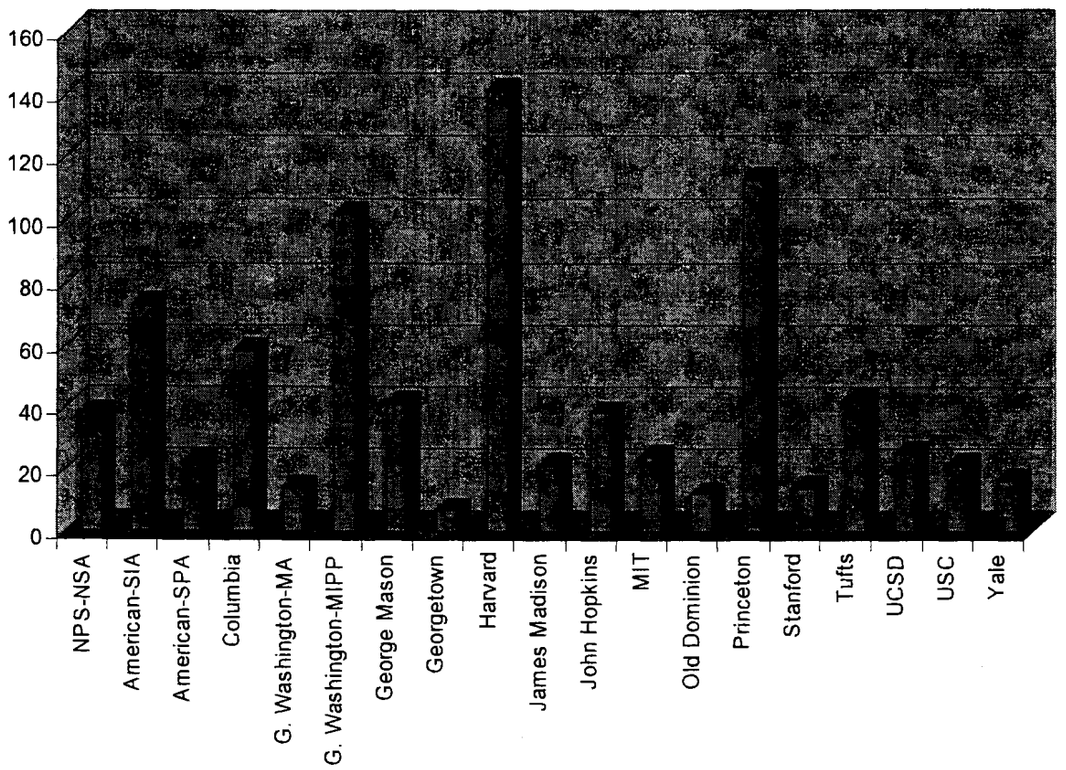


Table 10: Percentage of Faculty from a Top 15 Political Science Program

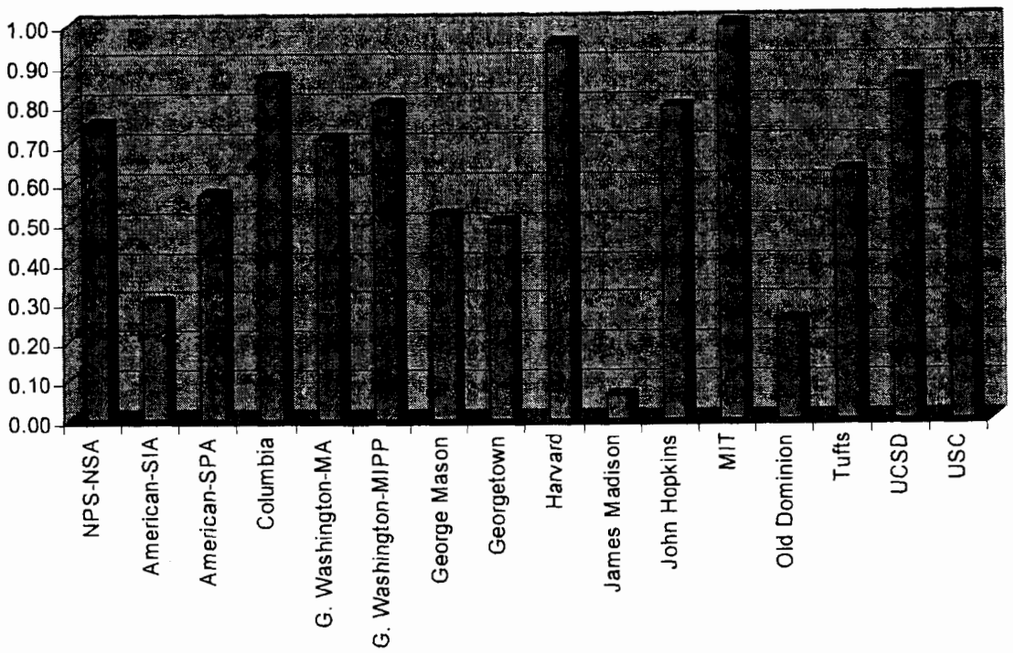


Table 11: Percentage of Faculty from a Top 10 International Politics Program

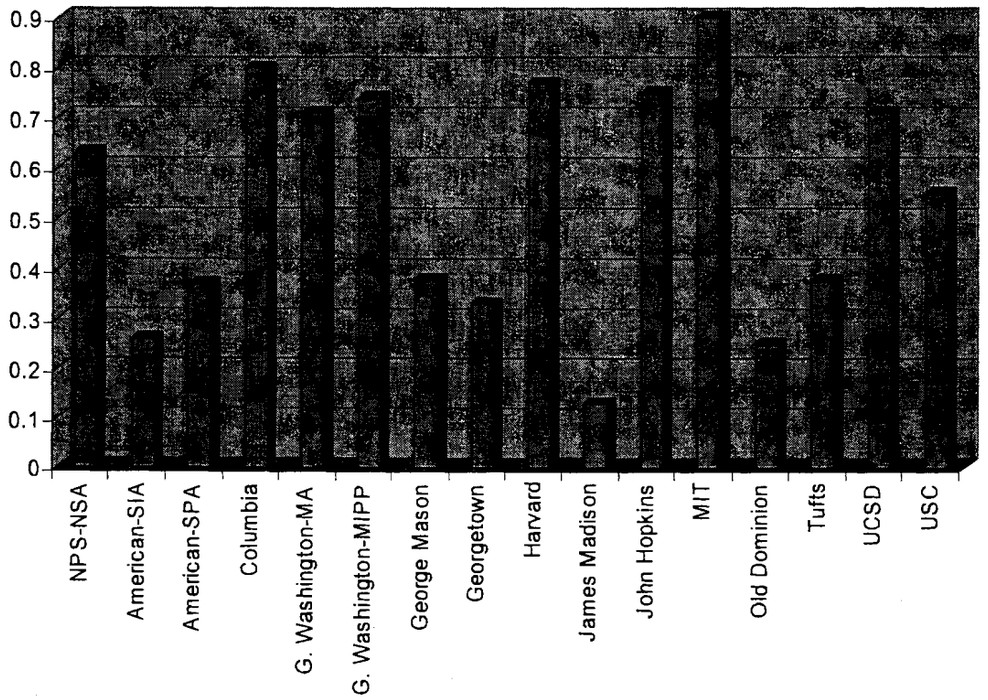


Table 12: Percentage of Faculty without a Ph.D.

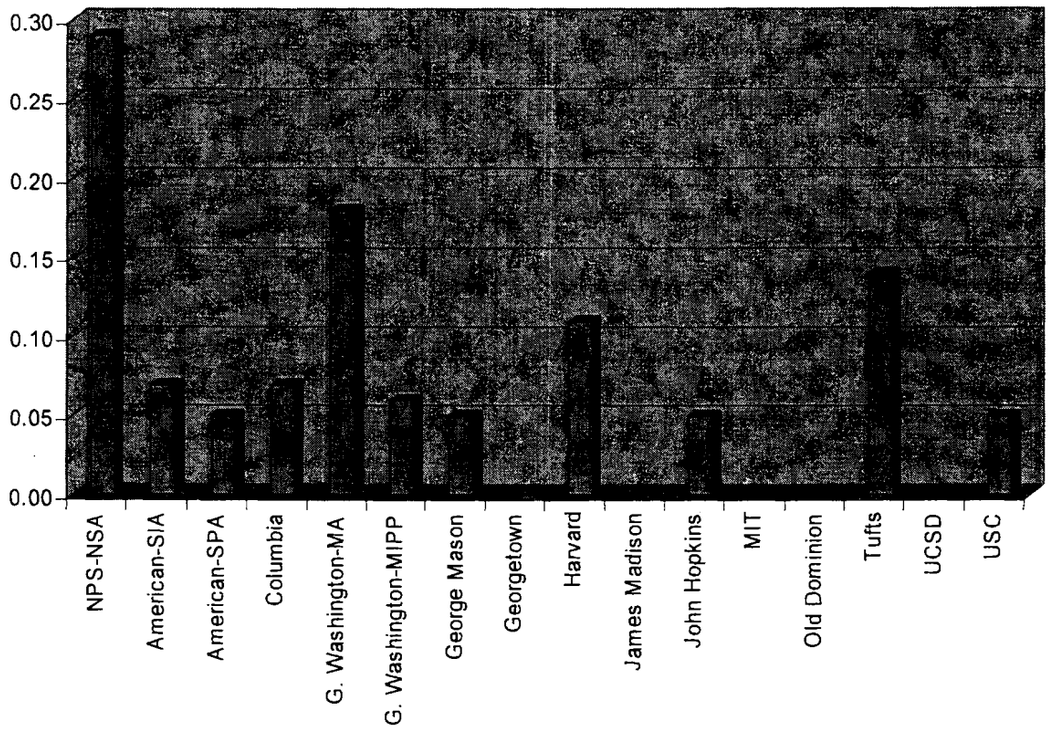


Table 13: Number of Full-Time Faculty with Security Specialization

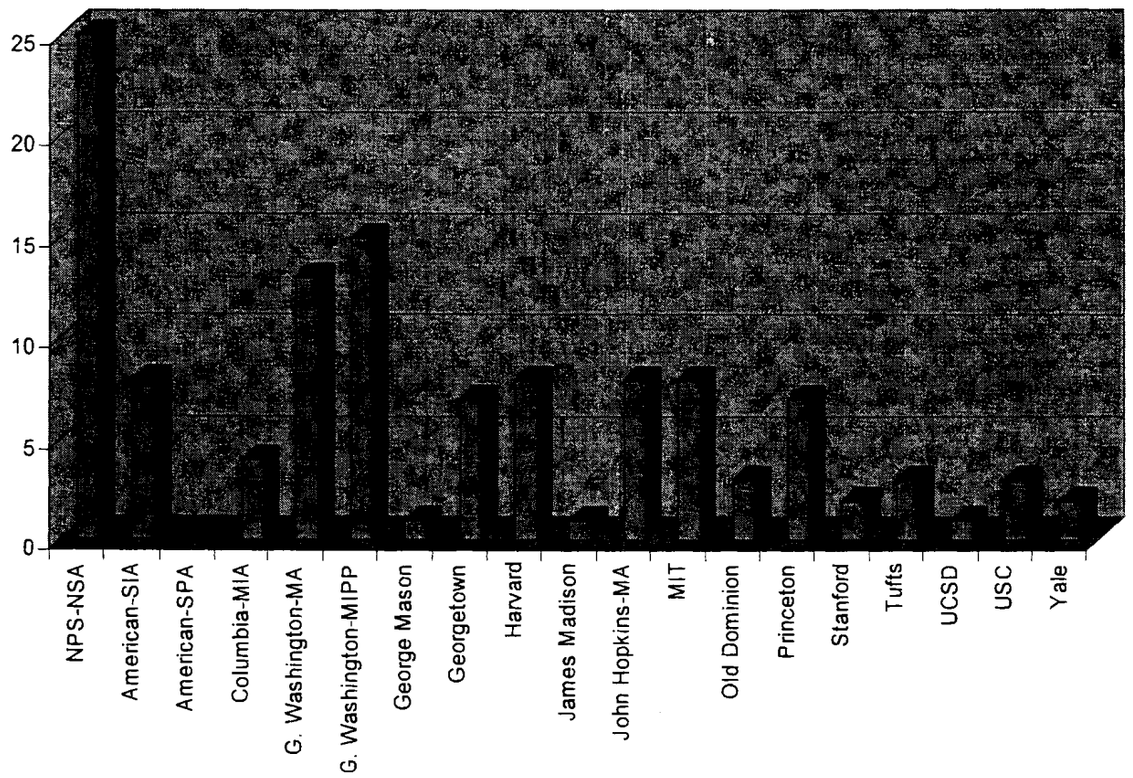


Table 14: Number of Full-time Students

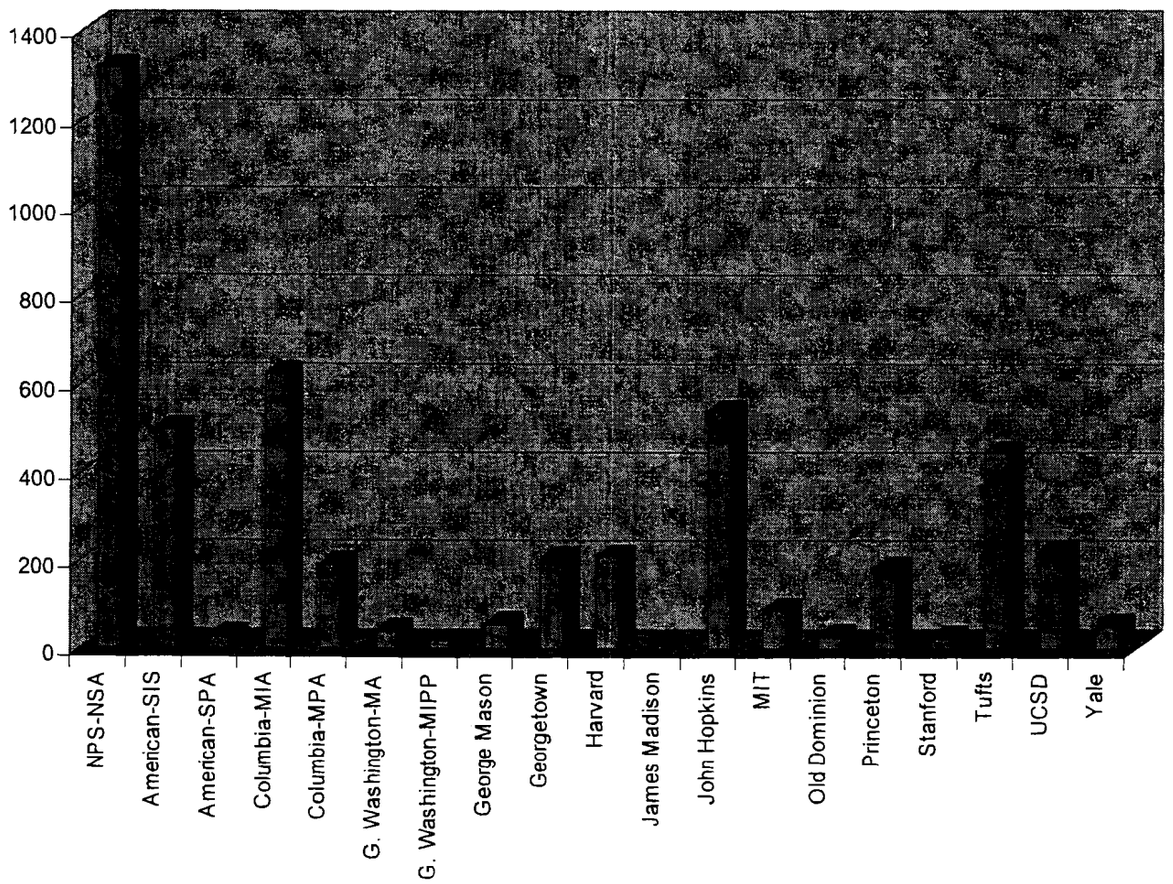


Table 15: Number of Degrees Awarded in 2003

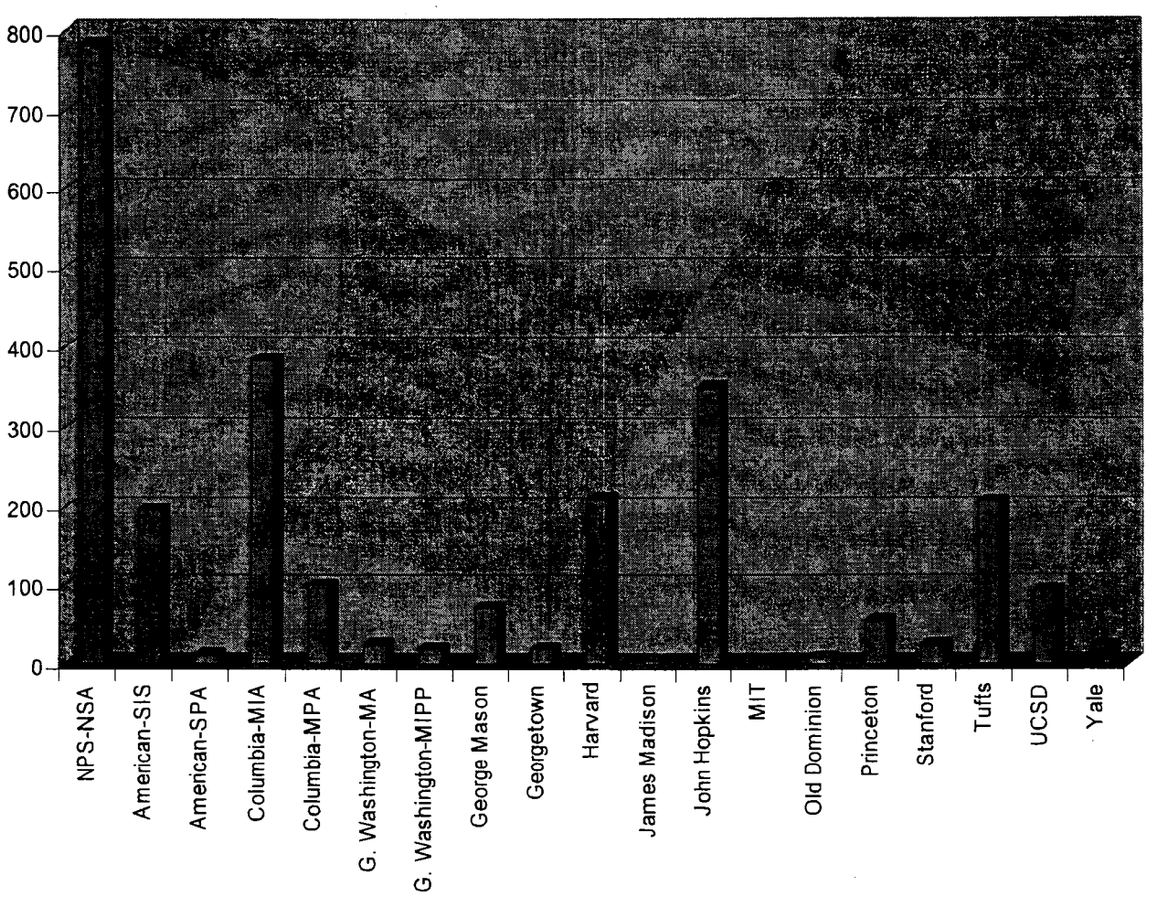


Table 16: Acceptance Rate

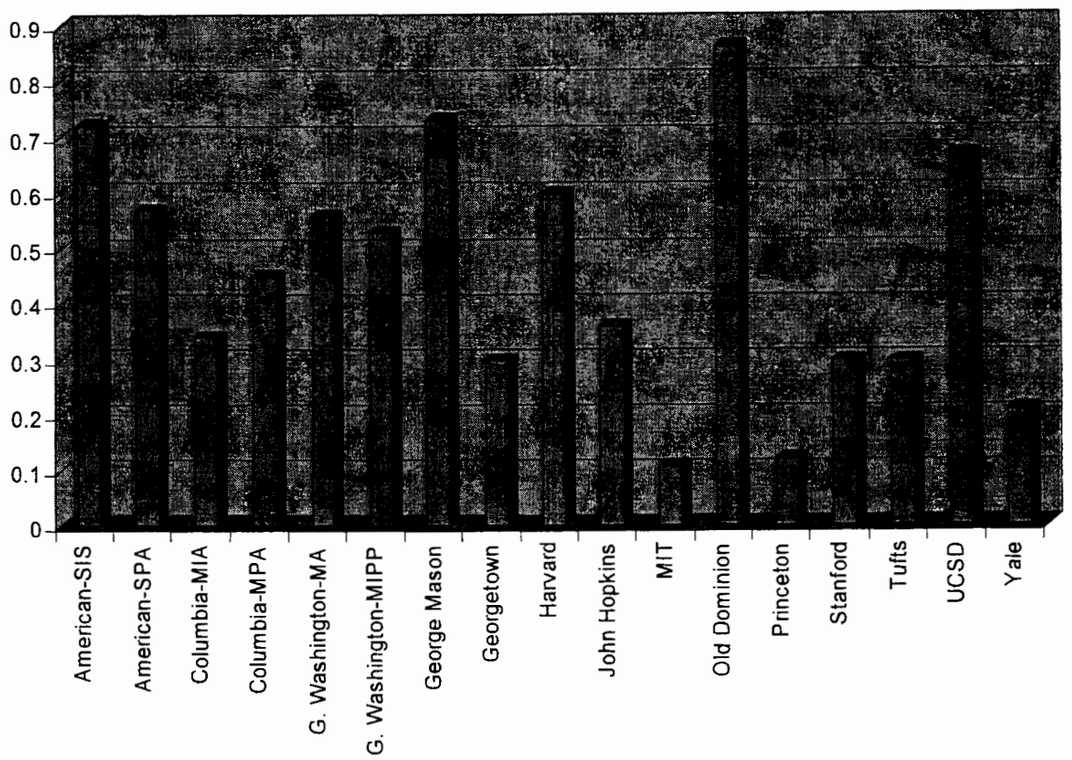


Table 17: Average GPA Scores of Admitted Students

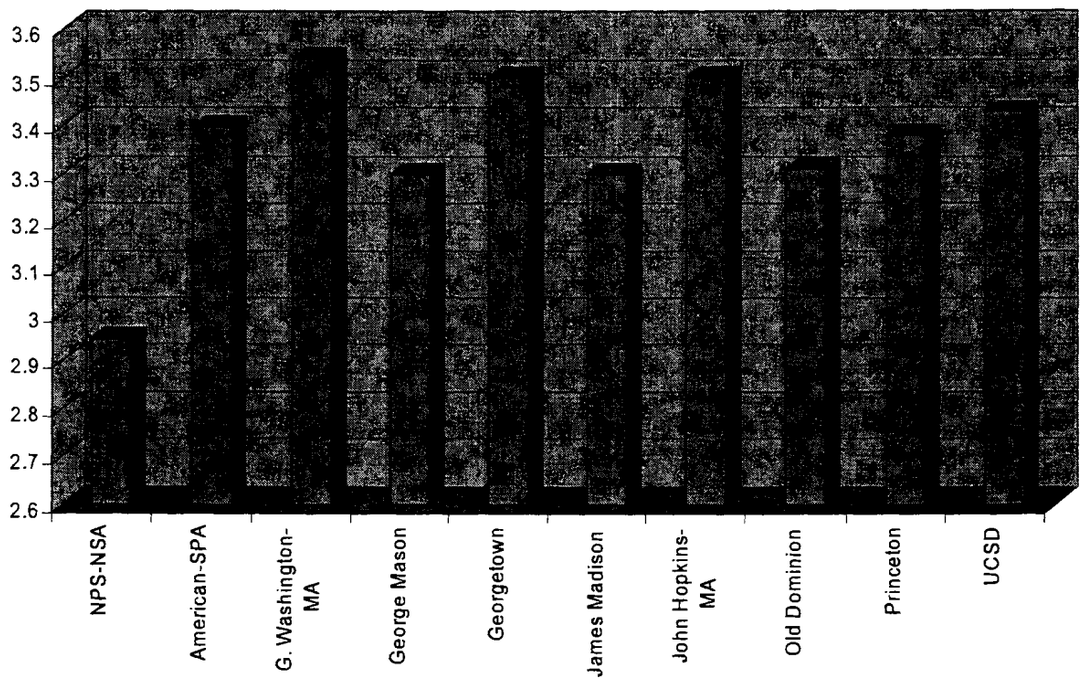
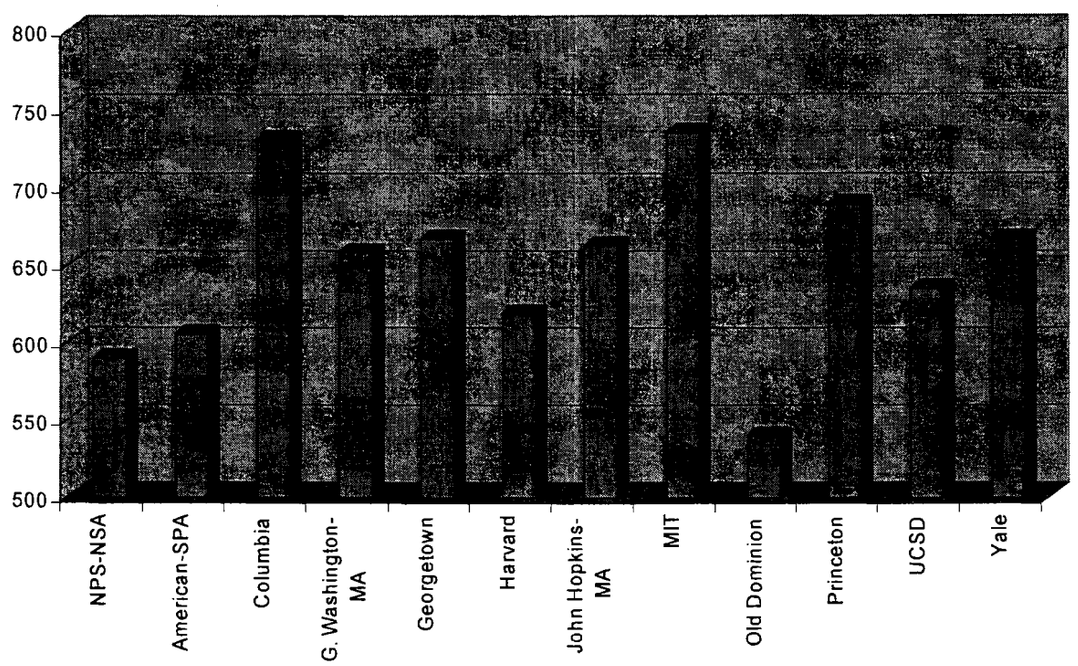


Table 18: Average GRE Scores of Admitted Students



NOTE: The NPS figure is for all students and was calculated in a study entitled "An Evaluation of GRE Data – An Experiment at NPS," by Donald R. Barr and Gilbert T. Howard. The NPS data should be viewed with caution, since it is based on an earlier version of the GRE.

Table 19: Percentage of International Students

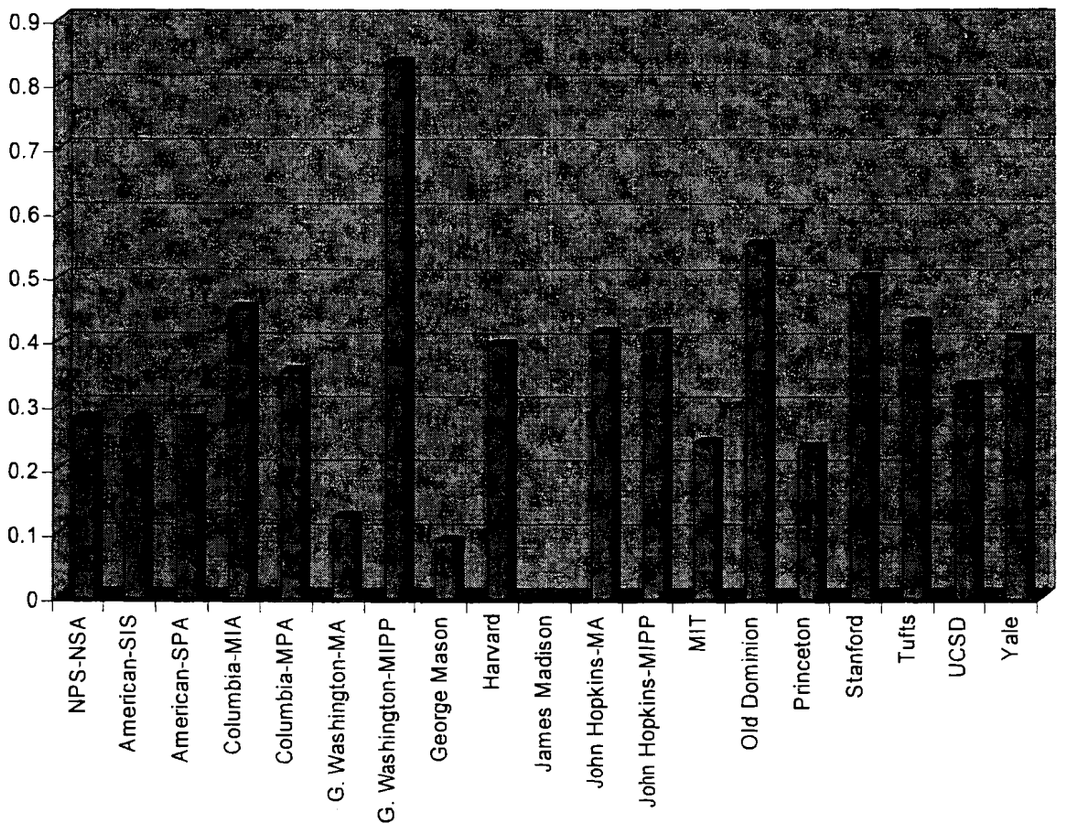


Table 20: Cost per Course

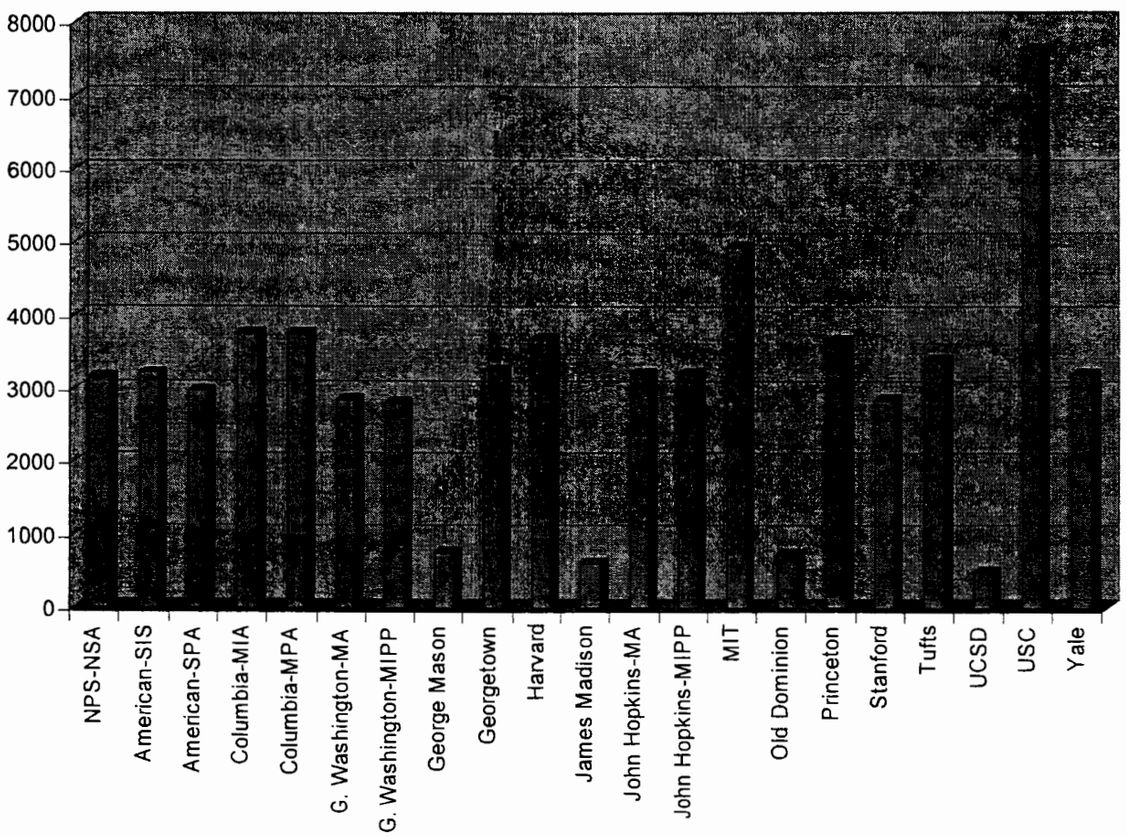


Table 21: Cost per Instructional Hour

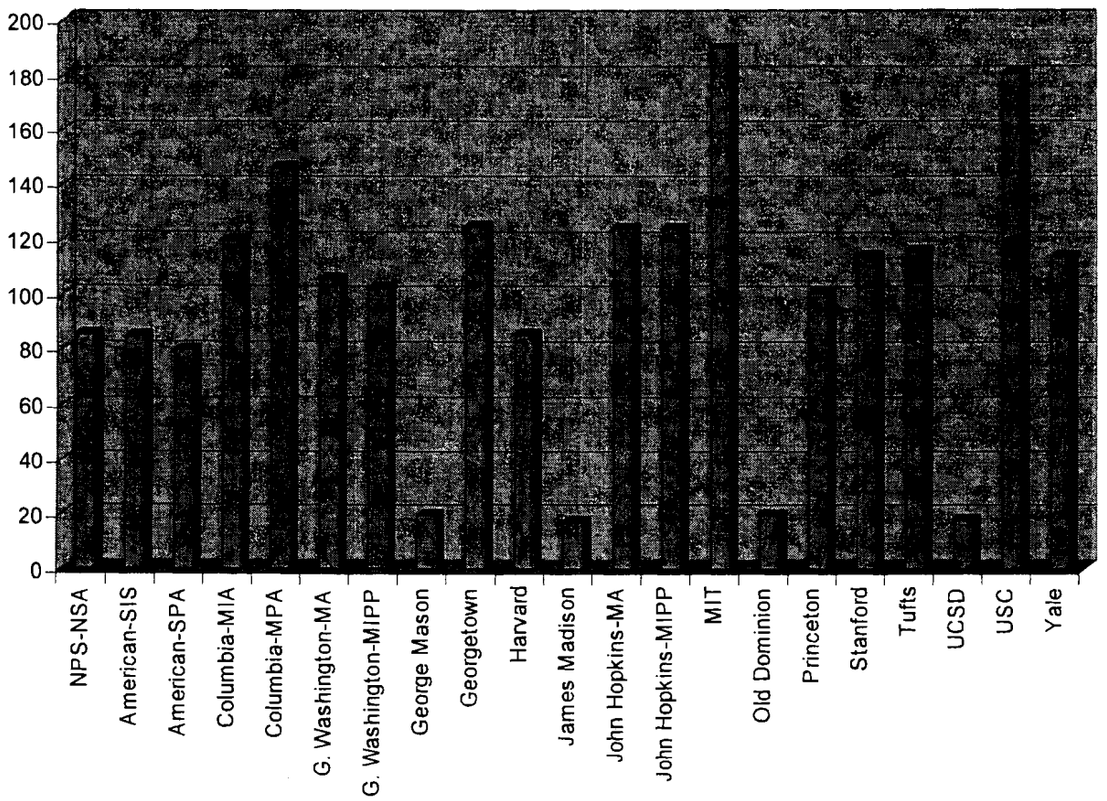
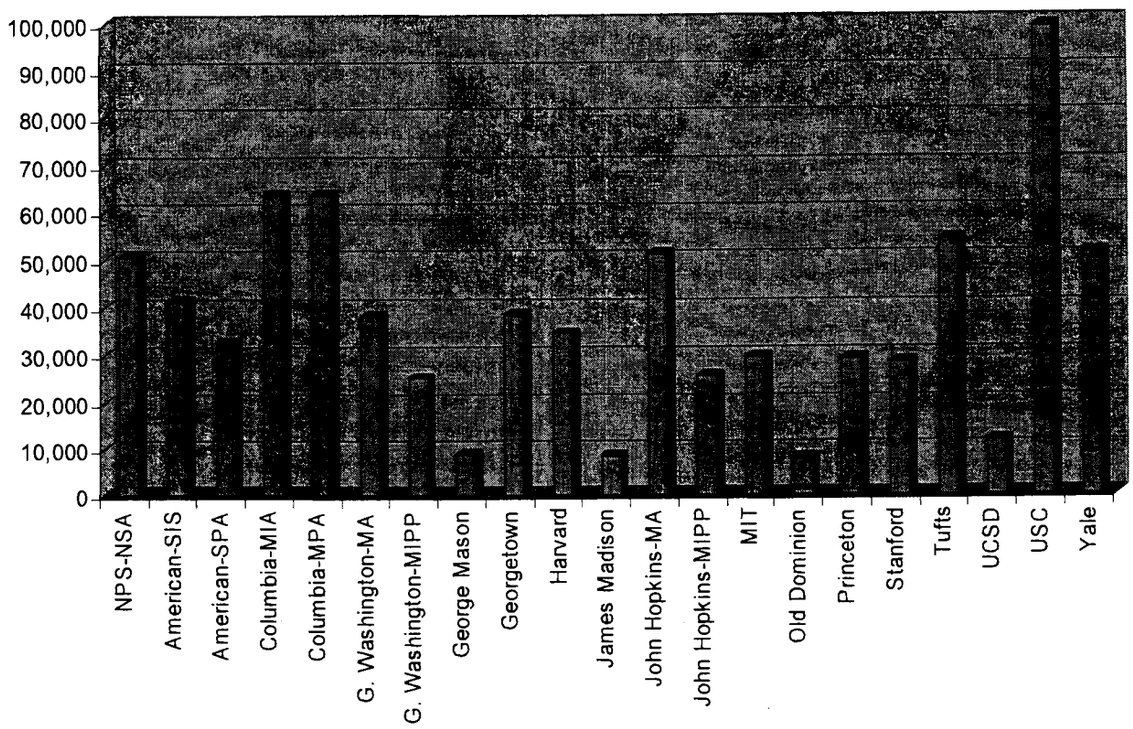


Table 22: Cost per Degree



Appendix 1: Detailed Comparison with the Strongest Civilian Program

Georgetown has the strongest program of the civilian schools surveyed, so a more detailed comparison of how it compares with the NSA department is pursued below.

In terms of cost, the two programs are roughly the same: the average cost per course at NSA is $3,155, while the comparable figure for Georgetown is $3,247. There is only one important dimension in which the Georgetown Security Studies program surpasses the NSA department: the former offers 100 military/security focused courses per year, while the latter offers 79 courses. In all other respects, the two programs are roughly similar or NSA is superior. Four key dimensions in which the Georgetown program is inferior to the NSA program are highlighted below.

First, the educational intensity of the Georgetown program is significantly lower than NSA's. Georgetown does not require a thesis, while the NSA department does. Classtime is also significantly lower at Georgetown (class contact hours are about half the time for a degree as compared to the NSA department). This partly reflects the fact reflects the fact that NSA students spend more time in class per week (14.6) as compared to Georgetown students (11.3). It also reflects the fact that Georgetown's program is 3 semesters while NSA programs are typically 5 quarters.

Second, although Georgetown offers more courses per year than NSA, the latter's course offerings are spread more evenly spread over the academic calendar; as a result, NSA students are able to receive an intense educational experience throughout the year. Specifically, Georgetown offers only half the number of security courses as NSA over the summer, and only 4 courses are actually offered by the Security Studies department.

Third, there are several important concentrations of study that NSA offers that are not available at Georgetown. Georgetown does not offer a concentration comparable to the Civil-Military Relations program available to NPS students (in fact, Georgetown offered no courses on civil-military relations during the 2003-2004 school year). Georgetown also does not have either a degree or concentration in homeland security, while NSA offers a unique degree with its MA in Homeland Security (of the schools surveyed GWU was the only one with a comparable degree, and it is not nearly as focused on Homeland Security as the NSA degree). Finally, while the NSA program of study allows students to combine a focus on security issues with a regional focus, Georgetown does not offer a comparable opportunity. Georgetown, like the NSA offers a large number of regional studies courses which focus specifically on security issues. However, Georgetown does not offer a comparable degree to the MA in Regional Studies. It offers Masters of Arts in Arab Studies, German and European Studies, Latin American Studies, and Russian and East European Studies, but these degrees do not focus on security issues. The MA in Security Studies offers no concentration for regional studies, and only requires a single course in regional studies.

Fourth and finally, NSA offers an educational opportunity to many students who would not be admitted to Georgetown. The average GPA of students admitted to Georgetown was 3.5, as compared to 2.95 for students admitted to NPS. Of the civilian programs surveyed,

Georgetown was one of the most competitive programs in terms of acceptance: only three schools (Princeton, Yale, and MIT) had a lower acceptance rate than Georgetown.

APPENDIX 2: NOTES, SOURCES, AND DATA

Table 1: Hours of class per week

Class time per week is the number of courses per week multiplied by the hours per week each course meets. Unlike the 1994 study, this study uses the typical number of classes taken per term rather than the maximum number of courses per year. This is calculated by dividing the number of total number of full-credit courses or equivalents needed to complete the degree, excluding internships, by the typical number of terms to complete the degree. For example a two-year, i.e. four semesters, degree program that requires the completion of twelve courses has a typical course load per term of three. This can result in average course loads that are not whole numbers. This is a better measure of the academic intensity of the program, since it represents the amount of classes that students actually take. The hours of class-time per week that each course meets is calculated from registrar pages and course syllabi. The sources are listed below.

	Average Courses per Term	Hours of Class per week per course	Hours of Class per Week
NPS-NSA	4	3:40	14.6
American-SIS	3	2:40	8
American-SPA	3	2:40	8
UCSD	4	2:50	11.3
Columbia-MIA	4.25	2:10	9.2
Columbia-MPA	4.25	1:50	7.8
George Mason	3	2:40	8
Georgetown	4	1:50	11.3
G. Washington-MA	3.3	1:50	9.4
G. Washington-MIPP	4.5	1:50	12.75
James Madison	3	2:45	8.25
John Hopkins-MA	4	2:00	8
John Hopkins-MIPP	4	2:00	8
Harvard	4	2:40	10.6
MIT	3	2:00	6
Old Dominion	2.75	2:40	7.3
Princeton	4	3:00	12
Stanford	3.3	2:30	8.25
Tufts	4	2:15	9
USC	2	3:00	6
Yale	4	2:10	8.7
Mean			8.9
Median			8.3

NSA

Class time taken from syllabi posted on the following web pages. Classes meet for 1:50 twice per week. http://www.ccc.nps.navy.mil/nsa/courseDescrip.asp

American University-SIS
Class periods meet for either 2:30 or 2:40 once a week. 2:40 is more common, and is the number used..
http://www.american.edu/american/registrar/schedule.html

American University-School of Public Administration
The same as American University-SIS.
http://www.american.edu/american/registrar/schedule.html

UCSD
Class time is taken from syllabi of courses on faculty web pages.
http://www-irps.ucsd.edu/academics/facultymain.php

Columbia
Class time per week is the weighted average of full-semester courses that are taken in the course of a degree:
http://www.columbia.edu/cu/bulletin/uwb/

George Mason
The class time per week is for a 3-credit full semester course.
http://registrar.gmu.edu/printed_schedule/spring2004.pdf

Georgetown
The class time per week is taken from syllabi of courses.
http://ssp.georgetown.edu/courses.html

George Washington
http://www.gwu.edu/~schedule/Spring.2004.Main.Campus.html

Harvard
There are two types of class meetings: 1) Meets twice a week for 2:40 total; 2) Meets once a week for 1:50. Approximately 1/3 of the classes also offer a review session. To compute the average amount of class time I use the following formula (1:50 + 2:40)/2 + (1/3)(1:20).
http://ksgregistrar.harvard.edu/reports/courses-fall.htm

James Madison
Phone conversation with the director of the MPA program

John Hopkins
http://www.sais-jhu.edu/studentservices/registrar/PDF/SCHEDULE04s-021004.pdf

MIT
http://web.mit.edu/polisci/grad/grad_subjects_now.html

Old Dominion
http://www.odu.edu/al/gpis/academic_program/current_schedule.htm

Princeton
Classes meet either once a week for 3:00 or twice a week for 1:30 each.
http://www.wws.princeton.edu/~grad/courses/crss04sch.pdf

Stanford
Phone conversation with the IPS staff.

Tufts
Number of hours of class time is the average between a typical lecture class which meets for 2:30 per week and a typical seminar class which meets for 2:00 per week.
http://fletcher.tufts.edu/academic/pdf/spring2004-schedule.pdf

USC
http://www.usc.edu/students/enrollment/classes/term_20043/index.html

Yale
Class time is the average between classes which meet twice a week for 1:15 each and the classes that meet once a week for 1:50.
http://students.yale.edu/oci/search.jsp

Table 2: Number of courses per year

The number of courses per year is calculated by multiplying the number of courses that a student typically takes per term by the number of terms per year excluding the summer (see the note to Table 1 for details on how this is calculated). This total is added to the number of courses that can be taken over the summer (see Table 3).

	No. of courses during regular schoolyear	No. of summer courses	Courseload per Year (including summer)
NPS-NSA	12	4	16
American-SIS	6	4	10
American-SPA	6	4	10
UCSD	12	0	12
Columbia-MIA	8	4	12
Columbia-MPA	8	4	12
George Mason	6	4	10
Georgetown	8	4	12
G. Washington-MA	8	4	12
G. Washington-MIPP	8	..	8
James Madison	6	4	10
John Hopkins-MA	8	2	10
John Hopkins-MIPP	8	..	8
Harvard	8	4	12
MIT	6	0	6
Old Dominion	9	1	10
Princeton	8	4	12
Stanford	10	0	10
Tufts	8	2	10
USC	4	1	5
Yale	8	0	8

Table 3: Summer course load

Like the 1994 study, this table shows the maximum number of courses that can be taken over the summer. However, it is likely that the results of the previous study were largely driven by mistaken coding. Many schools set a limit of two courses per session during the summer; nearly all of these schools offer two sessions. Including the multiple sessions allows for four courses to be taken over the summer. However, this measure alone may not fully represent the limited nature of summer sessions. Students can also be constrained by the course offerings. If the course offerings are less than the maximum number of courses that can be taken over the summer, then that number is used. The single-year mid-career programs (George Washington-MIPP, John Hopkins-MIPP, Harvard, Princeton) are not included in these tables since they are typically completed prior to the summer term. The sources for information on summer sessions are listed below:

	Summer Course Load
NPS-NSA	4
American	4
UCSD	0
Columbia	4
George Mason	4
Georgetown	4
G. Washington-MA	4
James Madison	4
John Hopkins-MA	2
MIT	0
Old Dominion	1
Stanford	1
Tufts	2
USC	2
Yale	0

American University
There are two sessions offered. Students can enroll in up to two courses per session.
http://www.american.edu/sis/summer
http://www.american.edu/other.depts/summer/index.html

UCSD
No classes are offered over the summer term. Students usually have an internship during this term.

Columbia-MIA
Students typically do not take classes during the summer. The summer session is used to fulfill the required internship. This study works under the assumption that a military officer

could get exempted from the internship requirement due to his or her work experience. If this is the case, the student could take summer classes. Students may take no more than 9credits in any six week session, 12 in any combination of sessions totaling nine weeks, and 15 credits in any combination of sessions totaling twelve weeks.
http://www.ce.columbia.edu/summer/pointLoads.cfm

George Mason
Students are limited to 12 credits (4 courses) over the summer term. (email correspondence with summer@gmu.edu).

Georgetown
There are two sessions offered. Students can enroll in up to two courses per session.
http://summerschool.georgetown.edu/academic.html#Load

George Washington
There are two sessions offered. Students can enroll in up to two courses per session.
http://www.gwu.edu/summer/essentials/index.html

Harvard University
There is a 4-week session before the MC/MPA degree that nearly all
http://www.ksg.harvard.edu/mcmpa-summer/details.htm
http://www.ksg.harvard.edu/mcmpa-summer/answers.htm

James Madison
Students are limited to 12 credits (4 courses) over the summer term.
http://www.jmu.edu/registrar/Summer2004.shtml

John Hopkins
Students are limited to 2 courses over the summer term
http://www.sais-jhu.edu/nondegree/summer/policies.htm

MIT
No summer classes are offered in the political science department at MIT. Students spend the term completing their theses.

Old Dominion
GPIS only offers one course over the summer term
http://web.odu.edu/al/gpis/academic_program/current_schedule.htm

Princeton
There is a mandatory 5-week summer session before the MPP. Even though this session is not organized into classes, for the purposes of Table 2, this is assumed to be the equivalent to four courses. This ensures that Princeton's course total is not underestimated.
http://www.wws.princeton.edu/degree/mpp.html

USC
It is assumed that students enroll in the same number of courses as during a regular term.

http://www.usc.edu/students/enrollment/classes/term_20042/index.html

Stanford
The ISP only offered one course over the summer 2004 term.
http://ips.stanford.edu/coursessum.html

Tufts
Students are limited to two courses over the summer term.
http://fletcher.tufts.edu/summerschool/general.shtml

Yale
No graduate level courses are offered over the summer in international relations, political science or history.
http://www.yale.edu/summer/

Table 4: Number of Courses Offered over the Summer

Table 3 does not fully capture the limited nature of some schools' summer programs. Although they may not place administrative limits on the number of courses which can be taken over the summer, some schools may offer only a limited selection of courses. An alternate measure of the constraints on class selection during the summer is to only use the number of courses offered during the summer term that are applicable to the relevant degree. Assuming that institutions that administratively limit the number of courses over the summer also limit their course offerings, this table provides a much fuller view of the intensity of summer sessions. For sources, see the note for Table 8.

Table 5: Number of Military/Security Courses Offered over the Summer

See the note for Table 4 for the rationale behind this table. For a description of the methodology and sources used to determine military/security courses, see Table 8.

	Number of Courses Offered in Summer	Number of Security Courses Offered over Summer Term
NPS-NSA	39	22
American-SIS	29	4
American-SPA	8	0
UCSD	0	0
Columbia-MIA	26	5
Columbia-MPA	26	5
George Mason	24	2
Georgetown	17	11
G. Washington	17	6
James Madison	2	0
John Hopkins	14	7
MIT	0	0
Old Dominion	1	0
Stanford	1	0
Tufts	7	1
USC	20	0
Yale	0	0
Mean	14	3.7
Median	14	1

Table 6: Total Hours of Instructional Time Per Year

The total hours of instructional time per year is the product of the number of courses offered per year (see Table 6), the hours of class time per course per week (see Table 1), and the weeks of class per term. Since many summer terms offer multiple sessions of varying lengths, for simplicity courses taken during the summer term are assumed to have the same amount of class time as those taken during a non-summer term.

	Classtime/week	Weeks of class	Courses per year	Class contact hours per year
NPS-NSA	3:40	10	16	587
American-SIS	2:40	14	10	373
American-SPA	2:40	14	10	373
UCSD	2:50	10	12	340
Columbia-MIA	2:10	14	12	364
Columbia-MPA	1:50	14	12	308
George Mason	2:40	14	10	373
Georgetown	1:50	14	12	308
G. Washington-MA	1:50	14	12	308
G. Washington-MIPP	1:50	14	8	205
James Madison	2:45	15	10	412
John Hopkins-MA	2:00	13	10	260
John Hopkins-MIPP	2:00	13	8	208
Harvard	2:40	13	12	416
MIT	2:00	13	6	156
Old Dominion	2:40	14	10	373
Princeton	3:00	12	12	389
Stanford	2:30	10	10	250
Tufts	2:15	13	10	293
USC	3:00	14	5	186
Yale	2:10	13	8	225
Mean				301
Median				308

Table 7: Total hours of instructional time to complete degree

The total hours of instructional time per year is the product of the total courses needed to complete the degree, the hours of class time per course per week (see Table 1), and the weeks of class per term. Since many summer terms offer multiple sessions of varying lengths, for simplicity all courses are assumed to have been taken during a non-summer term. Notes on specific schools are below.

	Total Hours of Instructional Time to Complete the Degree
NPS-NSA (five semester)	733
NPS-NSA (four semester)	587
American-SIS	485
American-SPA	411
Columbia-MIA	530
Columbia-MPA	437
George Mason	448
Georgetown	308
G. Washington-MA	360
G. Washington-MIPP	244
Harvard	404
James Madison	495
John Hopkins-MA	416
John Hopkins-MIPP	208
MIT	156
Old Dominion	411
Princeton	389
Stanford	250
Tufts	468
UCSD	680
USC	546
Yale	451
Mean	406
Median	416

NPS-NSA

Since the number of requirements for a MA varies with individual programs due to general electives, the max number of courses for a five-quarter and a four-quarter program are used to get a range within which a typical NSA degree would fall.
Five-quarter program = (20 courses)*(3:40 of classtime/week)*(10 weeks) = 733 hours
Four-quarter program = (16 courses)*(3:40 of classtime/week)*(10 weeks) = 587 hours

American-MIA
The thesis requirement is counted as two classes.

Columbia-MIA
Internship credits are not included. The total class time is calculated as follows:
(2 courses)*(4:30 of classtime/week)*(14 weeks) = 126 hours
(1 course)*(2:40 of classtime/week)*(14 weeks) = 37.3 hours
(14 courses)*(1:50 of classtime/week)*(14 weeks) = 359.3 hours
(2 courses)*(1:50 of classtime/week)*(2 weeks) = 7.3 hours
Total hours= 530

Columbia-MPA
Internship credits are not included

George Washington-MA
The total class time is calculated as follows:
(12 classes)*(1:50 of classtime/week)*(14 weeks of class per semester) + (4 skills courses)*(1:50 of classtime/week)*(7 weeks of class) = 359.3

George Washington-MIPP
The total class time is calculated as follows:
(8 courses)*(1:50 of classtime/week)*(14 weeks of class per semester) + (3 skills courses)*(1:50 of classtime/week)*(7 weeks of class) = 243.8

James Madison
The internship is not included in instruction hours.

Harvard
The total amount of class time is the sum of the regular year and the summer session. The amount of class time in the summer session is estimated at 101 hours. http://www.ksg.harvard.edu/mcmpa-summer/details.htm.

MIT
This does not include the thesis requirement and thus underestimates the total amount of instructor contract to complete the degree.

Princeton
The MPP program includes a mandatory 5-week summer session. The exact class hours for this were not obtainable. The total amount of class time in the summer session of Harvard is used as an estimate.

Table 8: Total number of military/security courses offered per year

This study classifies courses as military or security related using three different methods. The criteria used to classify courses as military/security courses is an update of that used by the 1994 study. The 1994 study coded courses as having a military emphasis if they are focused on 1) military history and strategy, 2) security and foreign policy, 3) regional security, 4) intelligence studies, 5) revolution and low-intensity conflict (including terrorism). In order to account for changes in the security climate after the Cold War, two additional categories were included: 6) peacebuilding and peacekeeping operations, or 7) homeland security.

General foreign policy classes, both on the foreign policy of the US and the foreign policy of other states, were categorized as military or security related. This upwardly biases the results for the civilian programs. While civilian foreign policy classes will undoubtedly touch on security issues, they are unlikely to be as security focused as the courses offered by the NSA department. Thus, this table gives civilians institutions the benefit of the doubt and likely overestimates their security course offerings.

To get an accurate and comparable sample of course offerings, the number of courses represents the number of courses offered in a calendar year. Each course was only counted once per year, even if offered in multiple terms. Only full-credit courses were considered.

	Military/Security Courses (only categories 1-5)	Military/Security Courses (categories 1-7)
NPS-NSA	67	79
American-SIA	21	27
American-SPA	1	2
UCSD	5	5
Columbia	35	43
George Mason	4	8
Georgetown	88	100
G. Washington	34	40
James Madison	0	0
John Hopkins	62	67
Harvard	11	11
MIT	11	11
Old Dominion	8	9
Princeton	9	10
Stanford	10	13
Tufts	18	22
USC	5	5
Yale	18	18
Mean Number	23	26
Median Number	11	12

John Hopkins
Course offerings are for spring 2004 and summer 2004. To get an estimate for a full year, the number of spring courses by two and added to the number of summer courses.
http://www.sais-jhu.edu/studentservices/registrar/PDF/COURSES04s-012904.pdf

Harvard
Course offerings are for fall 2003 and spring 2004.
http://ksgnotes1.harvard.edu/degreeprog/courses.nsf/wzByCourseNumber?OpenView

MIT
Course offerings are for fall 2003 and spring 2004.
http://web.mit.edu/polisci/grad/grad_subjects_now.html

Old Dominion
Course offerings are for summer 2004, fall 2004, and winter 2005
http://www.odu.edu/al/gpis/academic_program/prospective_schedule.htm

Princeton
Course offerings are for fall 2003 and spring 2004.
http://www.wws.princeton.edu/courses/crss04.html
http://www.wws.princeton.edu/courses/crsf03.html

USC
Course offerings are for spring 2004, summer 2004 and winter 2004. Courses were offered by the School of International Relations (IR), and the School of Policy, Planning, and Development (PPD).
http://www.usc.edu/students/enrollment/classes/

Stanford
Course offerings for summer 2003, fall 2003, winter 2004, and spring 2004.
http://ips.stanford.edu/courses.html

Tufts
Course offerings for fall 2003, spring 2004, and summer 2004.
http://fletcher.tufts.edu/academic/course-schedules.shtml
http://fletcher.tufts.edu/summerschool/courses.shtml

Yale
Course offerings for fall 2003 and spring 2004. Courses are offered in the subjects of International Relations, Political Science, and History
http://students.yale.edu/oci/search.jsp

Naval Postgraduate School-NSA
Course offerings are for Fall 2003, Winter 2004, Spring 2004, and Summer 2004 by the NSA department.
http://web.nps.navy.mil/%7Erelooney/AY2004Classes.htm

American-SIS
Course offerings are for spring 2004, and summer 2004, and fall 2004. Courses are offered by the School of International Relations.
http://www.american.edu/american/registrar/schedule.html

American-SPA
Course offerings are for fall 2004, spring 2004, and summer 2004. Courses are offered by the Government department.
http://www.american.edu/american/registrar/schedule.html

UCSD
Course offerings are for winter 2003, fall 2003 and spring 2004.
http://www-irps.ucsd.edu/academics/class_schedule.php
http://www-irps.ucsd.edu/academics/IRPS_cat2003.pdf

Columbia
Course offerings are for spring 2004, fall 2004, and summer 2004. Courses are offered by the International Affairs, Political Science, and History departments.
http://www.columbia.edu/cu/bulletin/uwb/

George Mason
Course offerings are for spring 2004, summer 2004, and fall 2004. Courses are offered by the Department of Public Administration, the Institute of Conflict Analysis and Resolution, and the the School of Public Policy (ITRN prefix).
http://registrar.gmu.edu/course_list.html

Georgetown
Used offerings for spring 2004, summer 2004, and fall 2004. Courses offered by Security Studies, Government, International Affairs, Public Policy, and Science, Technology and International Affairs departments. Graduate courses are numbered 350 and higher.
http://explore.georgetown.edu/schedule/04C/
http://explore.georgetown.edu/views/?viewid=60

George Washington
Course offerings are for spring 2004, summer 2004, and fall 2004.
http://www.gwu.edu/~elliott/academicprograms/courses/

James Madison
Course offerings are for fall 2003, spring 2004, and summer 2004. Courses have the prefixes PUAD or POSC were considered.
https://ecampus.jmu.edu/servlets/iclientservlet/ecampus/?cmd=login

Table 9: Number of Full-Time Faculty

This table measures the number of faculty members of the school or department which offers the degree of interest. Details of which academic unit is used are listed below by school. Only full-time faculty members were counted for the purposes of this study. Adjunct, visiting, and emeritus professors were not included. Language professors and instructors were also not included. Sources are below.

	Number of full-time faculty
NPS-NSA	38
American-SIA	73
American-SPA	22
UCSD	25
Columbia	58
George Mason	41
Georgetown	7
G. Washington-MA	14
G. Washington-MIPP	102
James Madison	21
John Hopkins	38
Harvard	141
MIT	24
Old Dominion	12
Princeton	113
Stanford	14
Tufts	42
USC	21
Yale	16
Mean Faculty	43
Median Faculty	25

Naval Postgraduate School
Faculty for the Department of National Security Affairs
http://www.ccc.nps.navy.mil/people/index.asp

American University—Masters in International Affairs
Faculty for the School of International Service
http://www.american.edu/sis/Faculty/bios.html

American University—Masters in Political Science
Faculty for the School of Public Affairs, Department of Government
http://www.american.edu/academic.depts/spa/gov/faculty/

University of California—San Diego
Faculty for the Graduate School of International and Pacific Studies

http://www-irps.ucsd.edu/academics/facultymain.php

Columbia University-MIA and MPA
Faculty for the School of International and Public Affairs
http://www.columbia.edu/cu/sipa/RESEARCH/
Full-time faculty are considered those listed under the category "Core faculty"

George Mason
Faculty for the Department of Public & International Affairs
http://www.gmu.edu/depts/pia/facsta/facsta.htm

Georgetown
Faculty for the Edmund A. Walsh School of Foreign Service, Security Studies Program
http://ssp.georgetown.edu/core.html

George Washington-MA in Security Studies
Faculty for the Elliott School of International Affairs, Security Policy Studies
http://www.gwu.edu/~security/, click on faculty link.

George Washington-MIPP
Faculty for the Elliott School of International Affairs
http://www.gwu.edu/~elliott/facultystaff/bios.html

James Madison
Faculty for the Department of Political Science
http://www.jmu.edu/polisci/, click on Faculty and Staff link.

John Hopkins
Faculty of School of Advanced International Studies
http://www.sais-jhu.edu/faculty_bios/
http://www.sais-jhu.edu/pubaffairs/publications/catalog/2003/Sec%204.pdf

Harvard University
Faculty for John F. Kennedy School of Government
http://ksgnotes1.harvard.edu/faculty

Massachusetts Institute of Technology
Faculty for the Department of Political Science
http://web.mit.edu/polisci/faculty/index.html

Old Dominion
Faculty for the Graduate Program in International Studies
http://web.odu.edu/al/gpis/faculty/faculty_roster.htm

Princeton
Faculty for the Woodrow Wilson School of Public and International Affairs
http://webdb.princeton.edu/dbtoolbox/query.asp?qname=faculty_faculty

Stanford
Faculty for International Policy Studies
http://ips.stanford.edu/cgi-bin/faculty.cgi

Tufts
Faculty for Fletcher School of Law and Diplomacy
http://fletcher.tufts.edu/faculty/faculty_index.shtml

USC
Faculty for School of International Relations
http://www.usc.edu/dept/LAS/ir/faculty/directory.htm

Yale
Faculty members of the International Affairs Council
http://www.yale.edu/ycias/iac

Table 10: Percentage of Faculty from a Top 15 Ranked Political Science Ph.D. Program

This measures the number of full-time faculty members with Ph.D.'s in political science, government, or international relations who received their Ph.D. from a top ranked Ph.D. program. Ph.D. program rankings are from the US News & World Report's *America's Best Graduate Schools, 2004*, p. 82. The top 10 schools in international politics are Harvard, Stanford, Columbia, Yale, University of Michigan-Ann Arbor, Princeton, UC-Berkeley, Duke, UC-San Diego, and Chicago. The top 15 schools in political science are Harvard, Stanford, UC-Berkeley, University of Michigan-Ann Arbor, Yale, Princeton, UC-San Diego, Duke, UCLA, Chicago, Columbia, MIT, Rochester, University of Wisconsin-Madison, Ohio State, University of Minnesota-Twin Cities, and University of North Carolina-Chapel Hill. Websites listing faculty members were not always clear as to what subject the degree was in. In cases of ambiguity, the best judgment of the author was used. Princeton, Stanford, and Yale were not included in this section due to a lack of information on the degrees of faculty members.

Table 11: Percentage of Faculty from a Top 10 Ranked International Politics Ph.D. Program

See the note to Table 10.

Table 12: Percentage of Faculty without a Ph.D.

This measures the percentage of full-time faculty members who do not possess a Ph.D. This graph is notable because the National Security Affairs program has a much higher percentage than any of the civilian programs. This is largely due to the presence of military officers on the faculty. Harvard and Tufts also have high percentages of non-Ph.D.'s. Like the NSA program, this is due to the presence of individuals who have earned their position on the faculty due to their "real-world" experience in the field of international studies, e.g. retired policymakers, rather than their academic credentials. For sources, see the note to Table 10.

	Percentage of Faculty from a Top 15 Political Science PhD Program	Percentage of Faculty from a Top 10 International Politics PhD Program	Percentage of Faculty Without a PhD
NPS-NSA	0.75	0.63	0.29
American-SIA	0.30	0.26	0.07
American-SPA	0.57	0.37	0.05
Columbia	0.87	0.71	0.00
G. Washington-MA	0.71	0.80	0.07
G. Washington-MIPP	0.80	0.38	0.05
George Mason	0.52	0.33	0.00
Georgetown	0.50	0.71	0.18
Harvard	0.95	0.74	0.06
James Madison	0.06	0.13	0.00
John Hopkins	0.79	0.75	0.05
MIT	1.00	0.77	0.11
Old Dominion	0.25	0.90	0.00
Tufts	0.63	0.25	0.00
UCSD	0.86	0.38	0.14
USC	0.83	0.55	0.05
Mean	0.65	0.54	0.07
Median	0.73	0.55	0.05

Table 13: Number of Full-Time Faculty with Security Specialization

A faculty member is considered to be a security specialist if his or her research and teaching focuses on either 1) military history or strategy, 2) security and foreign policy, 3) regional security, 4) intelligence studies, 5) revolution, low-intensity conflict, peacekeeping operations, or terrorism, or 6) homeland security. For the purposes of this table, faculty who are foreign policy generalists were not considered to be security specialists; only faculty members whose research or teaching focuses on the security aspects of foreign policy were included. Faculty members who specialize in conflict resolution are not considered security specialists. For sources, see the note to Table 10.

	Number of Full-Time Faculty with Security Specialization
NPS-NSA	25
American-SIA	8
American-SPA	0
UCSD	1
Columbia-MIA	4
George Mason	1
Georgetown	7
G. Washington-MA	13
G. Washington-MIPP	15
James Madison	1
John Hopkins-MA	8
Harvard	8
MIT	8
Old Dominion	3
Princeton	7
Stanford	2
Tufts	3
USC	3
Yale	2
Mean	6
Median	4

Table 14: Number of Full-Time Students

This compares the size of the sampled programs. Numbers are usually not available specifically for the exact degree used in this study, so the number usually represents the total number of masters students at the institutions. For example, the number for American University School of International Studies includes all graduate students, both masters students and Ph.D. candidates, at the School of International Studies. Source: *Peterson's Annual Guides to Graduate Studies: Graduate Programs in the Humanities, Arts & Social Sciences, 2004.*

Table 15: Number of Degrees Awarded in 2003

This is another comparison of the size of the sampled programs. The numbers may include other masters degrees that are offered by the program. Source: *Peterson's Annual Guides to Graduate Studies: Graduate Programs in the Humanities, Arts & Social Sciences, 2004.*

	Number of Full-Time Students	Number of Degrees Awarded in 2003
NPS-NSA	1319	784
American-SIS	498	196
American-SPA	29	12
UCSD	221	93
Columbia-MIA	623	383
Columbia-MPA	193	100
George Mason	57	71
Georgetown	205	20
G. Washington-MA	40	25
G. Washington-MIPP	18	20
James Madison	7	4
John Hopkins	540	350
Harvard	210	210
MIT	87	3
Old Dominion	29	8
Princeton	181	55
Stanford	25	25
Tufts	446	207
Yale	52	24
Mean	192	100
Median	134	40

Table 16: Acceptance Rate
Source: *Peterson's Annual Guides to Graduate Studies: Graduate Programs in the Humanities, Arts & Social Sciences, 2004.*

	Acceptance Rate
American-SIS	0.72
American-SPA	0.57
UCSD	0.67
Columbia-MIA	0.34
Columbia-MPA	0.45
George Mason	0.73
Georgetown	0.3
G. Washington-MA	0.56
G. Washington-MIPP	0.53
John Hopkins	0.36
Harvard	0.6
MIT	0.11
Old Dominion	0.86
Princeton	0.12
Stanford	0.3
Tufts	0.3
Yale	0.21
Mean	0.45
Median	0.45

Table 17: Average GRE Scores of Admitted Students

The sample size for these measures is limited since many schools do not compute or do not release these statistics to the public. The schools for which figures are available should still provide an estimate of the GRE and GPA scores expected for graduate programs.

GRE scores are computed using the same method as used in the 1994 study. The GRE scores shown in the table and on the chart are the averages of the average verbal and quantitative scores for each school. The table shows the average GRE score per section. It is on a 200-800 point scale. Most schools did not provide or do not require scores from all the sections. In this case the average of the reported sections was used. Few schools provided scores for analytic writing, so it was not included. See the notes on each school for more information.

	Average GRE Scores of Admitted Students
NPS-NSA	590
American-SPA	605
UCSD	635
Columbia	730
Georgetown	667
G. Washington-MA	658
John Hopkins-MA	663
Harvard	618
MIT	735
Old Dominion	540
Princeton	689
Yale	667
Mean	655
Median	663

Naval Postgraduate School
The NPS figure is for all students and was calculated in a study entitled "An Evaluation of GRE Data – An Experiment at NPS," by Donald R. Barr and Gilbert T. Howard. This data should be viewed with caution, since it is based on an earlier version of the GRE. However, it is only the recent data available on the GRE scores of NPS students.

American University-SIS
The minimum GPA for admission is 3.5. No average GRE and GPA scores are provided.
http://www.american.edu/sis/academics/grad/admission.html

American University-SPA
The combined average score for the GRE (old format) is 1814. The average analytic score is 5.
http://www.american.edu/spa/admissionsfaq.html

UCSD
The minimum GPA for admission is 3.0
http://www-irps.ucsd.edu/academics/criteria.php

Columbia-MPA/MIA
They do not keep statistics on GRE or GPA scores. By telephone interview, they said that the look for quantitative GRE scores in the 80th percentile. This was estimated to be 730.

UCSD
Statistics are for the fall 2003 entering class. Average verbal GRE score is 570; average quantitative GRE score is 700; average analytic writing GRE score is 5 (email correspondence with UCSD admissions department).

George Mason
Statistics are not kept on GRE scores since they are waived to students with GPA's over 3.3. (Telephone interview).

Georgetown
The website lists the average GRE score to be "in the mid to upper 600s." This was estimated to be 667. A minimum score of 5 on analytical section of the GRE is required for admission. A minimum GPA of 3.0 is required for admission.
http://ssp.georgetown.edu/faq.htm

George Washington
The middle 50% of GRE scores are provided in addition to the mean: Verbal: 590-640 (611); Quant: 650-720 (667); Analytical: 680-740(697); Analytical Writing: 5-5.5 (5.16). The middle 50% of GPAs is 3.43-3.70.
http://www.gwu.edu/~elliott/admissions/profile.html

James Madison
They do not keep statistics on GRE and GPA scores.

John Hopkins University-MA
The middle 50% of GRE scores are provided in addition to the mean: Verbal: 590-700(639); Quant: 630-750(687); http://www.sais-jhu.edu/admissions/ma/faqs.html
John Hopkins does not keep statistics on the MIPP program.

Harvard-MC/MPA
The average verbal score is 600; the average quantitative score is 626; the average analytical score is 637; the average analytical writing GRE score is 5.0.
http://www.ksg.harvard.edu/apply/FAQ.htm

Massachusetts Institute of Technology
The average range of the GRE scores is 720-750.
http://web.mit.edu/polisci/grad/faq.html

Old Dominion
Both GPA and GRE scores are median scores (email correspondence).

Princeton-MPP
52% of students have quantitative scores of 700-800, 35% have scores of 600-695. 52% of students have analytical scores of 700-800; 22% have scores of 500-599, 17% have scores of 600-699 (Phone conversation with admissions department).

USC
A minimum GPA of 3.0 is required for admission. Above average GRE scores are required for admission.

Stanford
They do not release GPA and GRE scores.

Yale
The average GRE score is 2000 (phone conversation with admissions department).

Table 18: Average Undergraduate GPA of Admitted Students

See the note for Table 17.

	Average Undergraduate GPA of Admitted Students
NPS-NSA	2.95
American-SPA	3.4
UCSD	3.43
George Mason	3.3
Georgetown	3.5
G. Washington-MA	3.54
James Madison	3.3
John Hopkins-MA	3.5
Old Dominion	3.31
Princeton	3.38
Mean	3.41
Median	3.4

Table 19: Percentage of International Students

This percentage is for full-time students. Source: *Peterson's Annual Guides to Graduate Studies: Graduate Programs in the Humanities, Arts & Social Sciences, 2004.*

	Percentage of International Students
NPS-NSA	0.28
American-SIS	0.28
American-SPA	0.28
UCSD	0.33
Columbia-MIA	0.45
Columbia-MPA	0.35
George Mason	0.09
G. Washington-MA	0.13
G. Washington-MIPP	0.83
James Madison	0.00
John Hopkins-MA	0.41
John Hopkins-MIPP	0.41
Harvard	0.40
MIT	0.24
Old Dominion	0.55
Princeton	0.23
Stanford	0.50
Tufts	0.43
Yale	0.40
Mean	0.35
Median	0.37

Table 20: Cost Per Course

Tuition Figures include tuition, plus any mandatory fees listed by the university. Due to the inclusion of mandatory fees, the cost per course may be slightly higher than what would be suggested if using the cost per credit hour. Students are assumed to have taken all classes during regular semesters and not during summer sessions, which often charge lower tuition.

The calculation of the cost per course and cost of the degree is explained below. The cost per instructional hour is calculated by dividing the cost of the degree by the total number of instructional hours.

NSA
Since the NSA program does not charge tuition, the cost per student is calculated by dividing the total operating costs by the number of students. The total expenditures for NPS in FY 2003 were $66.6 mil and expenditures for education were $18,489,000. The former number (which reflects all of the various elements both to maintain the base and educate each student for a one year period) was used.
http://www.nps.edu/Research/PPT/Annual%20Report%20for%20Web.pdf

American University- SIS
Tuition is for 2004-2005 school year. Tuition is $930 per credit hour. Students are assumed to be taking 9 credits per semester. Fees are $2580 per year. The cost per course is calculated by dividing the tuition and fees per year by 6. The cost of the degree is calculated by multiplying the cost per credit hour by 39 and adding two years of fees.
http://www.american.edu/american/registrar/tuition/index04.htm

American University-SPA
Tuition is for 2004-2005 school year. Tuition is $930 per credit hour. Students are assumed to be taking 9 credits per semester. Fees are $1080 per year. The cost per course is calculated by dividing the tuition and fees per year by 6. The cost of the degree is calculated by multiplying the cost per credit hour by 33 and adding two years of fees.
http://www.american.edu/american/registrar/tuition/index04.htm

University of California at San Diego
Tuition is for 2002-2003 school year. Course fees are $5014.50 with an additional $975 in fees. Out of state students are charged an additional $11,320 in tuition. The cost per course is calculated by dividing the fees for in-state students by 12. The cost of the degree is calculated by multiplying the in-state fees per year by two.
http://www-irps.ucsd.edu/academics/IRPS_cat2003.pdf, p. 22

Columbia University
Tuition is for the 2003-2004 school year. Tuition is $29,873 per year. Fees are $2027 per year. The cost per course is calculated by dividing the tuition and fees by 8.5. The cost of the degree is calculated by multiplying the tuition and fees per year by two.
http://www.sipa.columbia.edu/FINAID/tuition.html
$29,873 (full-time), $2027 in fees.

George Mason
Tuition is for the 2003-2004 school year. Tuition is $245 per credit for in-state students; $623 per credit for out-of-state students. Students are assumed to take $9 credits per semester. Fees are $50 per semester. The cost per course is calculated by dividing the in-state tuition and fees per semester by 3. The cost per degree is calculated by multiplying the in-state tuition and fees per semester by 4.
http://www.gmu.edu/catalog/tuition/#TOC_H3;

Georgetown
Tuition is for the 2003-2004 school year. Tuition is $25,728 per year or $1072 per credit hour; Fees are $250 per year. The cost per course is calculated by dividing the tuition and fees by 8. The cost per degree is calculated by multiplying the cost per credit hour by 36.
http://ssp.georgetown.edu/faq.html

George Washington-MA
Tuition is for 2004-2005 school year. Tuition is $877 per credit hour. Students are assumed to be taking 20 credits per year. Fees are $1500 per year. Cost per course is calculate by dividing tuition and fees per year by 6.67. The cost of the degree is calculated by multiplying the tuition and fees per year by two.
http://www.gwu.edu/~elliott/admissions/cost.html

George Washington-MIPP
Tuition is for 2004-2005 school year. Tuition is $877 per credit hour. Students are assumed to be taking 27 credits per year. Fees are $1500 per year. Cost per course is calculated by dividing tuition and fees by 9. The cost of the degree is equal to the tuition and fees per year.
http://www.gwu.edu/~elliott/admissions/cost.html

Harvard- Mid-Career Masters in Public Administration
Tuition is for the 2003-2004 school year. Tuition is $28,584 per year. Fees are $800 per year. The tuition for the summer program is $5300. Cost per course is calculated by dividing tuition and fees (excluding the summer program) by 8. The cost of the degree is calculated by adding the tuition for the summer program to the tuition and fees for the year.
http://www.ksg.harvard.edu/registrar/tuition-fees.htm

James Madison
Tuition is for the 2003-2004 school year. Tuition is $201 per credit hour for in-state students; $605 per credit for out-of-state students. Students are assumed to be taking 9 credits per semester. Cost per course is calculated by multiplying the per credit tuition by three. The cost of the degree is calculate by multiplying the per credit tuition by 42.
http://www.jmu.edu/stufin/rates/2003-04.shtml#0102g

John Hopkins
Tuition is for the 2003-2004 school year. Tuition is $25,000 per year. Fees are $700 per year (for the first year). Cost per course is calculated by dividing tuition and fees per year by 8. Cost per degree is calculated by multiplying the tuition and fees per year by two. The cost of the degree is calculated by multiplying the tuition and fees is equal to one year of tuition and fees for the MIPP, and two years for the MA.

http://www.sais-jhu.edu/pubaffairs/publications/catalog/2003/Sec%201.pdf

Massachusetts Institute of Technology
Tuition is for the 2003-2004 school year. Tuition is $29,400 per year. Fees are $200 per year. Cost per course is calculated by dividing tuition and fees per year by 6. The total cost for the degree is the same as the tuition per year (2 semesters), on the assumption that the student completes his thesis in the summer. For thesis students, the summer term is completely subsidized.
http://web.mit.edu/facts/tuition.shtml

Old Dominion
Tuition is for the 2003-2004 school year. Tuition is $235 per credit hour for in-state students; $603 per credit for out-of-state students. Students are assumed to be taking 9 credits per semester. Fees are $158 per year. Cost per course is calculated by dividing tuition and fees per year by 6. The cost of the degree is calculated by multiplying the in-state tuition per credit by 33, and adding two years of fees.
http://web.odu.edu/webroot/orgs/AF/FIN/fin.nsf/pages/2003-2004

Princeton University
Tuition is for the 2003-2004 school year. Tuition is $29,270 per year. Cost per course is calculated by dividing $29,270 by 8. The cost of the degree is equal to one year of tuition.
http://www.wws.princeton.edu/admissions/admiss_details.html#aid

USC
Tuition is for the 2004 fall semester. Tuition is $14,994 per semester. Fees are $242 per semester. Cost per course is calculated by dividing the tuition and fees per semester by 4. The cost per degree is calculated by multiplying the cost per course by 13.
http://www.usc.edu/students/enrollment/classes/term_20043/index.html

Stanford University
Tuition for 2003-2004 school year. Tuition is $28563 for three quarters. Cost per course is calculated by dividing the tuition for three quarters by 10. The cost of the degree is equal to tuition for three quarters.
http://gradadmissions.stanford.edu/information/financial.html

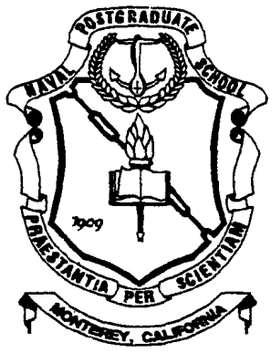
Tufts University
Tuition for 2003-2004 school year. Tuition is $26,625 per year. Fees are $519 per year. Cost per course is calculated by dividing the tuition and fees per year by 8. The cost of the degree is equal to two years of tuition.
http://fletcher.tufts.edu/admissions/tuition.shtml

Yale University
Tuition for the 2003-2004 school year. Tuition is $25,600 per year. Cost per course is calculated by dividing the tuition per year by 8. The cost of the degree is equal to two years of tuition.
http://www.yale.edu/graduateschool/financial/general_info.html

Table 21: Cost per Instructional Hour
See the note to Table 20.

Table 22: Cost per Degree
See the note to Table 20.

	Tuition (full-time)	Cost per course	Cost per instructional hour	Cost per degree
NPS-NSA	50492	3155	86	50480
American-SIS	19320	3220	85	41430
American-SPA	17820	2970	80	32850
UCSD	5990	499	18	11980
Columbia-MIA	31900	3753	120	63800
Columbia-MPA	31900	3753	146	63800
G. Washington-MA	19040	2855	106	38080
G. Washington-MIPP	25179	2798	103	25179
George Mason	4510	752	20	9020
Georgetown	25978	3247	125	38592
Harvard	29384	3673	86	34684
James Madison	3618	603	17	8442
John Hopkins-MA	25700	3213	124	51400
John Hopkins-MIPP	25700	3213	124	25700
MIT	29600	4933	190	29600
Old Dominion	4388	731	20	8071
Princeton	29270	3659	101	29270
USC	26916	7618	181	99034
Stanford	28563	2856	114	28563
Tufts	27144	3393	116	54288
Yale	25600	3200	114	51200



EXTERNAL REVIEW

OF THE

NAVAL POSTGRADUATE SCHOOL

BY

VISITING CIVILIAN PROFESSORS

1993-94

PROFESSOR THOMAS ADAMSON

University of Michigan

The University of Michigan

COLLEGE OF ENGINEERING
DEPARTMENT OF AEROSPACE ENGINEERING

FRANÇOIS-XAVIER BAGNOUD BUILDING
ANN ARBOR, MICHIGAN 48109-2118

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22 April 1994

Dr. Daniel J. Collins, Chairman
Department of Aeronautics and Astronautics
Department of the Navy
Naval Postgraduate School
1 University Cir
Monterey CA 93943-5000

Dear Dr. Collins:

The impressions I gained during my visit to the Department of Aeronautics and Astronautics, from the evening of April 6 through mid-morning of April 8, 1994, are set forth in this letter. According to your letter of 25 March 1994, you are interested primarily in how I would judge your students relative to entry into our program, the length and type of program they might follow at this university, and any suggestions I might have regarding improvements in your program. I have endeavored to answer your questions, in varying degrees of detail, and have added comments I feel are germane to your program and its review.

First, with respect to my judgment of your students vis-a-vis their entry into our program, I considered three groups; first were those students who could be considered for financial aid (not all would get it, but they would fall in the group generally considered for such awards). The second group consisted of those not eligible for financial aid, but acceptable for graduate study, and the third is made up of those students who would not be admitted for work in the graduate school.

When our graduate committee makes similar judgments, they have available the students grade point averages (GPA), their graduate record exam scores (GRE), and letters of reference; in addition, the strength of the school (particularly for foreign students) is taken into account. In my study of your student records, I had to rely on GPAs alone since GRE exams are not required at the present time. Also, since nearly every university represented was a well known U.S. academic institution, the strength of the undergraduate school was not a factor. Hence, my groupings may not be as carefully detailed as one might hope; nevertheless, they are, I believe, fairly accurate.

In my judgment, those students with GPAs greater than 3.25 would be considered for financial aid; next, our rules require that a GPA of 3.00 is required for graduation with an M.S.E. degree, so that number is generally used as the lower limit for acceptance into graduate school. In my study of student records I found the following approximate percentages for each group.

	GRI Could be considered for financial aid	GRII Admissible	GRIII Not admissible
Aero Eng (610)	18%	27%	55%
Aero Avionics (611)	22%	22%	56%

In our program, an M.S. degree can be completed by a typical student in one calendar year, although many students take three regular semesters, rather than summer school, so that their degree takes 1 1/2 years. However, there are some very important differences between your students and ours. The most important of these is the years out of school between undergraduate and graduate school for your typical student. I understand that this is at least three years and can be as long as 7 to 8 years for your entering students. In this event, review work is absolutely necessary, perhaps as much as a semester. Another important difference is that each of your students, no matter what their background may be, must graduate with an engineering degree, able to handle the educational skill requirements (ESRs) associated with the title of aeronautical engineer. For a person with a math or physics background, this could add as many as 6 to 8 courses to our curriculum to complete all the requirements generally covered in our undergraduate program. I might add parenthetically that because we also give Master of Science degrees in Aerospace Sciences, we can accept people with backgrounds in Math or Physics (for example) who wish to specialize in only one area of work (e.g. fluid mechanics) and thus do not need as many review courses. Because of the quite different educational requirements you face, as noted here, it is my opinion that if your students were to enter our program, their time for an MSE degree could vary anywhere from 15 months to two calendar years, depending upon their backgrounds and the amount of time they have been away from academic work.

Next, there are some important points to be made concerning the differences between the two programs. These differences are found in both the academic and research aspects of the programs and reflect fundamental differences in goals and philosophies. These differences can be described succinctly by noting that the Naval Postgraduate School provides training in applied engineering and the University of Michigan is essentially a research university. Certainly the academic curricula and research of each institution overlap in many ways, but the basic thrust of each is quite different. Hence, graduate students at the University of Michigan cover the same general material as that taught at the Naval Postgraduate School, but the emphasis here is on the theory and fundamental ideas underlying the material, and the emphasis at the N.P.S. is on a basic understanding of the material with regard to applications in vehicles and satellites — especially with regard to military applications.

In making the above comparisons, no criticism of either program is intended. Both philosophies are extremely important and necessary. The comparison is made simply to point out that officers attending the University of Michigan would receive an excellent education in aerospace subjects, but without most of the "hands on" experience they receive at the Naval Postgraduate School and little training in military applications. At the Naval Postgraduate School they receive an excellent education, but without some of the mathematical and physical foundations of the subjects.

Finally, comments on your research and faculty are in order. It is my impression that you have a very interesting research program which results in many important contributions to the research base in this country and an excellent training in applied research for your students. Your facilities are very good, and in some cases unique. The research carried out in this country in aerospace engineering covers an enormous range from the very scientific to the very applied. Your work fills one important niche in bridging the extremes and is unique, when compared to civilian universities, in its emphasis on military applications.

My impression of the faculty in your department is that they are very solid in training and output. They publish less in archival journals than their counterparts in other Aero Departments, but this is explained in large part by the fact that thesis research projects are carried out, with few exceptions, at the M.S. level so that many students might contribute to a long range project. In general there is considerable activity and several of the faculty have really impressive publication records. Those few who have not published in the past few years should be strongly encouraged to do so.

In summary, I believe that the Department of Aeronautics and Astronautics at the Naval Postgraduate School does an exceptional job in giving officers graduate training. A curriculum has been developed which gives people from varied backgrounds and with varied periods of absence from academic life the training needed to bring them to the graduate level in aeronautical and astronautical engineering. The research program is active and contributes much to the general research base and to the education of the students. Experimental facilities are unique. It appears that the Naval Postgraduate School has developed into a very important national asset.

I hope this evaluation is of some help to you and your faculty in your review.

Sincerely yours,

Tom Adamson

Thomas C. Adamson, Jr.
Professor Emeritus

TCA:cr

PROFESSOR LARRY BERMAN

University of California, Davis

UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY · DAVIS · IRVINE · LOS ANGELES · RIVERSIDE · SAN DIEGO · SAN FRANCISCO · SANTA BARBARA · SANTA CRUZ

DEPARTMENT OF POLITICAL SCIENCE
(916) 752-0966
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DAVIS, CALIFORNIA 95616-8682

April 12, 1994

Professor Thomas Bruneau, Chairman
Department of the Navy
Naval Postgraduate School
Department of National Security Affairs
1 University Circle
Monterey, CA 93943-5000

Dear Tom:

I have now reviewed the transcripts from students currently in some of your programs and compared them with a random sample of those already admitted into our MA program. As you might suspect, few (if any) of these students would meet our eligibility requirements. They are fortunate to have a high quality program like yours available.

I can report that at Davis, the average GPA for students admitted in 1993-94 was between 3.4 and 3.5 and the average raw GRE score was at 600 or 80th percentile. We also require students to submit letters of recommendation and written work. I have enclosed materials bearing on these admission requirements.

If I can be of any further assistance, please do not hesitate to call on me.

Sincerely,

Larry Berman

Larry Berman
Professor and Chair

LB:lrp-449

PROFESSOR RICHARD CYERT

Carnegie Mellon

Carnegie Mellon

Graduate School of Industrial Administration
William Larimer Mellon, Founder
Carnegie Mellon University
Schenley Park
Pittsburgh, Pennsylvania 15213-3890
412-268-2268

September 17, 1993

Dear Admiral Mercer:

I am enclosing a copy of a report from my visit. I thought it would be useful to you to have some of the things that I said and believe, in writing. I would be happy to get any suggestions for change.

You have a good shop, and I hope nothing intervenes to spoil it. NPS is a unique operation and should be maintained.

Again, thanks for your hospitality. Margaret and I both enjoyed the visit.

Cordially,

Richard M. Cyert

Richard M. Cyert

Admiral T. A. Mercer
Department of the Navy
Superintendent
Naval Postgraduate School
Monterey, CA 93943-5100

enclosure

cc: Richard S. Elster
Harrison Shull

REPORT ON VISIT TO THE NAVAL POSTGRADUATE SCHOOL

Richard M. Cyert
President Emeritus
Carnegie Mellon University

This visit was my first to the Naval Postgraduate School. My overall impression of the School was extremely favorable. A strong faculty has been put together in all of the areas that the School covers. Faculty are not only competent professionals, but they are also dedicated to the School. They are convinced of the importance of their mission and like the environment in which they are working. The faculty cooperate with each other and work well together. They are impressed with the students and enjoy teaching them.

All and all, this is an ideal kind of situation. There are relatively few civilian institutions that can boast of the same kind of dedication that NPS's faculty has. The building of a faculty of this calibre with these attitudes is a significant achievement and one of which the Navy can be proud. The School is a national asset and a particularly valuable one for the defense establishment.

Curriculum

The curriculum is well designed to achieve the objectives of the School. All of the areas in a standard graduate school are obviously not covered at NPS, but each area that the School undertakes to teach and research, is covered in a completeness that is admirable. I came away from my briefings with the impression of a curriculum that would result in outstanding education.

In addition, the teaching is excellent at NPS. There is an emphasis put on teaching that few civilian institutions can match. There is among the faculty a strong sense of the need to communicate effectively in order to make the School successful. The military students are treated as clients, and the faculty makes sure that the courses are taught well and that the overall education of the individual will meet the objectives originally established.

Research

The research records of the faculty members are good. The faculty takes advantage of the military knowledge in the School to make contributions to research that cannot be made by faculty members in civilian institutions. At the same time, the faculty do subject themselves to the same peer reviews that faculty members in civilian institutions do.

Their publications are in the journals of their disciplines. As a result, the School has developed an excellent reputation throughout the Country in the areas in which it teaches and does research. This accomplishment is a credit to the Navy. In terms of research and reputation, NPS outstrips the reputation of any other military school.

Outstanding contributions are made by the students in the form of theses that each must write. I was amazed at the quality of the theses. Part of the reason might be that the subject matters are part of the real world, whereas equivalent theses in civilian establishments are much more academic in nature. Most business schools have eliminated theses for master students because of the lack of relevance and quality. I would be opposed to the elimination of theses at NPS. Their loss would reduce the quality of education. It is clear that students are learning from writing the theses and the theses themselves in many cases are making an important contribution to the defense services of the United States.

General environment

The environment of the School is excellent. The students seem to be extremely happy at the School. They acknowledged that they are working hard, but are enjoying it. They appreciate the teaching as well as the interest of the faculty in the students. The emphasis on international

students is also desirable. From the standpoint of the United States having a mix of international students, is helpful because these students will become good ambassadors for the U.S. In the event of joint military operations, there will be much greater confidence on the part of the U. S. in foreign military establishments. International students also contribute to the educational process. Students tend to educate each other, and the international students are able to give the American military students a good background for understanding their countries. This need for international understanding has become increasingly important for the members of our military.

The library is an asset to the School. The librarian is excellent. She has a fine understanding of the whole area of automation which is the field with which librarians in all institutions must deal. The collection of classified work is important for students and faculty as well as for the country.

The computing facilities are good, and the supply of computers to faculty seems to be adequate. I heard no complaints about the lack of computers.

Laboratory facilities also seem to be good. I visited the laboratory doing the innovation on refrigeration and was favorable impressed. I was

impressed not only with the facilities, but with the way in which the students integrated with the faculty on the research and on their theses. Portions of the research became subjects for the theses, and, in turn, contributed to the research.

The one place where the environment could be improved is in the hiring of support personnel. Inadequacies in this area have resulted in a decrease in the amount of outside research funding that the faculty could achieve.

Some suggestions

I list a few ideas that might be considered as ways of improving the excellence of the School still more. Many of these suggestions are already being implemented by the administration and the faculty.

1. It would be good to do strategic planning. The process should be a bottoms-up effort in which each area utilizes its faculty to plan the future. The strategic plan should be forward looking and should have a heavy emphasis on comparative advantage. The plan should seek a research focus for each department. The areas of research should be limited and efforts should be made to concentrate the research on these areas so a greater impact might be made. The military relation is a unique comparative advantage. It distinguishes NPS from all other graduate

research institutions. It should be used to further both the research in the discipline, and in the military. It gives NPS a special niche in terms of all graduate schools. In the process of developing this plan, departmental chairs and senior faculty should attempt to answer the questions, "Why should anyone in the navy, army or airforce want to come here?" "What is it that we have that is unique"? This is a question that should be addressed frequently, and the occasion of a strategic plan is a good time to start. Plans should outline future directions in both teaching and research for the department and ultimately for the School as a whole.

2. It should be possible to recruit civilian students at the School without in any way reducing the role of the military. The basis for recruiting civilian students should be the military relationship. The students would be those that eventually want to work in foreign service of the State Department. They could also be naval architects. A few schools, including MIT, are teaching naval architecture. Perhaps a relationship with MIT could be developed whereby the naval architects studied at NPS for six months or a year. This education would give these architects a much better understanding of what is needed in the navy and could make it possible for them to do military work.

In general, I believe that bringing civilians to NPS will be much more

effective in the longrun than having the military scattered among large numbers of civilians elsewhere. Perhaps it isn't necessary to have things exclusively one way or another, but I do think that the impact of having a few officers in a large student body reduces their ability to be good ambassadors for the military. It would be much more effective in this respect to have more civilians at NPS interacting with the military there.

3. Research funding could be broadened also by more interactions with the civilian sector of the country. There should be an extension of the CRADA particularly with firms that are producing defense materials. I believe that the corporate sector would benefit significantly from some of the research that is underway and that might be underway. There is after all an overlap in needs between the military and the civilian. The research development of the new type of refrigerator, for example, can be of great interest to many companies in the civilian sector.

Along these lines it would also be desirable to change the rules on overhead. It should be possible in contracts to charge overhead. This is a fair way to proceed on research and would enable the School to get additional funds for their research from the civilian sector.

4. The waiver problem on new hirings should be examined with respect to research. It is now serving as a inhibitor for more research

money since the faculty cannot do additional research without hiring more support personnel. The net effect of the waiver regulation is a disincentive . It should be possible to hire new people when new funds ar going to be used to pay them. An increase in the number of postdocs would also be useful for increasing research.

5. The idea of a warfare technology course for the line officers should be considered. A number of things could be taught in this area, including leadership, and this would make the curriculum for the line officers symmetric with the specialists who come to the School. It might also have the effect of broadening the appeal of the School. The study of the environmental area would also fit into this core. One benefit of this core would be a short-run impact that would be helpful to officers' careers. Much of the work done in the School is of longer-run benefit to the students whereas the warfare technology core could have more immediate impact.

6. It would be helpful for deans and department chairs to be in organizations where they could compare notes with people in comparable positions in civilian academic institutions. It might be possible, for example, to get a group of technologically oriented schools, such as Cal Tech, MIT, Carnegie Mellon, and Rensselaer Polytechnic Institute, together

with NPS administrators to discuss problems.

7. The use of technology and instruction should be examined with a view toward extending the domain of NPS. It should be possible to give courses to naval areas far from Monterey. Short courses done in this fashion might be extremely valuable.

8. It would be good to emphasize the public relations side to a greater extent. I believe that U.S. citizens need to understand the valuable asset they have in NPS. It is unique, and the image of the School needs to be projected to a broader audience. I would like to see more stories of the accomplishments of the NPS faculty in national publications.

9. The tremendous advantage in teaching should continue to be exploited. There probably should be some seminars on different methods for teaching and on methods of learning. Some better understanding of the way in which people learn might help in improving still further the teaching. NPS has a great advantage in this area and should continue to be pushed.

Conclusion

My visit was short, but intensive. I obviously did not learn everything about the School in that short of time, but I think I did gain considerable knowledge about its operations. My overall impression is an

extremely favorable one. As a citizen of the United States I am proud of NPS and considerate it a major asset in making our military a first rate operation. The navy, in particular, needs this kind of school. The navy is the most technologically sophisticated of the services and must have a school where it can train naval personnel. We live in an age where knowledge is the crucial ingredient for operations of any kind, and the navy, through NPS, has a head start in maintaining a strong knowledge base. I do not believe the same kind of knowledge can be imparted through a soul reliance on civilian institutions. The military reference point for the curricula of NPS will not be duplicated in civilian institutions. Professional business schools in civilian universities have the problem of getting mathematics or statistics, for example, taught with example that are relevant for their students. Therefore, most professional schools tend to encompass this teaching within their schools. I think the analogy with the military appropriate. It behooves the Navy to maintain NPS in order to get an adequate post-graduate education for its officers. I feel strongly that NPS must be maintained, even at the cost of some other areas that might be dear to the hearts of naval officers. NPS is truly a national asset that must be preserved and nurtured.

PROFESSOR ANDRE DELBECQ

Santa Clara University

SANTA CLARA UNIVERSITY

ORGANIZATIONAL ANALYSIS AND MANAGEMENT

April 26, 1994

David R. Whipple, Chairman
Department of Systems Management
Department of the Navy
NAVAL POSTGRADUATE SCHOOL
Monterey, CA 93943 - 5000

Dear Professor Whipple:

Thank you for the hospitality and thorough overview of the programs of the Department of Systems Management. I have enclosed a summary of the points which I made orally at the close of the day. Yours is a program of very high quality and unique opportunity for which your faculty should take exceptional pride.

Please thank the faculty who took time to host my visit, provide detailed information regarding your programs and warmly welcome me to the School. Thanks also to Pat Paulson for handling all the logistics of the visit.

I hope we will find other occasions to be together.

Sincerely,

André L. Delbecq
Professor

SANTA CLARA, CALIFORNIA 95053 (408) 554-4469

André L. Delbecq

André L. Delbecq, D.B.A. is Professor of Management in the Leavey School of Business and Administration at Santa Clara University, Santa Clara, California, where he served as Dean from 1979-1989. Prior to 1979, he spent twelve years at the University of Wisconsin-Madison and four years at the University of Toledo. He has also held appointments in public, health services and social work administration.

EDUCATION:
Dr. Delbecq received his B.B.A. (cum laude) from the University of Toledo in 1958. He earned his Master of Business Administration (1961) and his Doctorate (1963) from Indiana University.

PRINCIPAL RESEARCH:
For a number of years his research and scholarship have focused on three topics: 1) executive decision making processes, 2) organization structure and design, and 3) managing innovation in rapid change environments. He is the author of the Nominal Group Technique and the Program Planning Model, both of which have been widely adopted in structuring decision-making in change efforts. Recently he has conducted research on the role of CEO's in technology firms, the business culture of Silicon Valley, and medical center governance.

PUBLICATIONS:
Dr. Delbecq has co-authored a readings book in management published by Richard D. Irwin; a book dealing with organization decision making published by McGraw-Hill; a book concerned with nominal and delphi techniques for program planning published by Scott-Foresman; and has authored more than eighty articles appearing in scholarly journals and books including: Academy of Management Journal, Academy of Management Review, Administration and Society, American Sociological Review, Administrative Science Quarterly, Health Services Research, Journal of Management Inquiry and Journal of Management Education. He has been the recipient of major research grants from HEW, NIMH, NASA, the Rockefeller Foundation, the Ford Foundation, the Robert Wood Johnson Foundation, and the American College of Physician Executives.

EXECUTIVE PROGRAMS:
Dr. Delbecq is recognized nationally for executive programs delivered to high technology industries as well as health, human services and government organizations. He has served as member of three corporate Boards of Directors, and twice as Board Chair. Corporate clients have included the U.S. Army Corps of Engineers, Tektronics, Rolm Mil-Spec, Dialog Information Systems, Lockheed, IBM, Syntex, Catalytica Corporation, and The American Electronics' Association.

For more than twenty years Dr. Delbecq was a member of the Estes Park Institute faculty for medical staff and trustee education. He was named as an Honorary Fellow in the American College of Physician Executives in recognition of service in the education of physician managers. He is currently a faculty member for the College. Medical Center clients have included Providence Hospitals, Scripps Hospitals and Medical Centers and the Western Association of Hospitals.

RECOGNITION:
Dr. Delbecq has served on the Board of Governors and as Chair of three Divisions of the Academy of Management: 1) Public and Nonprofit Sector, 2) Managerial Consultation, and 3) the Organization and Management Theory. He served as President of the Midwest Academy of Management and as President of the Western Academy of Management. In 1975 Dr. Delbecq received the Academy of Management's highest honor: he was elected Fellow in recognition of outstanding contributions by superior research, scholarship and service. In 1993 he was elected the 8th Dean of Fellows.

He has also served on the Initial and Continuing Accreditation Committees of the AACSB and on their Standards Committee. He has also served on Accreditation teams for the Western Association of Schools and Colleges.

INTERNATIONAL EXPERIENCE:
Dr. Delbecq has been a consultant and has lectured in Australia, Canada, England, France, Italy, Japan, Micronesia, Norway, South Africa and Thailand. He is active in the International Business Program at Santa Clara. He has consulted with ATAR, the French Development Agency, and chaired the Normandy France Advisory Board in California.

DEPARTMENT OF SYSTEMS MANAGEMENT
NAVAL POSTGRADUATE SCHOOL

Summary of remarks by André L. Delbecq at conclusion of his visit April 22, 1994.

I am very impressed with the quality of the program and the unique educational opportunity your faculty have constructed. In my view it is a remarkable leadership resource for the Navy which could not be duplicated by seeking to out source comparable educational programs within Business or Public Administration Schools in other universities.

Overall Quality of the Curriculum

The course syllabi, quality of instructional material, sequencing of learning, and the juxtaposition of basic theory courses with applied advanced courses show careful design. There would be no criticism of any of the programs at the Naval Postgraduate School (NPS) in comparison with quality business education in other major schools. The educational content is manifestly excellent.

Education for Professional Officers

An impressive feature of the programs at the NPS is that they fit perfectly the models of adult education shown to be most effective for professionals. They allow individual officers to enter the programs based on high motivation, even if their educational backgrounds at an earlier educational stage are technically deficient. The provision of "basic" courses to update and equalize preparation is laudable and not readily available in most institutions. Core and advanced courses are richly illustrated by problems which the professional officers have grappled within the past, and will face the future, thus making theory a "solution" rather than an abstract model. The richness of Naval and DOD materials as a focus for learning and application would not be available in other schools of business and public administration. Yet the faculty are sensitive to the need to consider transferable lessons from the private business sector where applicable. Your need based curricula carefully tailored to future requirements of "client" entities within the Department of Defense are remarkable examples of coupling problems, theory, critical analysis and exploration of creative solutions within a mission based context seldom found in professional education to the extent manifested in the programs reviewed at the NPS.

Sensitivity to Career Changes

The program is also particularly sensitive to the career changes facing young officers moving from very structured operational oriented circumstances to a new career stage where they will be involved in critical analysis and the formulation of policy for mission objectives. This shift from mission execution to analysis and policy is a non-trivial cognitive reorientation of which support staff and faculty are carefully attuned. The individual student thesis projects are also well constructed to reinforce this change in career stage and concomitant change of intellectual orientation.

Innovations

An outside observer cannot help but be impressed with the entrepreneurial and innovative character of the curricula programs within the department. Not only has an extraordinary effort been made to be responsive to needs of future careers of the officers, but many of the programs are models of cutting edge efforts. The linking of telecommunications with information systems, the exciting curriculum in acquisitions management, the unique multinational program in planning for international defense; each are truly innovative programs for which faculty deserve special credit for conceptualization. However, even in more traditional areas such as financial management, the careful tailoring of course materials to the special character of financial systems within government and the Department of Defense show unusual faculty energy devoted to meeting the needs of career officers. Your faculty is manifestly a cohort which stays in touch with the special needs of its professional adult students and its client organizations.

Faculty Credentials

I was impressed with the breadth of the faculty's credentials from a broad spectrum of America's best graduate schools, and with the relative youth of the faculty cohort. However, the fact that they are a faculty so fully engaged with their particular educational mission and not simply utilizing readily available educational materials makes an even more powerful impression.

The members of the department should take special pride that during an era of diminished resources they have responded by being even more proactive and entrepreneurial in conceptualizing educational designs.

Program Replicability

The NPS is clearly a high quality educational opportunity. Features which would not be duplicated in schools of business and public administration include:

An intense schedule which allows the completion of both remedial, core and specialized course work in a very short period of time, minimizing career disruption.

Illustrative course materials carefully tailored to the Navy and Department of Defense.

Several creative curriculum sequences particularly relevant to the Navy and DOD.

A quality faculty cohort intimately familiar with their client organizations.

Small class size that allows an almost tutorial relationship with these adult learners as they transition their careers and learn critical decision and analytical skills.

Suggestions for the Future

The Naval Postgraduate School seems to be one of the Nation's best kept secrets. My own regional and national involvement in both business and public administration has made me aware of most programs of excellence in this Country and overseas. Yet, prior to my visit I was unaware of the depth of quality and many programs of unique distinction with the School. The School should consider how to increase public awareness. It could also serve the "Nation's Faculties" by hosting seminars relative to several of its distinctive programs.

The international component of the program is an exciting multinational experience which could serve as a model for parallel efforts in global educational exchange. I would encourage the School to obtain funds to chronicle and strengthen this effort.

The physical facilities for the Programs which I visited are substandard and in need of renovation. I am embarrassed as a citizen to think that we are hosting foreign professional officers in these facilities.

The exchange between the governmental, military and private sectors relative to best practices could be enhanced if a small number of working professional students from high performing private sector firms were included within the student cohort. Just as exposing officers to foreign nationals is a growth experience, exposing them to the next generation of private sector leaders and the practices of their firms would also be a growth experience. (Perhaps as a beginning, some exchanges with Bay Area Schools having working professional students from technology firms could be facilitated in selected seminars.)

PROFESSOR N. P. FOFONOFF

Woods Hole
Oceanographic Institution

&

PROFESSOR D. R. CALDWELL

Oregon State University

Received
CPNLay 94

Dean Richard E. Elster
US Naval Postgraduate School
833 Dyer Road
Monterey CA 93943-5122

Dear Dean Elster:

This letter constitutes a joint report by N. P. Fofonoff of the Woods Hole Oceanographic Institution and D. R. Caldwell of Oregon State University concerning the practicality of transferring the programs of the Physical Oceanography program to a university setting or settings:

We examined the implications of two scenarios, 1) distributing the students to existing departments of oceanography throughout the country, and 2) having one single university administer a program on its campus to serve all of the students. Our conclusion was that scenario 1 was completely impractical and that although scenario 2 is possible, it would be less desirable than the current scheme.

Scenario 1: Navy officers chosen for the program would apply to existing civilian departments. Since no one department would receive more than 5-10 students, no substantial accommodations would be expected in their operating methods or curricula. Some considerations are:

1. Less than 16% of the students would be accepted. We determined this by examining the qualifications of students currently enrolled in the Air-Sea and Operational Oceanography programs. We found that only one of 63 students would probably be admitted to either the MIT-WHOI Joint Program in Physical Oceanography or the Physical Oceanography College of Oceanic and Atmospheric Sciences at Oregon State University. An additional 9 students' records were such that consideration for their admission at either institution would depend on their GRE scores and letters of reference, neither of which were available to us. Therefore a maximum of ten students (~16%) would be admitted to civilian schools. The rest would be unserved. (See note at end about the issue of student qualifications.)

2. Some of the classes, which are unique to the NPS curriculum would not be available. Examples are:

    a) MR2413: Meteorology of Antisubmarine Warfare,

b) MR2416: Meteorology for Electronic Warfare,
c) MR/OC3212: Polar Meteorology and Oceanography,
d) OC3266: Operational Acoustic Forecasting,
e) OC4267: Ocean Acoustic Prediction, and
f) a significant number of other courses.

3. Classified courses and theses are not available on any civilian campus known to us.

4. The "refresher" courses required by many of the students because they have been out of school for some years would not be available. Some of the NPS students have no undergraduate backgrounds in quantitative subjects; they require far more retraining than would be available in civilian institutions.

5. The interactions with the Navy sponsors, currently effective in the NPS oceanography programs, would not be appropriate.

6. It would be very difficult for the students to find thesis advisors because there is no reward to a professor for supervising a thesis effort 3-6 months in length which would rarely result in a publication.

Scenario 2: A "Request for Proposals" is published for one university to administer the NPS Oceanography program on its campus. The Navy would control admissions and review programs as it does at the NPS. The university would be expected to serve the same students the NPS serves at present. Some economies might be possible by this process of grafting the NPS program on to a university's pre-existing program. Some considerations we see are:

1. Close interaction with Navy hardware and software and with Navy units such as FNOC would be lost.

2. Security would still be an issue.

3. The economies might not be large because the university would have to hire a new staff to teach the courses and supervise the theses; no universities current staff could absorb them.

4. A university would be needed with strength in both meteorology and oceanography; the two programs would have to stay together because the majority of the students in oceanography are in the Air-Sea program.

5. It is very doubtful that any university could swallow the entire NPS. Therefore the oceanography students would be isolated from engineering students and others.

6. The esprit de corps of the students and their families, an advantage of the current system, might be lost.

7. A university would not want to hire tenured or tenurable faculty for a program that would rest on one contract.

Because of these considerations, it is our belief that, as long as there is a mission to train students of the nature of the present students in the subjects they are presently taught, the current method is probably the best way of accomplishing that mission.

Note concerning the quality of the students: A civilian department of physical oceanography is looking for students with the proven ability and background required to begin making advances in the state of the art within two years. It needs students with advanced backgrounds in mathematics and physics, and offers little in the way of help to students without those backgrounds. The MS is a degree given to those who enter but who once on board cannot meet the standard. There is not a great need for such students in civilian employment. The NPS, on the other hand, has the mission of training Naval officers with widely varying backgrounds and levels of ability, thereby adding value to the Navy's personnel. The accomplishments of the NPS lie in the "value added," and should be viewed in that light. We find the accomplishment of the physical oceanographers to be impressive indeed.

Sincerely yours,

Nickolas P. Fofonoff
Woods Hole Oceanographic Institution
Woods Hole MA 02543

Douglas R. Caldwell
Oregon State University
Corvallis OR 97331-5503

cc: Curt Collins

PROFESSOR JOHN LLOYD

Michigan State University

DEPARTMENT OF MECHANICAL ENGINEERING
COLLEGE OF ENGINEERING
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March 21, 1994

Dean Richard Elster
Dean of Instruction
Code 06
Naval Postgraduate School
Monterey, CA 93943-5135

Dear Dean Elster:

It was a pleasure to visit the School during the period of March 9-13, 1994. I have written a summary report of my visit which is enclosed herein. NPS is truly a high quality, unique program that you should be proud of.

Please let me know if there is anything else that I can do to help. My very best wishes for continued successes.

Sincerely yours,

John R. Lloyd
University Distinguished Professor

NPS Mechanical Engineering Program Review Comments

STUDENTS:

I reviewed the application information for 78 students who are currently here at NPS. Upon review of their data, I made a best estimate about whether they would be accepted into the Department of Mechanical Engineering at Michigan State University. We normally require scores from the Graduate Record Exam, three letters of reference, a statement of purpose, and the TOEFL score for the international students in addition to the information I had for the NPS students. For admission to our MS program, we require at least a 3.1 GPA at the undergraduate level in Mechanical Engineering or a closely allied curriculum such as Aerospace Engineering or Civil Engineering. We require students to complete the MS degree for admission to the PhD program. For the GRE scores, we consider the Analytical and Quantitative scores only. We want them to be in the top 75th percentile for the Analytical and the top 85th percentile for the Quantitative. For international students, we currently require a TOEFL of 570, but we are planning to increase that to 580. Without these scores, we cannot be sure that the students can communicate well enough to take our courses. The TOEFL score is an absolute requirement and will eliminate the student from consideration independent of any other qualifications.

With this background, I found 13 of the 78 students would be admitted to our program. Of these, four would be required to make up some undergraduate courses so that they would have the proper prerequisites for their graduate courses. I would expect that the students would take about two years if they do not have to make up any classes. One should add about another nine months for a typical course make up program. We do not teach many courses in the summer, but the time for make up could be accelerated if more courses were taught in the summer. It should be noted that more than 90% of our students do thesis or project, and that experience typically takes a little over a year to complete.

We could not teach all the courses that you teach without hiring additional faculty. We also could not teach many courses in the summer without additional financial support. We have no special courses to bridge other curricula to ME, and so that would have to be set up. This would require new faculty, and the teaching of bridge courses would not help them in attaining tenure.

FACULTY:

The Mechanical Engineering faculty at NPS is very strong. The education that they provide is very high in quality. The effort that is required of some of them to teach, especially some of the bridge and the total system design courses, would be counter productive in achieving tenure at MSU.

The faculty members hold high standards for the students. I believe that grades earned at NPS would be the same grade awarded at MSU for the equivalent performance level. To achieve this with the backgrounds of most of the NPS students requires a dedicated effort by the faculty, a highly motivated student group, and the maturity that comes from their experience base. I believe that, with few exceptions, the students perform to the maximum of their abilities. Both the students and the

faculty are to be congratula' ' on their accomplishments.

OTHER COMMENTS:

Student interaction is an important part of the education process. Students here at NPS work together as well as anywhere. In the civilian university, students work together in their courses, with their office mates, and with their fellow students in the research laboratories. Students here experience the same process.

The curriculum of about 16 credits per quarter, four quarters per year for two years is very intense. This would not be possible at MSU. We only allow students to take a maximum of 12 credits per semester, and very few can handle even that. The heavy course load at NPS is necessary since about 60% of the students are from "out of field" curricula, and they are required to finish the degree in a two-year time frame regardless of background.

I encourage you to continue a strong graduate education requirement for your best officers. Engineering is particularly important in today's environment, which is driven by technology in every aspect. Effective managers of tomorrow (even today) need sufficient technical background to guide their decision making. In past times life could be conducted in separate groups. Today we deal with technical systems, and system understanding and management is critical. Leaders of tomorrow will require both management skills, which are learned in great part through military experience, and technical skills, which must be learned through the additional education programs such as NPS.

NPS can conduct classified research and interact with agencies such as the CIA. Civilian institutions will not do this.

The focus for teaching and research is combat effectiveness. No civilian institution includes this in their teaching and research programs, and it would be difficult to find a major research university that would.

SUMMARY:

NPS offers a unique education opportunity that would not be feasible to establish in a civilian, major research university.

Admission Summary NPS ME Students

Name/No	University	Deg	Major	GPA	Prof	MSU?	Rem?	GPNPS
1	San Jose State	BS	Chem	3.35	122	N	B	3.07
2	U Missouri	BS	ChE	2.69	231	N	G	3.90
3	Ohio St	BS	MetEng	2.87	221	N	G	3.12
4	USNA	BS	Eng	2.53	333	N	G	3.12
5	USNA	BS	Eng	2.43	333	N	G	3.66
6	USNA	BS	ME	2.85	221	N	G	3.75
7	USNA	BS	OceanE	2.47	331	N	BG	3.81
8	UMd	BS	Aero	3.95	010	Y	PhD	3.90
9	Cornell	BS	GeolSci	2.86	213	N	GB	3.52
10	USNA	BS	Econ	2.52	333	N	GB	3.45
11	USNA	BS	Math	2.79	223	N	GB	3.61
12	UWash	BS	ME	2.95	464	N	G	3.02
		BS	CE	3.01				
13	SoOregSt	BS	Phys	3.61	000	Y	MU	3.95
14	PennSt	BS	Chem	3.34	112	N	B	3.89
15	UMiss	BS	ME	2.91	221	N	G	3.57
16	Clemson	BS	ME	3.29	111	Y	MS	3.26
17	UWyoming	BS	Petro	2.65	223	N	GB	3.10
18	USNA	BS	EE	3.50	111	Y	MU	3.95
19	USMMA	BS	Marine	2.84	213	N	GB	3.4+2W
20	SCarolinaSC	BS	Chem	2.98	212	N	GB	2.89
21	USNA	BS	ME	3.37	111	Y	MS	3.70
22	USNA	BS	ME	2.29	333	N	G	3.32
23	Villanova	BS	ME	3.89	020	Y	PhD	4.0
24	USNA	BS	Oceanogra	3.14	223	N	GB	3.94
25	Purdue	BS	ME	2.65	223	N	G	3.58
26	Purdue	BS	Nuclear	3.11	221	N	GB	4.0
27	UTenn	BS	EngSci	2.96	221	N	G	3.39
28	Worcester	BS	ME	3.29	121	Y	MS	3.24
29	Auburn	BS	ME	2.99	221	N	G	3.20
30	MassMaritime	BS	MarineTran	2.96	235	N	GB	3.75
31	Purdue	BS	Chem	3.02	221	N	GB	3.65
		BS	ChE					
32	IowaSUSciTec	BS	IE	2.93	222	N	GB	3.64
33	GaTech	BS	Nuc	2.56	321	N	GB	3.58
34	SUNY Bing	BS	Math	3.43	103	N	B	3.52
	BosU	MBA	Mgmt					
35	USNA	BS	NavArch	2.75	221	N	GB	3.69
36	Pitt	BA	Econ	2.94	224	N	GB	3.33
37	UMinn	BS	Business	2.68	214	N	GB	3.74
38	SouthernU LA	BS	Math	3.37	104	N	B	2.99

39	USNA	BS	Eng	2.71	221	N	G	3.94
40	UFlorida	BS	ME	2.97	211	N	G	3.72
41	HamptonU	BS	ChE	3.29	121	Y	MU	3.41
42	VPI&SU	BS	Math	2.70	223	N	GB	3.39
43	GaTech	BS	ChE	2.47	331	N	G	3.75
44	USNA	BS	ME	3.27	100	Y	MS	3.90
45	UKansas	BS	ME	3.61	010	Y	PhD	4.00
46	OhioSU	BS	ME	2.80	221	N	G	3.48
47	VMI	BS	Chem	3.45	112	N	B	3.51
48	SUNYMartime	BS	EE	2.26	333	N	GB	3.33
49	Columbia	BS	Chemistry	3.01	222	N	GB	3.45
50	USNA	BS	ME	2.71	223	N	G	3.72
51	USNA	BS	OceanEng	2.32	333	N	GB	3.23
52	USNA	BS	Eng	2.45	333	N	G	3.28
53	USNA	BS	Ocean	2.58	321	N	GB	3.50
54	USNA	BS	Math	2.60	213	N	GB	3.50
55	UTenn	BS	ME	3.02	221	N	G	3.25
56	USNA	BS	Math	2.99	203	N	GB	3.45
57	USMerchantMar	BS	Marine	3.40	111	N	B	3.67
58	Purdue	BS	AvaiTech	3.82	012	N	B	3.52
59	UIllinois	BS	Nuclear	2.63	233	N	GB	3.94
60	USNA	BS	ME	2.87	221	N	G	3.83
61	UUtah	BA	Arts	3.16	224	N	GB	2.96
62	USNA	BS	ME	2.51	321	N	G	3.38
63	SUNYCortland	BS	Anth	3.53	135	N	B	3.0T
64	USNA	BS	ApplSci	3.07	223	N	GB	3.64
65	Auburn	BS	TextileEn	3.35	112	Y	MU	3.92
66	Northwestern	BS	ME	2.44	321	N	G	3.43
67	Vanderbilt	BS	CE	2.52	331	N	G	3.30
68	USNA	BS	ME	2.26	323	N	G	3.13
69	UIdaho	BS	ME	3.11	221	Y	MS	3.72
70	USNA	BS	ME	2.86	211	N	G	3.63
71	UConn	BS	ME	3.58	110	Y	PhD	3.90
72	UArizona	BS	ME	2.45	323	N	G	3.63
73	CalMaritmme	BS	MarineETec	3.58	114	N	B	3.92
74	Auburn	BS	ME	2.89	221	N	G	3.66
75	USNA	BS	Ocean	3.26	122	N	GB	3.86
76	MaineMaritime	BS	MarineE	2.25	335	N	GB	2.89
77	UPitt	BS	METechnol	3.89	012	N	B	3.55
78	USNA	BS	Eng	2.56	323	N	G	3.03

PROFESSOR STEPHEN LONG

University of California,
Santa Barbara

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

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January 14, 1994

Richard Elster
Dean of Instruction
Code 06
Naval Postgraduate School
589 Dyer Rd, Rm 100
Monterey, CA 93943-5135

Dear Dr. Elster:

You will find below a summary of my observations comparing the MSEE program admission criteria of NPS with that of the Department of Electrical and Computer Engineering at UC Santa Barbara. I also comment on the probable length of stay of your naval officers if they were admitted to UCSB. Our MS program with thesis requires an average of two years for completion.

Admission criteria. During my visit to NPS (12-14 December 1993), I reviewed 50 admissions files of Naval officers currently in the graduate program at NPS. Out of the 50, I determined that approximately 20 would be admitted to the UCSB graduate program based on grades and strength of recommendation alone (we also require GRE scores, but this information was not available for comparison). While most of these had BSEE undergraduate background, some were from other technically oriented majors. Since the ECE field is very broad, some of our graduate areas routinely admit students with undergraduate work in math (controls and signal processing) or physics, chemistry, or chemical engineering (solid state) or computer science (computer engineering). Of the 30 who were not admissable, the most common reason was a GPA less than our minimum standard for the MS program (typically 3.0 or higher). We find that a strong undergraduate background is necessary for our MS students to compete successfully in the graduate courses with the Ph.D. students, many of whom are extremely strong technically.

In addition, some would not be admitted because of inadequate technical undergraduate background even if their GPA were above 3.0. Some of the stronger students in this category might be encouraged to apply for the BSEE program at the third year. This would be necessary because we do not have any path built into the MS program for those who need review or preparation at the undergraduate level. Since time to degree is monitored closely by the UC system, there is no incentive for us to extend the stay of MS students who would need undergraduate work normally required in the second or third year of our BS program.

Length of stay. As mentioned above, a MSEE student at UCSB who elects to prepare a thesis can expect to stay about 2 years. I would expect the 20 above to fall into this category unless they also needed to review undergraduate material due to the significant time gap between receiving their BS and their admission to graduate school. If we were to admit students with deficient technical backgrounds, an additional 1 to 2 years of undergraduate work would also be necessary. This process is not easily accelerated as is done at NPS because we teach classes only once per year. In addition, no courses are regularly taught during the summer quarter. This 3 month/year session would be largely unproductive until a student began to work on their thesis research project.

Research topics. One significant difference between our graduate research activities and those of NPS has to do with classified research. As far as I know, there is no classified research in our department. It would be very difficult to perform for two reasons. First, secure work areas do not exist. Secondly, there is no incentive for a UC faculty member to do such work, no matter how well supported. The reward system is based on publication of peer-reviewed papers in international journals and visible research support. We have no mechanism for classified reports to be included in the personnel review process.

I hope that this information is useful to you. From my perspective, your program is designed with different objectives in mind than most civilian graduate programs and serves an important function that would not be easy to replicate.

Sincerely yours,

Stephen I. Long

Stephen I. Long
Professor, ECE

PROFESSOR PETER MICHELSON

Stanford University

STANFORD UNIVERSITY
STANFORD, CALIFORNIA 94305-4060

DEPARTMENT OF PHYSICS

(415) 723-4344 PHONE
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Richard Elster, Dean of Instruction
Code 06
Naval Postgraduate School
589 Dyer Rd, Room 100
Monterey, CA 93943-5135

Dear Dean Elster:

I am writing to you to report on my visit to the Physics Department of the Naval Postgraduate School on May 31, 1994. During my visit I was asked to review transcripts of students accepted into your program and, based on this information, asess how many of these students might be accepted into our graduate program in physics here at Stanford. I was also asked to comment on both similarities and differences between the program at the Naval Postgraduate School and our program. I will address these questions and also make additional comments that may be helpful.

With regard to admissions to graduate study in physics or applied physics at Stanford, our program only accepts students who want to pursue a PhD degree. This is certainly a major difference between your program and ours. I note that the engineering school at Stanford does have a masters degree program. We do grant an MS degree in physics to some students in the course of their work towards the PhD degree or, in some cases, to students who do not complete all of the requirements for the PhD degree. It is very unlikely that we would change this in the future.

In my assessment of your students with respect to admissions to our program I have ignored the fact that most of them are in a masters degree program. Also, I was not able to make a complete assesssment because, in additon to student's transcripts, we require letters of recommendation and GREs, including the GRE physics exam. In evaluating your students, I had to rely on GPAs alone.

In my judgment, your screening process appears to serve your programatic goals well. At the risk of oversimplifying, I would summarize your principal goal as providing postgraduate science and engineering education to allow Naval officers to more effectively carryout their duties. Given that we live in an age of increasing technological sophistication, this is an important goal that I believe you achieve. I also see that your goal is not to train practicing research scientists and engineers, but rather to produce technically educated officers. This is perhaps the most important difference between your program and ours; our principal goal is to produce career research scientists.

With that preamble let me turn to the outcome of my assessment of your students. Out of 60 students that I reviewed, based on GPA alone, approximately 4% might be admitted for graduate study. The principal difficulty is that many of the students do not appear to have strong undergraduate scientific or engineering backgrounds. This is understandable since their career goals are probably very different than those of the typical student we admit.

To put these comments in context, let me describe our program for the PhD degree. During their first year, a typical student takes graduate level physics courses (electricity & magnetism, quantum mechanics, etc.) and also does research with one or more faculty members. The students have a teaching requirement that is usually fulfilled by being a

teaching assistant in one of the large introductory undergraduate physics courses. The students also take a qualifying examination on undergraduate physics when they first arrive. If they do not pass this exam they are given a second chance a year later. During the second year most students join a research group and begin defining a thesis research program. They also complete their course requirements. After the second year, it typically takes between 2 and 4 years to complete their thesis research. An experimental thesis usually takes longer than a theoretical thesis.

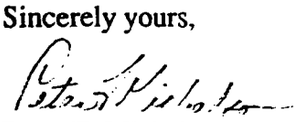
Since we don't presently accept students into a masters degree program, it is difficult to make comparisons between our program and yours. While there is certainly some overlap in the curricula of our institutions, our program is basically aimed at research while yours places more emphasis on applications, especially military applications. Another important difference is that Stanford University does not engage in classified research. The thesis work of students here must be publishable in the open literature.

Finally, let me comment on the research and teaching of your faculty. It is my impression that the physics faculty are generally doing excellent research and providing excellent training to your students. I am particularly impressed at the range of research being done.

In summary, I believe that the Physics Department at the Naval Postgraduate School is doing an excellent job of providing military officers graduate training to enhance their effectiveness. The job is done efficiently as well. I really don't see how such a program could be easily duplicated here at Stanford. Overall, my impression is that the Naval Postgraduate School is a unique asset to the country.

I hope that my visit and the comments I have made here are useful to you.

Sincerely yours,



Peter F. Michelson
Associate Professor

PROFESSOR YALE PATT

University of Michigan

THE UNIVERSITY OF MICHIGAN
COLLEGE OF ENGINEERING
ELECTRICAL ENGINEERING & COMPUTER SCIENCE

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313 764-2390 FAX: 313 763-1503

Advanced Computer Architecture Laboratory *FAX: (313) 763-4617*

April 6, 1994

Richard Elster, Dean of Instruction
Code 06
Naval Postgraduate School
589 Dyer Rd, Room 100
Monterey, California 93943-5135

Dear Dean Elster:

You have asked me to report my findings as a result of my visit to the Computer Science and ECE Departments of the Naval Postgraduate School on March 3 and 4, 1994. I will respond in two parts. First I will answer your five specific questions. Then I will make a few general observations that I think are relevant to this exercise.

Before I do that, however, let me thank you for a very interesting experience. It was a pleasure to work with you, and I hope I will have occasion to work with you again in the future.

Now your questions.

A. Your question: How many of the CS students at NPS would be admitted to graduate study at the University of Michigan?

I reviewed undergraduate records of 58 NPS graduate students currently enrolled in the Computer Science Department. Of these, my expectation is that at Michigan, if presented with these records, we would unquestionably admit 3 of them and possibly admit 3 others. Of the 3 "possibles," I know that in one case at least, it would be a fight to get the student admitted. Of the 6 that would probably be admitted, we would offer an assistantship to one of them. The remaining 52 would not be admitted either because of low under-graduate grades or inadequate preparation in their educational backgrounds or both.

These 52 students could apply to the university as non-degree candidates in order to make up sufficient computer science and mathematics requirements so that their application to the graduate program would be taken seriously. A few students do avail themselves of this avenue each year, and of those, some do end up getting accepted to the graduate school. Typically, this route takes 16 months before the student is ready to apply for

admission as a graduate student. Admission would then be based both on the student's record before coming to Michigan and on his/her record in those courses taken as a non-degree student.

Michigan rarely admits students to the graduate program with the intent that the student would make up substantial inadequate preparation after arriving here. Rather, we expect new graduate students to start their graduate programs at full speed, or at least nearly so. Students who are admitted with inadequate preparation (usually one or two courses lacking at most) can petition to relax deadlines for passing the various examinations, but this is not done as a matter of course.

B. Your question: How long would it take for the six "admitted" students to obtain masters degrees in CS at Michigan?

I do not see any problem with the six "admitted" students completing the requirements within two years. If the University were to add additional sections of our regular courses during the summer, which could be done if there were sufficient demand and sufficient incentive, then these students could finish in 16 months.

C. Your question: If the Navy paid Michigan enough to admit all 58 students, how long would it take the students to finish a masters in CS?

Assuming that the 58 students could indeed handle the work, which is not at all clear from the information that I had available, I would predict that 30 students would take 4 years, 16 students would take 3 years, and 12 students would take 2 years. These periods could be reduced to about 2/3 of that stated if full semester sections of the required classes were offered during the summer.

I should also emphasize that there is a major "if" included in the above statement. I am told that these 58 Naval officers are highly motivated and have clear records of success. I would not want to prejudge their capabilities. However, it is not at all clear to me how many of them could in fact handle the work, if they were admitted.

D. Question: If the students were admitted, could the students pursue militarily-relevant studies?

There are multiple aspects to your term "militarily-relevant studies." I can distinguish at least three cases: those involving classified material, those involving non-classified material covered in the classroom, and those involving non-classified material that is part of a student's individual Masters project. Each requires a different answer.

I believe that most faculty support the notion that at Michigan, dealing with classified material on the University campus is totally out of the question. With respect to non-classified, militarily-relevant material in the classroom, I know of no proscription against such, but I also am not aware of any instance that such exists. Frankly, I do not see us modifying any of our existing courses to make their treatment specifically militarily-relevant, or adding new courses that are specifically militarily-relevant, but I can not of course speak for the College.

Finally, with respect to a non-classified, militarily-relevant Masters project, a student could certainly undertake such, if a faculty member agreed to supervise the work. My guess is that some students would be accommodated, but I think it would be difficult to

obtain faculty supervision in the numbers you require. However, I could be very wrong about this, depending on the incentives provided. As I say, I don't see any arbitrary proscriptions against it.

E. Question: Would Michigan offer refresher and transition courses?

On one level, refresher and transition courses already exist in the form of the regular undergraduate curriculum, although these courses are not targeted to refreshing or transitioning. It is also the case that very few of these courses are currently offered during the summer months.

Certainly the College could develop a formal mechanism whereby unprepared students would be admitted to some new non-traditional standing while they pursued normal undergraduate courses. However, since these courses are not offered during the summer and since they are not intended for that purpose, this would sufficiently lengthen the time it would take for an officer-student to complete the Masters degree that the Navy might find it unacceptable.

The College could also develop a new set of focused refresher and transition courses, and offer them year round in order to more efficiently bring these officer-students up to speed. Whether the College would be willing to do that, and under what conditions, is very hard for me to predict. Faculty availability for this is presumably almost non-existent during the academic year. During the summer, Michigan could offer such courses, because some faculty are not otherwise employed, and, depending on the salary offered, might be willing to do it. However, most faculty who wish summer funding have sufficient non-teaching funding to carry them that it is not at all clear that this would be considered attractive. How much this would change, based on any monetary incentives, I do not know.

Finally, let me make a few general observations which I believe are relevant to your mission.

First, the Naval Postgraduate School offers a quality Computer Science Program. Several of your faculty have been well known to me for many years. I have enormous respect for your Chairman, Ted Lewis. Professor Richard Hamming is a computer scientist of stature that is unequaled by very few, perhaps none, in the field. Others are doing very quality work, work that we would be quite proud to have going on at Michigan. During my visit I saw a demonstration in Professors Zyda's and Pratt's laboratory that combines high performance simulation and distributed processing in a world class way. I do not speak in superlatives gratuitously; this was really world class stuff, and it would be nice to have this capability at Michigan.

Second, the missions of the University of Michigan and the Naval Postgraduate School are different, but equally legitimate. For example, as far as I know, none of our teaching deals explicitly with militarily-relevant material. We are a traditional university that guards jealously our right to pursue research and scholarship in whatever legitimate avenues our interests take us. You are an arm of the military charged with protecting our country. It is unreasonable to expect you to train Naval officers while unduly constraining yourself by disallowing study and research into classified and/or otherwise militarily-relevant matters. In fact, if you did so constrain yourself, I would argue that you would not be doing as effective a job.

Third, our student bodies are very different. We get, for the most part, high performing undergraduates who have excelled in the prerequisite material that they will build on in

our graduate program. Their analytic GRE scores are usually well over 700 and their quantitative scores are very close to 800. They are usually younger, quicker thinkers, right out of college. We have little need for transitional or refresher courses. Most students come to Michigan hoping to get a PhD, although some do come for a terminal Masters degree. Certainly the focus of the graduate program is on the PhD. (I should point out, parenthetically, that this may be changing due to changing external forces, coupled with our recognition that the Masters degree is certainly a legitimate terminal degree. How this will play out in the future is not at all clear.)

I hope the above is of use to you in your deliberations. If I can be of further help in this matter, please do not hesitate to let me know.

Sincerely,

Yale N. Patt
Professor of Electrical Engineering and Computer Science

PROFESSOR STEPHEN POLLOCK

University of Michigan

THE UNIVERSITY OF MICHIGAN

Stephen M. Pollock, Professor
Department of Industrial and Operations Engineering
Ann Arbor, Michigan 48109-2117

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May 27, 1994

Professor Richard Elster
Dean of Instruction, Code 06
Naval Postgraduate School
Monterey California, 93943-5135

Dear Dick:

It was good to see you again after all these years, and to meet with the faculty of the Department of Operations Research. It was interesting to become re-acquainted with the School, and to have an opportunity to review certain aspects of the O.A. and O.L. curricula. I hope the information provided below will be of use in your academic planning.

Background:

1. I was briefed by Prof. Peter Purdue and CDR Doug Hartman on the overall role of the O.R. Department, and the general career expectations of its graduates.

2. The charge, presented to me on May 13, 1994 by Ted Calhoun, was to:

   a) examine the (essentially undergraduate) academic records of a number of presumably current or recently graduated NPS students. I was not informed of the nature of the process used to select these students. In only a few cases were GRE's or GMAT scores available. I specifically did *not* make use of the summary evaluation codes used by NPS admissions personnel.

   b) offer an opinion as to whether or not each officer would be admitted into a Master's degree program offered by the Department of Industrial and Operations Engineering (IOE) at the University of Michigan. These degrees are similar in content to those offered by the O.R. Department at NPS, and are available to applicants with undergraduate degrees in either Engineering (or a related subject) and to others who have at least three terms of college calculus and who show promise of making academic progress in an analytically-based graduate curriculum. We do not require a Master's Thesis (almost none of our students elect to write one), and the coursework involves 30 semester-hours (the semesters are 17 weeks long).

3. Evaluations were based upon the criteria routinely used when screening applicants to IOE's programs:

a) general undergraduate academic achievement, as reflected in overall course grades, quality of the undergraduate institution, etc.;

b) the choice of courses taken, particularly in the junior and senior years;

c) the ability to do well (i.e. do "A" work) in at least one area of study (preferably related to the student's major), or some other indicator of ability to achieve a reasonably high level of academic distinction.

4. IOE occasionally admits marginal students on a conditional basis. Sometimes these students are identified as having "deficiencies" in specific courses (usually in probability, statistics, computer programming or linear algebra) that can be made up by taking undergraduate courses, without credit. In these (and other) cases students are often required to sustain a minimum grade-point average in their first 12 hours of graduate courses.

5. In many cases it was virtually impossible to make an assessment solely on the basis of the information presented to me. Were I making actual decisions, these would be the cases for which letters of recommendation would be sought, or committee discussions scheduled in order to clarify problematic aspects of the record, institution or coursework. Some of these cases might even require phone calls to faculty members or other references.

Results:

The raw assessments are shown in the following table:

	O.A.		O.L.		O.A. +O.L.	
	all	USNA	all	USNA	all fract.	USNA
reject	19 (.30)	6 (.32)	9 (.38)	1 (.11)	28 (.32)	7 (.25)
accept	16 (.25)	4 (.21)	4 (.17)	1 (.11)	20 (.23)	5 (.18)
cond. accept	16 (.25)	3 (.16)	3 (.13)	2 (.22)	19 (.22)	5 (.18)
insuff. info.	12 (.19)	6 (.32)	8 (.33)	5 (.56)	20 (.23)	11 (.39)
total	63	19	24	9	87	28

where table entries are numbers of students (fractions of students), and:

O.A. = Operations Analysis curriculum
O.L. = Operational Logistics curriculum
all = All undergraduate institutions
USNA = Naval Academy graduates
Reject = Clearly unsuitable for graduate education in IOE
Accept = Unconditionally acceptable
Cond. accept = acceptable only with deficiency removal or maintenance of a minimum grade-point average.

Comments:

1. In general, there was a high variance in the academic credentials examined. Some students were of a quality sought by top-level Ph.D. programs. Others appear to have barely scraped through their undergraduate programs (usually by judicious selection of courses in their last year). The USNA graduates do not seem to be among the top in their classes.

2. A large percentage (23% overall, 39% of USNA graduates) fell into the "insufficient information" category. Some of these had only academic record summary sheets (i.e. no transcripts) available; others showed potential, but raised questions that could only be resolved by provision of further information. My unfamiliarity with grading standards at Annapolis may have something to do with the high number of "uncertain" conclusions about its graduates.

3. About 32% of all students would have been rejected; about 45% accepted either unconditionally or with "deficiencies" or conditions. A rough estimate of the average additional time needed for deficiency removal is about 9 semester hours.

4. One difference between O.A. and O.L. is the (accept + cond. accept)/(clear reject) ratio of 32/19 = 1.7 for the former, and 7/9 = .77 for the latter. Although these numbers should not be be taken too seriously, considering the small sample size, it may reflect the relative newness (or perceived lack of "glamour") of the O.L. curriculum.

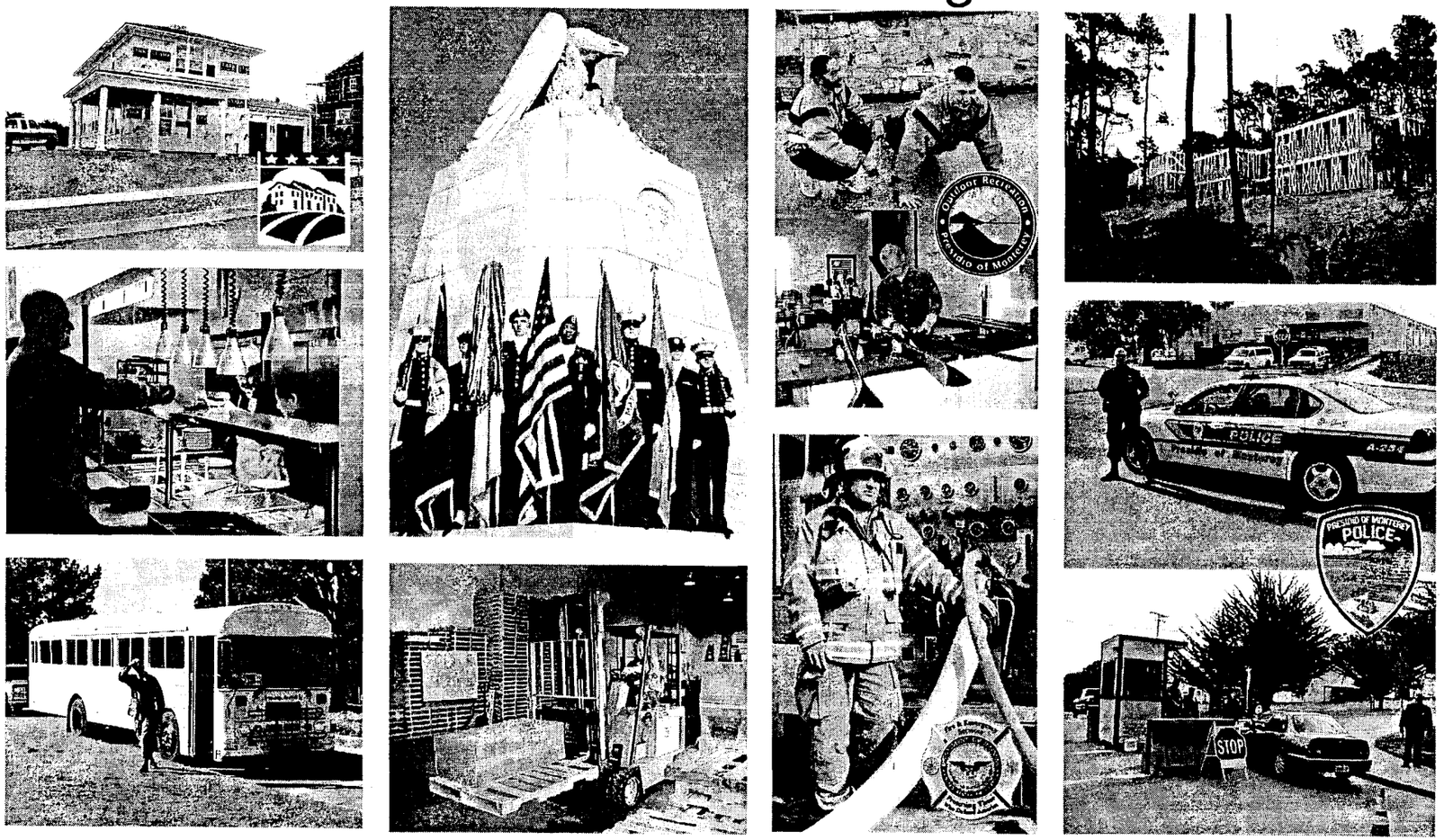
If you have any questions about these comments, or my reactions to other information provided to me, please let me know.

Sincerely,

Stephen Pollock

U.S. Army Garrison – Presidio of Monterey

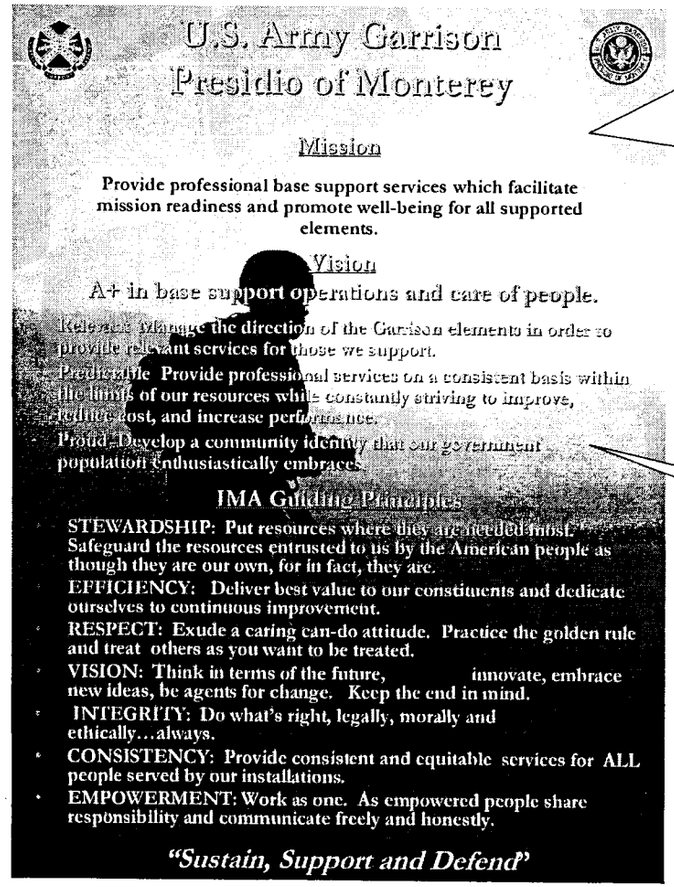
Command Briefing



13 December 2004

COL Jeffrey Cairns, ATZP-GC, Jeffrey.Cairns@monterey.army.mil (831) 242-6601

Mission & Vision



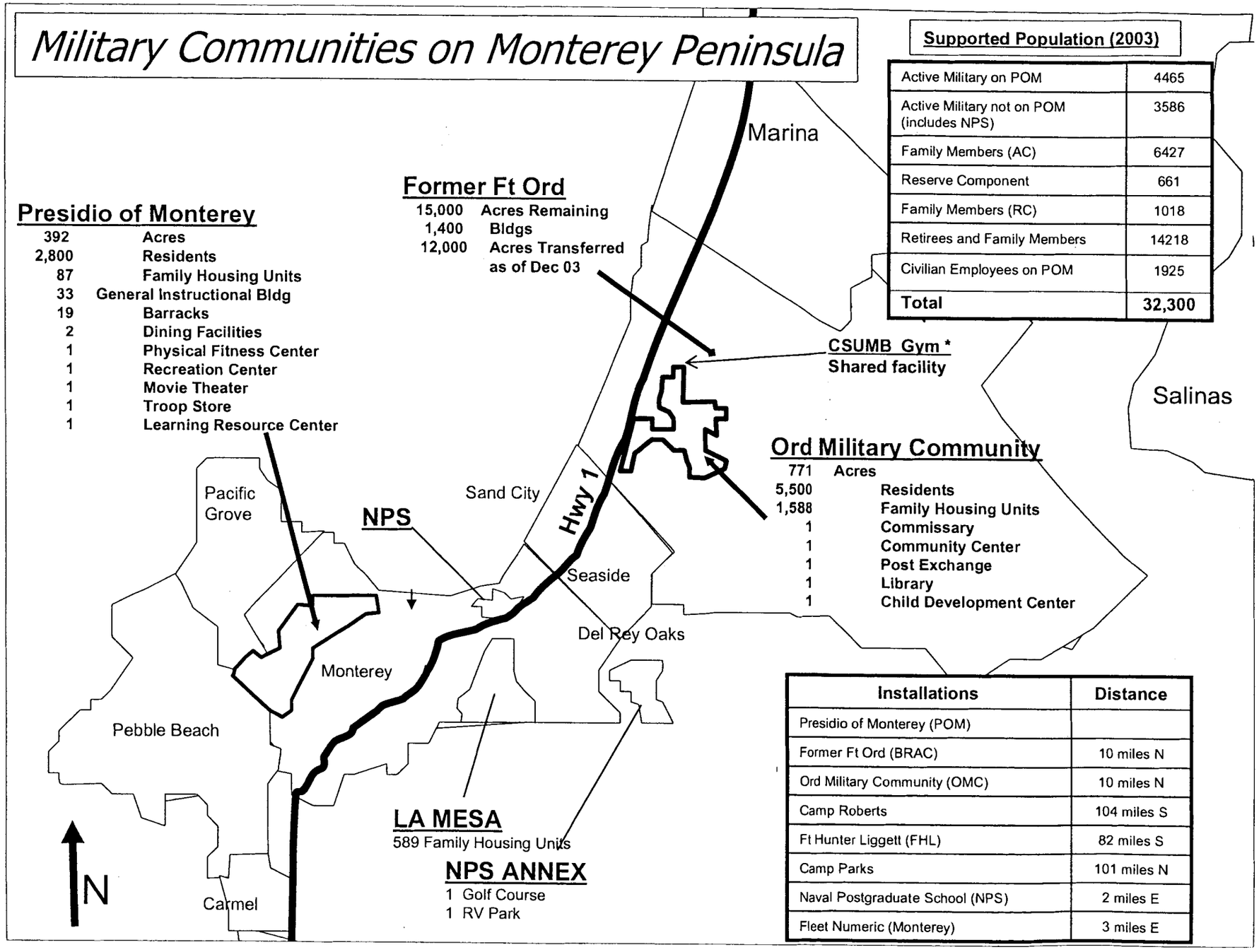
Mission

Provide professional base support services which facilitate mission readiness and promote well-being for all supported elements.

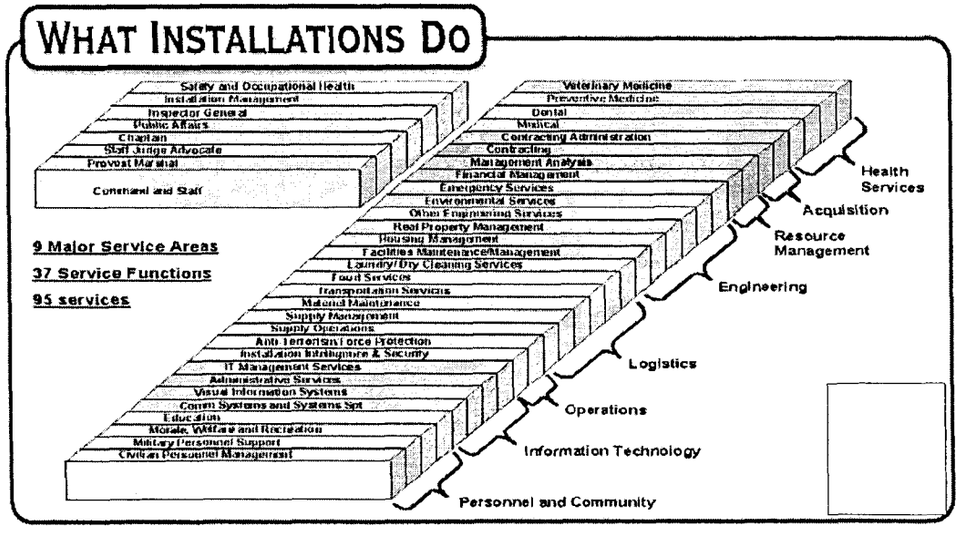
Vision

A+ in base support operations and care of people.

COL Jeffrey Cairns, ATZP-GC, Jeffrey.Cairns@monterey.army.mil (831) 242-6601


Military Communities on Monterey Peninsula
Supported Population (2003)
Active Military on POM 4465
Active Military not on POM (includes NPS) 3586
Family Members (AC) 6427
Reserve Component 661
Family Members (RC) 1018
Retirees and Family Members 14218
Civilian Employees on POM 1925
Total 32,300
Presidio of Monterey
392 Acres
2,800 Residents
87 Family Housing Units
33 General Instructional Bldg
19 Barracks
2 Dining Facilities
1 Physical Fitness Center
1 Recreation Center
1 Movie Theater
1 Troop Store
1 Learning Resource Center
Former Ft Ord
15,000 Acres Remaining
1,400 Bldgs
12,000 Acres Transferred as of Dec 03
CSUMB Gym *
Shared facility
Ord Military Community
771 Acres
5,500 Residents
1,588 Family Housing Units
1 Commissary
1 Community Center
1 Post Exchange
1 Library
1 Child Development Center
Marina
Salinas
Pacific Grove
NPS
Sand City
Hwy 1
Seaside
Del Rey Oaks
Monterey
Pebble Beach
Carmel
N
LA MESA
589 Family Housing Units
NPS ANNEX
1 Golf Course
1 RV Park
Installations | Distance
Presidio of Monterey (POM)
Former Ft Ord (BRAC) 10 miles N
Ord Military Community (OMC) 10 miles N
Camp Roberts 104 miles S
Ft Hunter Liggett (FHL) 82 miles S
Camp Parks 101 miles N
Naval Postgraduate School (NPS) 2 miles E
Fleet Numeric (Monterey) 3 miles E

BASOPS Services



Command and Staff

- Reorganizing into the Standard Garrison Organization in FY05
- Implementation of Common Levels of Service in FY05
- Cost Management via Activity Based Costing

Health Services

- Medical and Dental clinics service over 38,700 patients annually
- TRICARE Service center at OMC

Acquisition

- Local ACA Contracting Office manages 53 contracts, processes 500 actions, costing $35M annually

Resource Management

- 56 ISSA & MOU w/ tenant and off-post customers
- $43M annual budget including payroll

Engineering

- Municipal Service Contracts w/local communities (POM – Monterey and OMC – Seaside)
- First Joint (Army/Navy) RCI Project at $581M over first ten years
- No environmental violations in over 8 years

Logistics

- Post-wide shuttle service and173 special events
- Two dinning facilities serving over 1.1M meals
- Book warehouse issues over 93K text books
- Process over 24K household good shipments

Operations

- Contracted Gate Guards
- Monterey Fire Department services POM
- Various support to Fort Ord BRAC Office $250K
- MOUT training in FY05 via agreement w/MPC

Information Technology

- DOD Network feeds off local city IT backbone
- DOIM contracted to MEO

Personnel and Community

- Hobson Student Activity Center services 75K patrons annually
- ODR trips/services/equipment
- Only Commissary and PX for over 100 miles
- Process over 1400 Soldiers for PCS annually

COL Jeffrey Cairns, ATZP-GC, Jeffrey.Cairns@monterey.army.mil (831) 242-6601

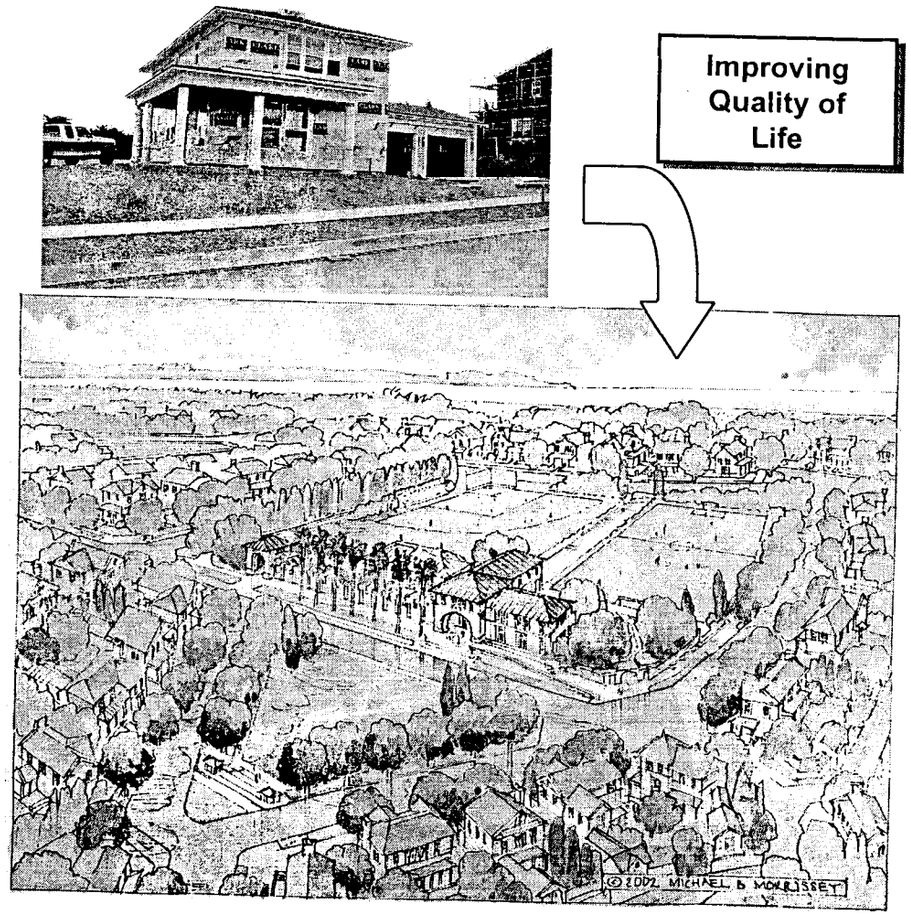
RCI Project Update

Initial Development Period (2003-2013)

- 1,588 units replaced at OMC w/ 1,579 units
- 589 units replaced at LMV with 589 units
- 7 new amenity buildings constructed
- Eliminates institutional feel of military housing neighborhoods
- Significant local communities investment through job creation and subcontracting
- Stilwell "Kidney" land transfer provides room to build 340 military homes, 120 workforce homes, and no more than 150 market rate homes

Phase 1 Milestones (Jan 04 – Jul 05)

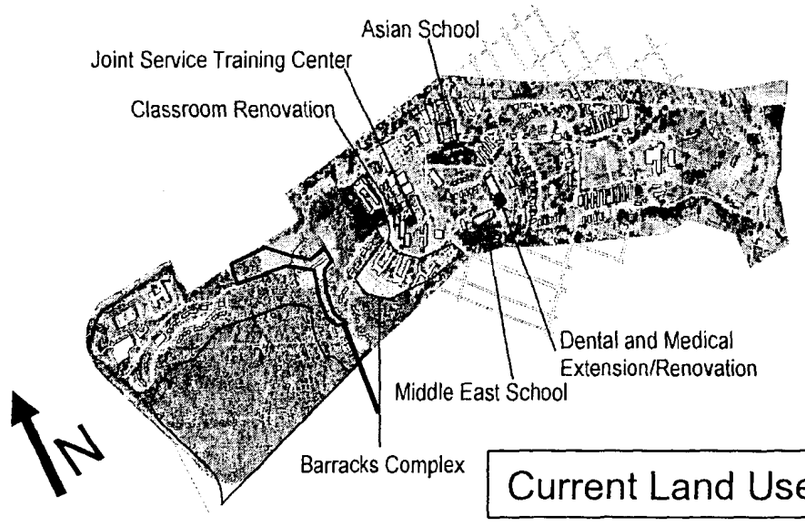
- OMC Phase I – Hayes Park (160 units)
  - Vertical construction began February 2004
  - Delivery of all units by July 2005
- La Mesa Village Phase I (90 units)
  - Vertical construction began March 2004
  - Delivery of all units by April 2005



Future View of Ord Military Community

COL Jeffrey Cairns, ATZP-GC, Jeffrey.Cairns@monterey.army.mil (831) 242-6601

MILCON



Current Land Use

Future Barracks Projects

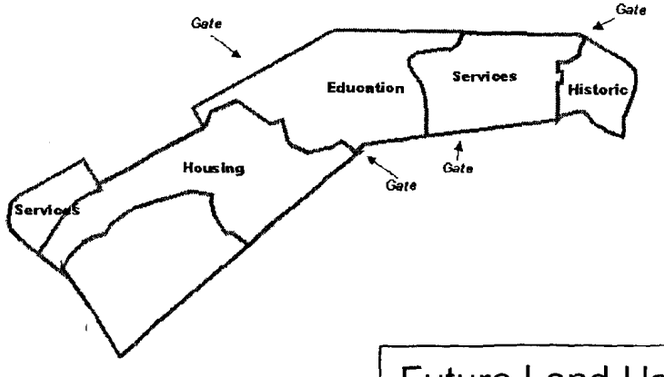
- 4 each 1+1 Barracks (543,200 s.f. total) houses 1,400 SM
- 3 each (38,778 s.f. total) Company Operations Facilities
- 1 each (12,013 s.f.) Battalion HQ
- 1 each 801-1300 capacity Dining Facility (30,257 s.f.)
- Demo 4 each Barracks (Bldg's 629, 627, 622, 630)

Future Academic Projects

1. GIB (Middle East School)
2. GIB (Asian School)
3. Medical Clinic Modernization
4. Joint Service Training Center

5-8. General Instructional Bldg VI - IX

9. Classroom Modernization (Ph I)
10. Classroom Modernization (Ph II)



Future Land Use

COL Jeffrey Cairns, ATZP-GC, Jeffrey.Cairns@monterey.army.mil (831) 242-6601

Defense Language Institute Foreign Language Center

Colonel Michael R. Simone, USA
Commandant, DLIFLC

Language is our weapon

DLIFLC

Mission: Produce operationally proficient military linguists

- *Foreign Language **Education and Training***
  - ***Basic, Advanced, and Specialized** courses at the Presidio*
  - *Contracted courses through DLI office in Washington, D.C.*
- *Foreign Language **Sustainment and Support***
  - *Refresher/Enhancement training via **Distance Education** (DE) techniques*
  - *Assistance to **Command Language Programs** for units with linguists*
  - ***Mobile Training Teams**, VTC links, electronic and written materials*
- *Foreign Language **Assessment and Testing***
  - *Develop and control **Defense Language Proficiency Tests** for all DoD linguists*
  - ***Defense Language Aptitude Battery** for prospective language students*
  - *DoD's advisor on foreign language programs*

DLIFLC

- *Foreign Language* ***Research and Evaluation***
  - *Improve teaching techniques for resident courses and distance education*
  - *Keep training materials current with constantly changing languages*
  - *Technical control of all DoD language training (except Service Academies)*
- *Ensure that our Linguists are first and foremost* ***Soldiers, Marines, Sailors, and Airmen!***
  - *Instill* ***Warrior Ethos*** *in all military linguists during lengthy language courses*
  - *Support Army, Marine Corps, Navy, and Air Force student Detachment Commanders with common task training, PT programs, height/weight standards, military discipline*
  - *3432 in classes projected as of 3 January 2005: 1487 Army, 283 Marine Corps, 497 Navy, 1165 Air Force (incl. all classes taught at DLIFLC)*

Educate & Train Military Linguists

DLIFLC

- Presidio of Monterey (Full resident courses)
  - 3,000 - 3,500 (average) students in resident courses
  - 26 languages (programs from 2 to 63 weeks)
  - Basic, Intermediate, Advanced, specialized courses
  - 7 hours of class, 3-4 hours of homework, military training
- DLI-Washington Office
  - 5 contract vendors supporting 200-250 students at any given time
  - 55 languages (courses range from 4 to 63 weeks)
- Non-Resident Support (Maintenance training)
  - Language Training Detachments
  - Video Tele-Training & Mobile Training Teams
  - Worldwide support for operational linguists and deploying forces
  - Electronic and printed language support materials
  - Assist the Command Language Programs in 265 units/detachments CONUS/OCONUS

Student Load by Difficulty

Resident Courses at Presidio of Monterey

DLIFLC

Language	Basic Course FY05 Student Load Presidio*	Faculty**	Class Days In Course	Program Duration***
Category IV Languages				
Arabic	876	220	315 (63 weeks)	18 months
Korean	799	197	315 (63 weeks)	18 months
Chinese	430	97	315 (63 weeks)	18 months
Japanese	27	8	315 (63 weeks)	18 months
	2132 (64.6%)	**522**		
Category III Languages				
Russian	227	52	235 (47 weeks)	13 months
Persian Farsi	326	58	235 (47 weeks)	13 months
Serbian/Croatian	152	26	235 (47 weeks)	13 months
Pashtu, Tagalog, Dari, etc.	175	54	235 (47 weeks)	13 months
	880 (26.7%)	**190**		
Category II Languages				
German	19	6	170 (34 weeks)	10 months
	19 (0.6%)	**6**		
Category I Languages				
Spanish, French, Italian, Portuguese	267	50	130 (26 weeks)	7 months
	267 (8.1%)	**50**		
Totals	**3298**	**768****		

* Projected Student Load for 3 January 2005 in **Basic Courses** only
** Faculty at Presidio of Monterey teaching Basic Courses
*** Average time at Presidio, including in/out processing an d non-language training

DLIFLC Faculty

Constant challenge to recruit, train, develop, and retain world-class faculty

- ***1100 civilian faculty from over 40 countries around the world***
  - *800 teaching resident classes in teams of 6:* ***Team Teaching instituted in 1987***
  - *300 developing curricula and testing, training faculty, Mobile Training Teams, Distance Education, Command Language Program assistance, administration*
  - *98% are native speakers of languages taught*
  - *580 hold advanced degrees; 50 others working on MAs at Monterey Institute of International Studies*
- ***Faculty Pay System instituted in 1997 by authority of Congress***
  - *Replaced the older General Service grades*
  - *Highly flexible pay bands for academic rank/position*
  - *Pay fluctuates, based on performance and evaluations*
  - *Professional, dedicated, motivated to produce competent linguists*
- ***100 Military Language Instructors also teach and mentor service members***
  - *Senior NCOs/Petty Officers: master linguists, strong leaders*
  - *Teach military terminology and duties of linguists*
  - *Liaison between service chain of command and civilian faculty*

Challenge of Proficiency

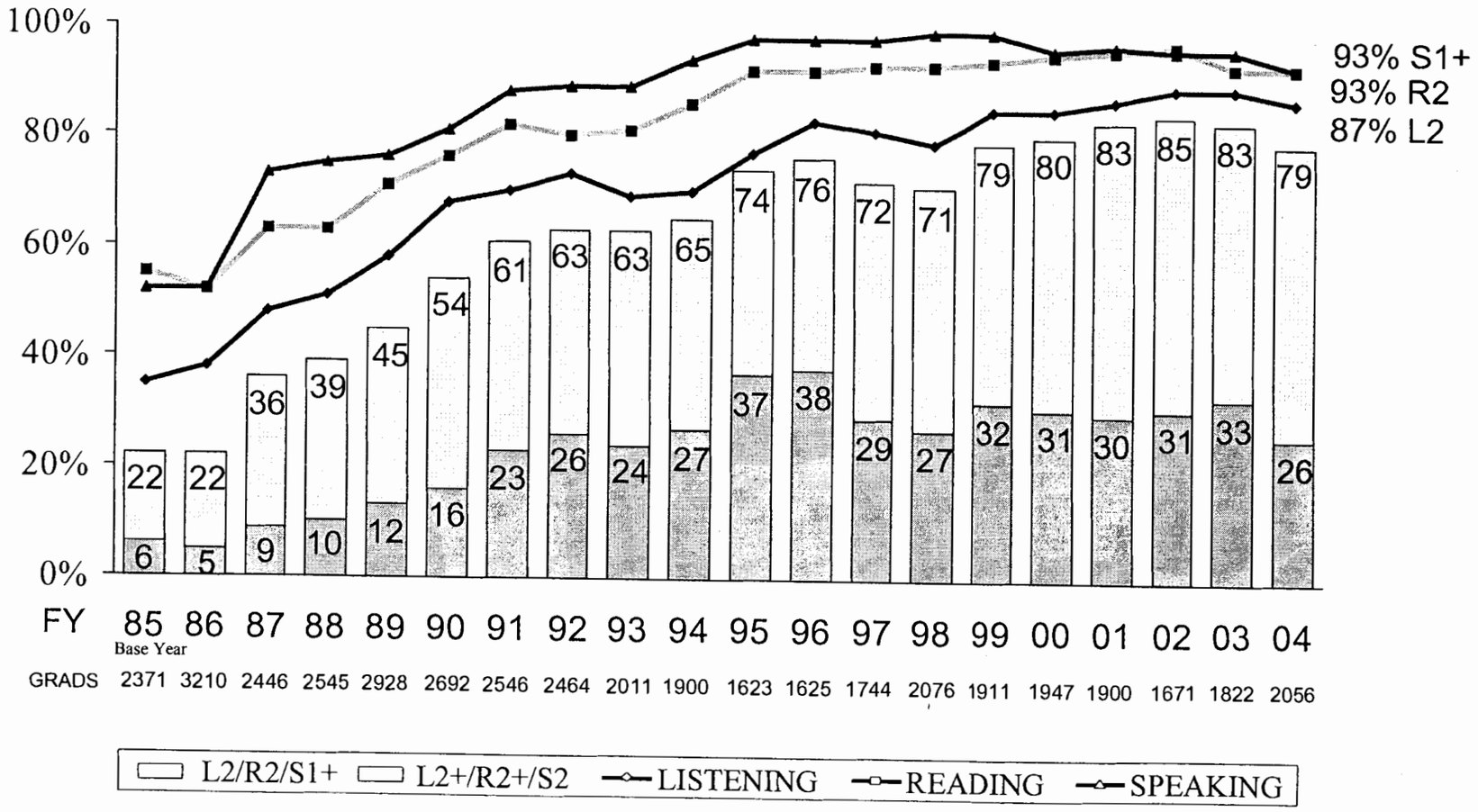
DLIFLC

Post-Cold War operational environment <u>demands</u> professional-level competencies!!

- *Proficiency levels*
  - *Level 1 = Rote phrases and survival skills*
  - *Level 2 = Conversations on factual topics*
  - *Level 3 = Proficient on abstract and professional topics*
- *Global War on Terrorism/Changing needs of DoD*
  - *Current (since 1985) graduation standard R2/L2/S1+*
  - *Transitioning to increased standard of R2+/L2+/S2*
  - *Raise proficiency across all services*

Professional competence is achieved over the course of a well-managed career

PROFICIENCY FLOs
DLI OVERALL



FY04

Monterey

"Language Capital of the World"

DLIFLC

- *Mixture of ethnic immigrant communities unmatched in US, outside of NYC*
- *Monterey, Santa Cruz, San Francisco, San Jose, Fremont (within 2 hour drive)*
  - *Arabic, Korean, Chinese, Japanese*
  - *Persian Farsi, Afghan (Dari, Pashtu), Turkish, Uzbek, other Central Asian*
  - *Russian, Serbian/Croatian, Hindi, Thai, Tagalog, other Pacific Rim, Spanish*
- *Critical sources for recruiting faculty, and keeping them current in language and culture*

Commandant's Perspective

DLIFLC

Challenges for DLI:

- *Recruit, train, and retain world-class faculty to meet DoD's evolving language training requirements*
- *Build sufficient faculty base to develop and update curriculum*
- *Build sufficient faculty base to develop and update DLPTs and other assessment instruments*

Commandant's Perspective

DLIFLC

DoD Language Challenges:

- *Anticipate and articulate language needs*
- *Improve career management systems that develop, retain, promote, and assign linguists*
- *Expand use of and proponency for linguists*

BACKUP SLIDES

Academic Credentials

- DLIFLC accredited since 1979
  - Graduates earn 45 units college credit
- DLIFLC gained Congressional authority in 2001 to award Associates (AA) degree
  - DLI has awarded more than 750 degrees over the past two years
  - Aids in *recruitment* and *retention* of service members *and faculty*
  - Reviewing requirements to award Bachelor of Arts

DLIFLC vs. US Universities

A comparison of DLI graduates vs. BA degrees awarded by US Colleges and Universities in 2004

Language	BA Degrees:	DLIFLC:
Arabic	16	521
Farsi	0	157
Korean	0	369
Chinese	254	169
Russian	386	274

*DLI graduates **complete** studies in 12-18 months vice four years.*

*DLI graduates regularly achieve **higher proficiency** than university grads*

*DLI prepares linguists in **practical language skills** demanded in strategic and tactical environments*

DEPARTMENT OF THE ARMY
U.S. ARMY AUDIT AGENCY
Office of the Deputy Auditor General
Installations Management
3101 Park Center Drive
Alexandria, VA 22302-1596

SAAG-IMO (36-2c) 27 December 2000

MEMORANDUM FOR

Assistant, Deputy Chief of Staff for Base Operations, U.S. Army Training and Doctrine Command, ATTN: ATIR, Fort Monroe, Virginia 23651-1212
Garrison Commander, Presidio of Monterey, ATTN: ATZP-IR, Presidio of Monterey, California 93944-5006

SUBJECT: Validation of Savings for the Base Operations Contract With the Presidio Municipal Services Agency (Assignment Code O1-123S), Consulting Report: AA 01-731

1. **Introduction.** This report provides the results of our consulting review of the validation of savings for the base operations (BASOPS) contract with the Presidio Municipal Services Agency. The National Defense Authorization Act for Fiscal Year 1995, Pub. L. 103-337, section 816, 108 Stat. 2820 provided the Secretary of Defense with the authority to conduct a demonstration project at Monterey, California, for purchasing base operations support from nearby municipalities. The Assistant, Deputy Chief of Staff for Base Operations, U.S. Army Training and Doctrine Command—in conjunction with the Garrison Commander, Presidio of Monterey—asked that we validate the savings under the current BASOPS contract with the local Municipal Agency compared with the prior inter-Service support agreement with the U.S. Navy. The audit was requested in support of the Secretary of Defense's 2000 annual report that will be submitted to Congress in December 2000. We met with Training and Doctrine Command personnel on 21 November 2000 and made a joint site visit to the Presidio of Monterey in December. We briefed our results to the Deputy Garrison Commander and key functional personnel at the Presidio on 7 December 2000.

2. **Objective.** Our objective was to validate the savings based on a comparison of costs for the BASOPS contract with the Presidio Municipal Services Agency and costs for the prior inter-Service support agreement with the Navy. We compared the costs for the FY 97 agreement (inflated to FY 00 dollars) with the costs for the first option year (1 June 1999 through 31 May 2000) of the BASOPS contract. The comparison is for

Operation and Maintenance, Army Appropriation costs. The scope and methodology of our review is at enclosure 1.

3. **Conclusion.** We concluded that the Army has achieved significant savings for the Presidio of Monterey and Ord Military Community by contracting with the local Municipal Agency for some BASOPS services under the authority of the demonstration project legislation. The estimated savings are from about $633,000 to about $2.532 million for a 1-year period. The $633,000 estimate is based on a comparison of disbursements for the FY 97 agreement with the Navy plus some additional costs (inflated to FY 00 dollars) with disbursements for the first option year of the BASOPS contract with the Agency plus some additional costs. The $2.532 million estimate is based on a comparison of obligations for the FY 97 agreement with the Navy plus some additional costs (inflated to FY 00 dollars) with disbursements for the first option year of the BASOPS contract with the Agency plus some additional costs. Based on historical data, the Navy generally bills for final payment (totaling close to the entire obligated amount) in the year the financial records are closed. Therefore savings achieved will probably be closer to the estimate of $2.532 million. Enclosure 2 shows the cost comparison data.

a. Estimated savings are based on a comparison of "like" services to the extent practical based on available documentation. Some variation existed in the type of services to be provided for in the FY 97 agreement and the type of services included and paid for in the first option year of the BASOPS contract. Consequently, to provide for a reasonable comparison of costs, we added—as appropriate—costs for some services that were obtained through other contracts or credit cards for the appropriate period. These costs are included at enclosure 2. Although some additional services could be received and paid for during the specified time periods, we believe they are minor and that the cost comparison includes the most significant services and associated costs that result in a reasonable savings estimate.

b. About $5.776 million was obligated for base operations support costs for the FY 97 inter-Service support agreement. However, as of 8 December 2000, only about $4.009 million was disbursed for the agreement. There were additional costs of about $6,000 for base

operations services (elevator and fire alarm maintenance) for the period, and therefore total disbursements for the FY 97 period were about $4.015 million. For the first option year of the BASOPS contract, about $2.277 million was obligated and disbursed. About $1.404 million in additional costs was disbursed for grounds maintenance, custodial and pest control services during the first option year. Consequently, total disbursements for the first option year were about $3.681 million. Based on the total disbursements (and FY 97 dollars inflated to FY 00 dollars), the estimated savings are about $633,000. However, we believe that the remaining unliquidated obligation of about $1.767 million for the FY 97 agreement will be disbursed before final closeout of the FY 97 financial records. Therefore savings achieved probably will be closer to the estimate of $2.532 million.

c. Available documentation didn't support a comparison of the quantity of services received and paid for under the FY 97 agreement and the BASOPS contract. Support documentation for the FY 97 agreement was limited; we found no support for the specific type of work completed, the corresponding costs, or verification of services received and reimbursed. These weaknesses and the lack of a sufficient job order cost system were identified and reported by the Presidio's Internal Review Office.

d. In addition to reduced costs, key personnel at the Presidio said that other benefits have been achieved through the BASOPS contract. The benefits include the quality and timeliness of services provided, but aren't readily quantifiable.

e. Total base operations support services include more than the services that were provided under the FY 97 agreement with the Navy and that are provided under the existing BASOPS contract with the Municipal Agency. Some separate contracts and agreements provide for services such as fire support and refuse collection. Costs for other BASOPS services were about $4.607 million during FY 97 and about $5.223 million during FY 00. Enclosure 3 lists these other BASOPS support services.

4. **Background**

a. **General.** The Presidio of Monterey became a separate installation in October 1994 as a result of base realignment and closure actions that closed Fort Ord. The Defense Language Institute Foreign Language Center is located on the Presidio, as well as the majority of the garrison functions. A portion of Fort Ord remained open and became an Annex of the Presidio of Monterey. Recently, the Annex was renamed the Ord Military Community. Facilities located within the Ord Military Community area include family housing, community and family support facilities, and the Directorate of Public Works.

b. **Navy Inter-Service Support Agreement.** For FYs 95-97 the Presidio had an inter-Service support agreement with the U.S. Naval Support Activity Monterey Bay to obtain public works functions for the Presidio and the Ord Military Community. The agreements included separate services and costs for the Operation and Maintenance, Army Appropriation and the Army Family Housing Appropriation. Our review was limited to base operations support services and costs chargeable to the Operation and Maintenance, Army Appropriation. The actual obligation amount recorded in financial records was about $5.776 million.

c. **Legislation.** Concerns with the quality and extent of services the Navy provided led to the development and passage of special legislation that permitted the Presidio to obtain public works services from nearby municipalities.

(1) The National Defense Authorization Act for Fiscal Year 1995 provided the Secretary of Defense with the authority to conduct a demonstration project at Monterey, California, for purchasing base operations support from nearby municipalities. Services included fire fighting, security guard, police, public works, utility, or other municipal services needed for operation of any DOD asset in Monterey County. The original legislation was amended several times to establish an expiration date and clarify annual reporting requirements. The legislation expires on 30 September 2001.

(2) In addition, the Secretary of Defense is required to submit an annual report to Congress (for each year 1997 through 2001)—not

later than 31 December—evaluating the results of the project and making any recommendations considered appropriate. This may include recommendations on whether the purchase authorities used in conducting the project could be used to provide similar services at other locations. Annual reports were submitted in 1998 and 1999.

d. **Municipal BASOPS Contract.** In May 1998 the Presidio entered into a contract with the Presidio Public Works Agency (subsequently renamed the Presidio Municipal Services Agency). The Agency is a Joint Powers Agency established by the cities of Monterey and Seaside; other municipalities are permitted to join. The contract with the Agency was for the base year 1 June 1998 to 31 May 1999 with 4 option years. Delivery orders specify the type and scope of services required for the performance period. The scope of our review covered the first option year of 1 June 1999 to 31 May 2000 (delivery order number 19). It is a cost-reimbursement, no-fee contract. Services provided during the period of review were for facilities maintenance (excluding family housing), basic services (street and surface maintenance, fencing maintenance, utility systems maintenance), and other services (fire detection suppression, elevator maintenance, tree pruning and removal, signage, and other municipal services). Total obligations and disbursements for the first option year were about $2.277 million.

e. **BASOPS Services Not Included in Either the FY 97 Agreement or the First Option Year of the BASOPS Contract.** Total base support services includes more than the services the Navy provided under the FY 97 agreement and that the Municipal Agency is providing under the current BASOPS contract. The major services are: special projects, fire support, police protection, security, and refuse collection. These services are obtained through separate contracts and agreements, although some could have been contracted for with municipalities under the demonstration project legislation. We didn't include the costs for these services in the cost comparison for estimating savings. However, we do discuss them in paragraph 6 of this report (beginning on page 13) to clarify the overall scope of base operations support. Enclosure 3 shows the cost of other BASOPS support services for FY 97 and FY 00.

f. **Prior Audits.** The Presidio's Internal Review Office made two separate reviews during FYs 95-97 related to public works services—

including documentation of work completed—provided under the annual base operations support agreements with the Navy.

(1) In August 1995 the Internal Review Office reported weaknesses related to supporting documentation. The office recommended that the Presidio Directorate of Public Works (i) obtain a block of work request numbers from the Navy to use when generating FY 96 work requests, (ii) coordinate with the Navy on the structure of a job order number system that identifies work categories with cost accounting codes, and (iii) give the Presidio Directorate of Resource Management the approved job order numbering system for coordination with the Navy's resource manager. (See Internal Review Report A10-95, 16 August 1995, Processing and Documenting Work Generated by POM Public Works and Completed by NPS Public Works.)

(2) In 1996, at the request of the Garrison Commander, the Internal Review Office made an organizational effectiveness study of the Directorate of Public Works. The office made recommendations to help resolve problems related to providing timely maintenance support and information to Army customers. The recommendations centered on the Army developing better communications with the Navy and appointing a liaison officer who has full responsibility to ensure that Army job priorities are met and scheduled in accordance with the workforce provided for in the agreement, and who inspects work being accomplished. In addition to providing better customer service, these recommendations were expected to help make sure that the Navy was prudently spending the Army's dollars provided through the agreement. (See Internal Review Report A4-96, 28 February 1996, Organizational Effectiveness Study of DLIFLC/POM Directorate of Public Works.)

g. **Annual Report.** Under the demonstration project legislation, the Secretary of Defense submitted annual reports to Congress for 1998 and 1999. The annual reports generally provided information on the scope of the legislation, history of the Presidio of Monterey, the mission of the Defense Language Institute Foreign Language Center, history of municipal services, demonstration project progress, future project initiatives, and recommendations. The 1999 annual report showed a savings of about $1.084 million under the project, in addition

to receipt of other services not provided under the FY 97 agreement. The report also recommended:

- Codifying the demonstration project legislation for the Presidio of Monterey.

- Providing legislation that would grant any DOD installation the ability to contract with local communities for municipal services, including fire fighting and security. The report noted that the installations that can outsource these municipal services will generate significant savings.

5. **Results.** Our objective was to validate the savings achieved based on a comparison of costs incurred under the BASOPS contract with the Presidio Municipal Services Agency compared with the costs incurred under the Navy inter-Service support agreement for BASOPS.

a. **Command Estimate.** The Presidio of Monterey compared the FY 97 costs (inflated 10 percent) under the Navy support agreement with the costs for the first option year (1 June 1999 to 31 May 2000) of the BASOPS contract. For facilities maintenance, the Presidio reported that the Navy costs were about $4.81 million compared with BASOPS contract costs of about $1.51 million, for a savings of about $3.3 million. In addition, command noted that the BASOPS contract provided some basic and other services the Navy didn't provide. Considering these services and associated costs, command calculated that the contract costs increased to about $2.276 million. Command noted that this still created a savings of about $2.5 million. For a more accurate comparison of costs, the types of services provided need to be considered to ensure that total costs are compared.

b. **Scope of Services.** We reviewed the final FY 97 agreement and the BASOPS contract for the first option year (including delivery order number 19) and identified the type of services to be provided. The type of services provided under each document varied somewhat.

(1) The agreement listed the services that were available and that the supplier (Navy) would provide upon request—basically through

the submission of work requests and trouble calls. The agreement stated that no services were automatically provided. Here are the details:

- Services covered by the agreement included maintenance and repair work, paved surface maintenance including traffic signage, fencing, and operation and maintenance of utility distribution systems.

- Specific services that weren't within the scope of the agreement included elevator maintenance, environmental services (except hazardous spill response), and fire protection.

- The agreement included a list of standing job orders that provided for a regular program of operation, inspection and preventive maintenance for specific equipment. Equipment included boilers, furnaces, air handlers, compressors, generators, and utility system components.

- Contracts existed for pest control, grounds maintenance and custodial. The agreement required the Navy to provide contract administration. The obligated costs for the agreement included the costs for the three contracts and a fee of about 4 percent to the Navy for supervision, inspection and overhead.

(2) Services provided during the first option year of the BASOPS contract were for facilities maintenance (excluding family housing), basic services (street and surface maintenance, fencing maintenance, utility systems maintenance), and other services (fire detection suppression, elevator maintenance, tree pruning and removal, signage, and other municipal services).

(3) We identified "like" services, to the extent practical based on available documentation, as the basis for our comparison of costs. To provide for a reasonable comparison of costs—as discussed in paragraphs 5.e. and 5.f. and shown at enclosure 2—we added appropriate costs for some services that were obtained through other contracts or credit cards for the appropriate period. Although some additional services could be received and paid for during the specified time periods, we believe they are minor and that the cost comparison includes the most

significant services and associated costs that results in a reasonable savings estimate.

(4) Available documentation didn't support a comparison of the quantity of services received and paid for under the FY 97 agreement and the BASOPS contract. Support documentation for the FY 97 agreement was limited; no support was available for the specific type of work completed, the corresponding costs, or verification of services received and reimbursed. These weaknesses and the lack of a sufficient job order cost system were identified and reported by the Presidio's Internal Review Office.

c. **Costs for the FY 97 Agreement.** We reviewed the final FY 97 inter-Service support agreement and available financial documents and records to determine actual costs. Although actual disbursements (about $4.009 million) are significantly less than the obligated amount (about $5.776 million), historical documentation supports that the Navy will most likely bill for the amount obligated.

(1) For base operations support services, the signed FY 97 agreement showed a total reimbursement to the Navy of about $6.054 million in Operation and Maintenance, Army funds. The total reimbursement amount was:

- $4.098 million for labor and training for 83 positions.
- $636,000 for materials.
- $173,000 for operation and maintenance of vehicles.
- $1.147 million for contracts for pest control, grounds maintenance and custodial. The costs included about 4 percent for supervision, inspection and overhead.

(2) About $5.776 million was obligated for base operations support costs for the FY 97 inter-Service support agreement. There was no explanation why the obligated amount was about $278,000 less than the amount in the signed agreement. We reviewed the FY 97 military interdepartmental purchase requests provided to and accepted by the

Navy, and obligations recorded in financial records. These documents supported the obligated amount of about $5.776 million.

(3) Based on financial records as of 8 December 2000, only about $4.009 million was disbursed. Disbursements occur when the Navy submits a bill for reimbursement to the Defense Finance and Accounting Service. Personnel in the Presidio Directorate of Resource Management stated that they continuously ask the Navy about the status of billings, but significant delays constantly occur. We reviewed obligations and disbursements for prior years (FYs 95 and 96) and noted that the Navy historically doesn't bill for the final reimbursement until the year the financial records are closed. The final disbursements constituted as much as 28 percent of the initial amount obligated. For example, for FY 96 only about $3.1 million was disbursed against an obligation of about $6.1 million in the first year. During FY 00 final disbursement (for FY 96) for about $1.7 million was made. During FYs 95-96, only about $30,000 to $40,000 was deobligated when financial records were closed out. The result is that the Navy generally bills for the full amount obligated, even though final billing and disbursement occurs as much as 4 years after the services were provided.

(4) Available supporting documentation didn't provide any confirmation of the services the government actually received. Personnel could not provide either Material Inspection and Receiving Reports (DD Form 250's) or 1080 billing documents to support the services provided and received. Therefore financial records were relied on to support the disbursement amount.

d. **Costs for the First Option Year of the Municipal BASOPS Contract.** We reviewed the BASOPS contract, the associated delivery order (number 19) for the first option year, and obligation and disbursement information. In addition, we discussed the contract with Presidio contracting personnel and representatives from the Presidio Municipal Services Agency.

(1) The contract is a cost-reimbursement, no-fee contract. Services provided through workorders are invoiced monthly by the Municipal Agency based on "costs reasonably born." Agency representatives explained that this means costs are recovered based on hourly labor

rates—established by division or department—that are calculated based on a weighted average labor rate and include a fringe benefits factor and a supervisory rate. In some instances, the Agency will use subcontractors; the Army is billed for the contract costs plus a 10-percent overhead for administration and supervision.

(2) Total obligations and disbursements for the first option year were about $2.277 million. The obligation amount was supported by financial documents. Disbursements were supported by the Municipal Agency's monthly invoices, DD Form 250's signed by a government representative, and vendor payment query documents from the Defense Finance and Accounting Service.

e. **Additional Costs for FY 97.** Services for fire alarm and elevator maintenance were included in the BASOPS contract but not the FY 97 agreement. Contracting personnel at the Presidio said there were very minor requirements for fire alarm maintenance during FY 97. They also said that some elevator maintenance services were received, but they believed the cost was minor. Therefore we obtained a list of contracts from the Standard Army Automated Contracting System for FY 97 to determine if additional base operations costs were incurred and needed to be considered in the cost comparison with the BASOPS contract. We reviewed the list in conjunction with contracting personnel at Training and Doctrine Command and the Presidio. Based on the available information, we determined it would be appropriate to add about $6,000 in contracting costs for elevator and fire alarm maintenance. These additional costs are included at enclosure 2. Although some additional minor costs may have been incurred, the timeframes for our review didn't permit contracting personnel to do an indepth review of each contract or delivery order for FY 97.

f. **Additional Costs for First Option Year.** To provide for a reasonable comparison of costs, we identified some additional costs for the first option year period for services that were included in the FY 97 agreement, but weren't included in the BASOPS contract. Additional costs for grounds maintenance, custodial and pest control services totaled about $1.404 million. These items are shown at enclosure 2.

(1) Grounds maintenance was performed under a separate contract, and some work was done through the use of credit cards. We reviewed the grounds maintenance contract, contractor monthly invoices, DD Form 250's and financial records that showed total contract costs of about $249,000 for the period. In addition, we reviewed the final FY 00 merchant summary analysis for credit card services (shown by type of service). The credit card costs are the FY 00 disbursements; this was the most readily available cost data close to the first option year 1 June 1999 through 31 May 2000. Total disbursements were about $249,000 for credit card services.

(2) Custodial services were provided under a separate contract. We reviewed the custodial contract, contractor monthly invoices, and DD Form 250's for the period. Total disbursements for the period were about $867,000.

(3) Pest control services were obtained through credit card purchases. We reviewed the final FY 00 merchant summary analysis for credit card services (shown by type of service). The credit card costs are the FY 00 disbursements; this was the most readily available cost data close to the first option year 1 June 1999 through 31 May 2000. Total credit card disbursements were about $39,000.

g. **Estimated Savings.** We concluded that the Army has achieved significant savings for the Presidio of Monterey and Ord Military Community by contracting with the local Municipal Agency for some BASOPS services under the authority of the demonstration project legislation. We inflated the FY 97 obligation and disbursement amounts using the FY 00 Operation and Maintenance, Army inflation table. The estimated savings are from about $633,000 to about $2.532 million. The $633,000 estimate is based on a comparison of disbursements for the FY 97 agreement with the Navy plus some additional costs (inflated to FY 00 dollars) with disbursements for the first option year of the BASOPS contract with the Agency plus some additional costs. The $2.532 million estimate is based on a comparison of obligations for the FY 97 agreement with the Navy plus some additional costs (inflated to FY 00 dollars) with disbursements for the first option year of the BASOPS contract with the Agency plus some additional costs. Based on historical data, the Navy generally bills for final payment (totaling close to the entire obligated

amount) in the year the financial records are closed. Therefore savings achieved will probably be closer to the estimate of $2.532 million. Enclosure 2 shows the cost comparison data.

h. **Other Benefits.** In addition to reduced costs, key personnel at the Presidio said that other benefits have been achieved through the BASOPS contract. These benefits include the quality and timeliness of services provided. Personnel cited many instances when they experienced lengthy delays in getting items fixed, when they had to call in or check on service orders many times, and when service personnel had to return to fix an item because of poor or incomplete workmanship. However, no documentation was available to support the extent of these problems. Personnel told us that service and quality of work is excellent under the current BASOPS contract. Although these benefits aren't readily quantifiable, they are real to installation personnel.

6. **BASOPS Services Not Included in the FY 97 Agreement or the First Option Year of the BASOPS Contract.** Total base support services includes more than the services that were provided under the FY 97 agreement and that are provided under the existing BASOPS contract. These services are obtained through separate contracts and agreements. The costs for these services weren't included in the cost comparison for estimating savings. However, they are included in this report to clarify the overall scope of base operations support. Costs for other BASOPS services were about $4.607 million during FY 97 and about $5.223 million during FY 00. Enclosure 3 lists these other BASOPS support services.

a. **Special Projects.** Special projects are generally maintenance and repair projects that are for a larger scope of work than is normally considered for a workorder.

(1) The FY 97 agreement defined a special project as a job that exceeded 40 hours or required more than $2,000 in material. The Navy was reimbursed additional funding for these projects—through separate military interdepartmental purchase requests—over and above the reimbursement under the agreement. Supporting documentation showed that about $500,000 was disbursed for about 40 special projects during FY 97 (about $519,000 was obligated). The special projects

included replacement of a heating system, demolition and construction of a dining facility, installation of a concrete slab, and installation of a commercial washer and dryer.

(2) The existing BASOPS contract defines a special project as unscheduled maintenance and repair work exceeding $2,500. The Presidio has the option to negotiate and fund a separate delivery order with the Municipal Agency or to have the work performed by other means (another contractor). Supporting documentation showed eight FY 00 delivery orders with the Agency for special projects for a total disbursement of about $565,000. These projects included pump station storm drainage improvements, a parking lot construction project, and building repairs.

b. **Fire Protection**

(1) Fire protection services for the Presidio have been provided under a separate contract with the City of Monterey since about 1953, according to installation personnel. Annual contract costs were about $200,000 for FY 97 and about $216,000 for FY 00. Fire protection services for the Presidio were contracted prior to 10 U.S.C. section 2465, which prohibits contracting for such services. Therefore fire protection services for Presidio were "grandfathered" and can continue to be contracted with the City of Monterey without special legislation.

(2) Fire protection services for the Ord Military Community are provided through an inter-Service support agreement with the Naval Support Activity Monterey Bay. FY 97 disbursements totaled about $688,000 (about $941,000 was obligated). FY 00 disbursements totaled about $1.244 million (about $1.410 million obligated). As of December 2000, the Navy had not submitted final billings for FY 97 or FY 00. During FY 00 the Presidio sent out a solicitation for fire protection services for Ord Military Community and initially planned for a 1 October 2000 award. However, contracting actions were put on hold. The authority to contract for fire protection services at the Military Community is based on the demonstration legislation, which is due to expire on 30 September 2001. If the demonstration project isn't extended, the Presidio will not have the authority to contract for the services and will

need to continue to obtain fire protection services through an agreement with the Navy.

c. **Police Protection.** Police protection services for the Presidio and Ord Military Community are provided by civilian garrison personnel within the Directorate of Law Enforcement. Personnel and support costs totaled about $2.611 million for FY 97 and about $2.592 million for FY 00.

d. **Security.** Security services for the Presidio and Ord Military Community are provided by civilian garrison personnel within the Directorate of Law Enforcement. Three personnel were employed for this purpose during FY 97 and one person during FY 00. Personnel and support costs were about $178,000 for FY 97 and about $84,000 for FY 00.

e. **Refuse.** Refuse services for the Presidio are provided under contract with the City of Monterey, and the Ord Military Community receives services from a contractor. The contracts include refuse services for the complete "footprint" of the installation, which encompasses all facilities—including family housing—located within the Presidio and Ord Military Community. Based on available records, we obtained disbursements for the Operation and Maintenance, Army Appropriation. Contract costs for the Presidio were about $284,000 for FY 97 and about $379,000 for FY 00. Contract costs for the Military Community were about $146,000 for FY 97 and about $143,000 for FY 00. We estimated the FY 00 costs based on obligations because of the limited availability of data at the time of our review.

7. **Other Matters.** The 1999 annual report to Congress recommended providing legislation that would allow any DOD installation the ability to contract with local communities for municipal services, including fire fighting. The report stated that not all DOD installations will have local communities capable of providing these services. It also stated that installations that can outsource these municipal services will generate significant savings. This conclusion and recommendation appears to be based solely on estimated savings generated by the Presidio. Other issues must be considered before providing legislation allowing for such broad implementation. These other considerations include the installation location and community environment, A-76

commercial activities requirements, small business contracting requirements, current method of obtaining such services (in-house or contract), and additional review and analysis by installation.

8. **Suggested Actions.** We have two suggestions as a result of our review:

- Management can use this analysis as a basis for drawing conclusions on the cost-effectiveness of the municipal BASOPS contract at the Presidio of Monterey.

- The Presidio should coordinate with the Navy to establish procedures for timely billing and final payment for services received under established agreements. Available documentation showed significant delays in receiving billings from the Navy for services provided under inter-Service support agreements.

9. The accuracy of our cost comparison results is dependent on the supporting data available and current at the time of our review. As with any projected data, differences between estimated and actual results could occur. Given this qualification, the analysis can be used for overall management conclusions on the cost effectiveness of the BASOPS contract at the Presidio of Monterey.

10. We gave your representatives the draft report for review; they had no additional comments. This report isn't subject to the command-reply process that AR 36-2 prescribes. I appreciate the courtesies and cooperation extended to us during this review. If you have any questions, please call me at (703) 681-9855 or e-mail clarks@aaa.army.mil. You may also contact Ms. Belinda Tiner at (910) 396-5698 (ext 200) or via e-mail at tinerb@aaa.army.mil.

FOR THE DEPUTY AUDITOR GENERAL:

Sheila B Clark

3 Encls

SHEILA B. CLARK
Program Director
Installation Operations

SCOPE AND METHODOLOGY OF THE REVIEW

We performed the review:

- During November and December 2000.
- In accordance with consulting standards established by The Auditor General.

We initiated a desk review of supporting documentation provided by the Presidio of Monterey, Internal Review Office. Based on an initial review, we identified the additional information needed to validate savings based on a cost comparison of base operations services under the FY 97 inter-Service support agreement with the U.S. Navy and for the first option year of the base operations and support (BASOPS) contract with the Presidio Municipal Services Agency. We also made a joint site visit—with U.S. Army Training and Doctrine Command personnel—during the week of 4 December 2000.

To validate the estimated savings—based on a cost comparison—from using the authority of demonstration project legislation to contract with a municipal agency for specified services, we obtained and reviewed copies of:

- Pub. L. 103-337, section 816, Stat. 2820 (Demonstration Project) and subsequent amendments.
- The FY 97 inter-Service support agreement between the U.S. Naval Support Activity Monterey Bay and the Presidio of Monterey. We also obtained copies of the FYs 95 and 96 agreements for comparative purposes.
- Request for Proposal DABT67-97-R-0015 for Base Maintenance Services, issued 2 April 1998. (Standard Form 33—Solicitation, Offer and Award—was unsigned.)
- BASOPS contract DABT 67-98-D-0018 with the Presidio Public Works Agency (renamed the Presidio Municipal Services Agency), effective 15 May 1998, including modifications P00001 through P00013 and contract delivery orders.
- Financial records, including Standard Financial System queries for obligations and disbursements for inter-Service support agreements and selected contracts for FY 97, the first option year, and FY 00; military interdepartmental purchase requests and acceptance documents for the FY 97 agreement; FY 00 credit card merchant summary analysis (by type of service) for FYs 99-00; and

invoice, receipt and payment documents for the BASOPS contract, grounds maintenance contract and custodial contract for the first option year period.

- FY 97 contracts from the Standard Army Automated Contracting System.

- Special projects for FY 97 and the BASOPS contract first option year period.

- FY 00 Operation and Maintenance, Army inflation table for the purpose of inflating FY 97 obligations and disbursements to FY 00 dollars.

- Internal Review Report A10-95, 16 August 1995, Processing and Documenting Work Generated by POM Public Works and Completed by NPS Public Works.

- Internal Review Report A4-96, 28 February 1996, Organizational Effectiveness Study of DLIFLC/POM Directorate of Public Works.

- Secretary of Defense annual reports to Congress entitled "Analysis of the Municipal Services Demonstration Project at the Presidio of Monterey, California," 21 December 1998 and 27 December 1999.

- Other information necessary to complete the cost comparison for "like" services for the FY 97 agreement and the first option year of the BASOPS contract.

- Other agreements, military interdepartmental purchase requests and contracts for BASOPS services appropriate for completing the cost comparison and identifying other BASOPS services not included in the FY 97 Agreement with the Navy or the first option year of the BASOPS contract with the Presidio Municipal Services Agency.

In addition, we discussed BASOPS support services with key personnel at the Presidio of Monterey, including personnel in the Directorates of Resource Management, Public Works and Contracting; Internal Review Office; and Office of the Staff Judge Advocate General. We also met with representatives from the Presidio Municipal Services Agency.

VALIDATION OF SAVINGS BASED ON COMPARISON OF COSTS BETWEEN THE FY 97 AGREEMENT WITH THE U.S. NAVY AND THE BASOPS CONTRACT WITH THE PRESIDIO MUNICIPAL SERVICES AGENCY

Cost Comparison for a 1-One-Year Period (Dollars in thousands)						
FY 97				**First Option Year (1 June 1999 to 31 May 2000)**		
Services	**Remarks**	**Oblig**	**Disburse**	**Services**	**Remarks**	**Disburse**
ISSA	MIPR7ADLIBA001	$5,776	$4,009	BASOPS–Facilities Maintenance	DABT67-98-D-0018; Delivery Order 19	$ 1,508
				BASOPS–Basic Services	DABT67-98-D-0018; Delivery Order 19	567
				BASOPS–Other	DABT67-98-D-0018; Delivery Order 19	202
Total ISSA Cost		**$5,776**	**$4,009**	**Total Contract Cost**		**$2,277**
Elevator Maintenance	Contract	3	3	Grounds Maintenance (North Bay Industries)	DABT67-00-F-0004	$ 249
Fire Alarm Maintenance	Contract	3	3	Grounds Maintenance	Credit Cards*	249
				Custodial (Pride Industries)	DABT67-00-F-0005	867
				Pest Control	Credit Cards*	39
Additional Costs		**6**	**6**	**Additional Costs**		**$1,404**
Total Cost for FY 97		**$5,782**	**$4,015**	**Total Cost for the First Option Year**		**$3,681**
Total Cost Inflated to FY 00 Current Year Dollars		**$6,213**	**$4,314**			
Range of Estimated Savings for a 1-Year Period:				**$2,532**	**$633**	
We calculated the range of estimated savings as follows: $6,213 less $3,681 equals $2,532; $4,314 less $3,681 equals $633.						

* FY 00 credit card disbursements; most readily available cost data close to first option year period.

Enclosure 2

BASOPS SERVICES NOT INCLUDED IN THE FY 97 AGREEMENT WITH THE NAVY OR THE FIRST OPTION YEAR OF THE BASOPS CONTRACT WITH THE PRESIDIO MUNICIPAL SERVICES AGENCY

Other BASOPS Support (Dollars in thousands)						
FY 97				**First Option Year (1 June 1999 to 31 May 2000)**		
Services	**Remarks**	**Oblig**	**Disburse**	**Services**	**Remarks**	**Disburse**
Special Projects	Navy MIPR	$519	$ 500	Special Projects	DABT67-00-F-0018	$ 565
Fire Protection–POM	DABT67-95-C-0003 (City of Monterey)		200	Fire Protection–POM	DABT67-95-C-0003 (City of Monterey)	216
Fire Protection–OMC	Navy ISSA	941	688	Fire Protection–OMC	Navy ISSA	1,244
Police Protection	In-House		2,611	Police Protection	In-House	2,592
Security	In-House		178	Security	In-House	84
Refuse–POM	DABT67-97-C-0004 (City of Monterey)		284	Refuse–POM	DABT67-97-C-0004 (City of Monterey)	379*
Refuse–OMC	DABT67-97-D-0005 (Carmel–Marina Corp.)		146	Refuse–OMC	DABT67-97-D-0005 (Carmel–Marina Corp.)	143*
Total			**$4,607**	**Total**		**$5,223**

* Amount based on monthly obligations; disbursements not readily verifiable.

Abbreviations Used:

BASOPS = Base Operations
Oblig = Obligation
Disburse = Disbursement
POM = Presidio of Monterey
ISSA = Inter-Service Support Agreement
OMC = Ord Military Community
MIPR = Military Interdepartmental Purchase Request

ANALYSIS OF THE MUNICIPAL SERVICES DEMONSTRATION PROJECT AT THE PRESIDIO OF MONTEREY, CALIFORNIA

(In Accordance with Public Law 103-337, Section 816, As Amended)

(Third Report)

December 28, 2000

Evaluation of Project

BOTTOM LINE (after two years experience):

This Demonstration Project has been an unmitigated success. (See enclosure 1 for the legislative history.) It has allowed the Defense Language Institute Foreign Language Center and the Presidio of Monterey (DLIFLC & POM), to save more than $2.5 million —this year alone—by contracting for BASOPS services from municipalities in Monterey County, rather than continuing an inefficient, high-cost Inter-Service support agreement with the Navy. The U.S. Army Audit Agency's Consulting Report AA 01-731 (Enclosure 2) details the scope of work performed and the corresponding $2.532 million savings. The most fiscally responsible long-term solution is for permanent legislation allowing this unique partnership to continue. We are the only agency in Monterey County that has implemented this DoD Demonstration Project. Without this demonstration legislation, these municipalities would not be eligible to compete with small business, private sector firms for a BASOPS services contract with DoD. Although the demonstration legislation has been criticized as unnecessary since the Federal Acquisition Regulation (FAR) does not prohibit cities from competing in an unrestricted procurement for a contract; in fact, cities cannot compete against small businesses since the scope of this contract falls within the range for a small business set-aside for this type of work.

Background

The Presidio of Monterey (POM) is located on the Monterey Peninsula in the heart of the city of Monterey. It also includes an annex located at the former Fort Ord (hereafter referred to as Ord Military Community (OMC)) between the cities of Seaside and Marina.

POM is home to the Defense Language Institute Foreign Language Center (DLIFLC). The mission of DLIFLC is to provide foreign language instruction in support of national security requirements; to support and evaluate command language programs worldwide; to conduct academic research into the language learning process; and to administer a worldwide standard test and evaluation system.

The 1991 Base Realignment and Closure Commission (BRAC) targeted Fort Ord for closure. In 1993, the BRAC commission mandated downsizing at the Presidio of Monterey and recommended that DLIFLC& POM consolidate base operations with the Naval Postgraduate School (NPS) in Monterey via an Inter-Service Support Agreement (ISSA). The Departments of the Army and Navy negotiated and signed an ISSA under which NPS provided all public works support to DLIFLC & POM. The Navy provided this public works support FY 95 through FY 97 and army family housing operation and maintenance support from FY 95 to the present. There was one exception to this support – fire-fighting services. The City of Monterey had provided fire protection services for the Presidio of Monterey under contract since 1953. This contract proceeded the Title 10

restriction prohibiting contracting for fire-fighting and security guard services and was allowed to continue under the grandfathering provision.

The Presidio of Monterey is the only DOD agency in Monterey County that implemented the demonstration legislation, and it has proven to be critically important since the BRAC closure of Fort Ord in 1994. The terms and quality of service provided under the Navy ISSAs were unacceptable. The results of a local internal review and audit clearly identified unacceptably high cost and low quality service for DLIFLC & POM. As a result, the Commanding General, TRADOC, directed the Commander, DLIFLC & POM, to obtain the best quality service at the lowest price in the most expedient manner. The demonstration legislation allowed the Presidio to contract with the cities of Monterey and Seaside for BASOPS, resulting in both significantly improved services and significantly reduced costs.

This demonstration legislation proved critically beneficial in an area with severe shortages of blue-collar workers. Further, the unique geographic location of both the POM and OMC made the demonstration legislation particularly appropriate for the Army. The POM is relatively small in acreage. Nine separate municipalities surround POM and OMC.

Contracting with the municipalities allows for a no fee cost reimbursement service contract. The municipalities have the infrastructure in place to provide the required municipal services. They are non-profit agencies with reasonable general and administrative costs (average 27%), which is significantly lower than the costs that would be incurred through contracting with industry.

Update

DLIFLC & POM worked with TRADOC DCSBOS, ACSIM, and OCLL to continue this "temporary" Demonstration Project by amending its termination date in the 2001 National Defense Authorization Act (NDAA). The demonstration project did not initially have a termination date. In NDAA FY99, Congress, for the first time, inserted a duration clause with an end date of 30 September 2000. DLIFLC & POM requested a two-year extension in the 2001 Authorization Act. Unfortunately, the 2001 Defense Authorization Act only extended the project to 30 September 2001. Due to the unique nature of the project, implementation did not start until 1998. Remarkably, within just two years, this Project has proven its success.

Since we did not receive our requested two-year extension, this installation will face significant hardships on 30 September 2001. First, with a limited one-year extension, our installation will again face the situation of not being able to use funds obligated under the current contract beyond 30 September 2001. This would cause a gap in BASOPS coverage from October 2001 until the passage of the Fiscal Year 2002 Authorization Act, if Congress again extended the project. Instead, we must prepare to transition to a

competitive contract without a guarantee that the city will be allowed to submit a proposal given small business set-aside requirements.

This Demonstration Project allowed us to compete the BASOPS contract directly with municipalities. While private firms were not eligible for the overall contract, under the demonstration legislation, the city does compete its subcontracts with local firms.

There have been two prior reports to Congress as required by the demonstration legislation. Initial annual savings of $1,083,800 were identified in the Report to Congress on "Analysis of the Municipal Services Demonstration Project at the Presidio of Monterey, California," dated December 21, 1998. These savings were possible because of the no fee cost reimbursement contract, the close proximity to municipal service providers and public utilities, and the ability to leverage the opportunities of scale and in-place overhead.

In December 2000, the U.S. Army Audit Agency (USAAA) concluded that the Army achieved significant savings for the Presidio of Monterey and Ord Military Community by contracting with the local Municipal Agency for some BASOPS services under the authority of the demonstration project legislation. USAAA validated $2.532 million in savings based on a comparison of costs for the first option year (June 1, 1999 through May 31, 2000) of the BASOPS contract with the local Municipal Agency compared with the prior ISSA with the U.S. Navy. Estimated savings were also based on a comparison of like services.The full scope and methodology of USAAA's review is detailed in their report (Enclosure 2).

Summary

The ability to contract for BASOPS services with municipalities in Monterey County has been an exceptional success for an installation in a unique geographic position where base support issues are further complicated by the BRAC closure of Fort Ord. This Demonstration Project allowed us to compete the BASOPS contract directly with municipalities, where they would not normally be eligible to offer their services. The demonstration legislation has been criticized as unnecessary since the FAR does not prohibit cities from competing in an open competition; in fact, cities cannot compete against small businesses in a set-aside and the amount of this contract falls within the range for a small business set-aside for this type of work.

Without Congressional support to codify or extend this proven legislation, POM is already facing difficult contracting issues. After the contracting process is completed, POM could be faced with having to contract with a commercial business at a higher cost. With declining resources, this is not a fiscally viable position.

Recommendations

The Demonstration Legislation requires the Secretary of Defense to make recommendations on whether the purchase authorities used in conducting the project could be used to provide similar services at other locations.

DLIFLC & POM's implementation of the demonstration legislation project has proven cost savings, better quality, is more timely, and offers a wider range of support than received under the Navy ISSA or than what we believe we would receive from a small business. As stated in our two previous reports to Congress, this demonstration project has been extremely successful for DLIFLC & POM due to our location and our good working relationship with quality municipalities in the immediate surrounding area. Based on the Presidio of Monterey's savings, other Department of Defense installations with local communities capable of providing these services should investigate the feasibility of generating savings in this respective resource challenged environments. We recommend:

1. Codifying the Demonstration Project Legislation so that the Presidio of Monterey can continue receiving superior municipal services at a reduced price from local municipalities, or

2. Granting an exception to the Federal Acquisition Regulation allowing municipalities to compete for small business set-aside contracts.