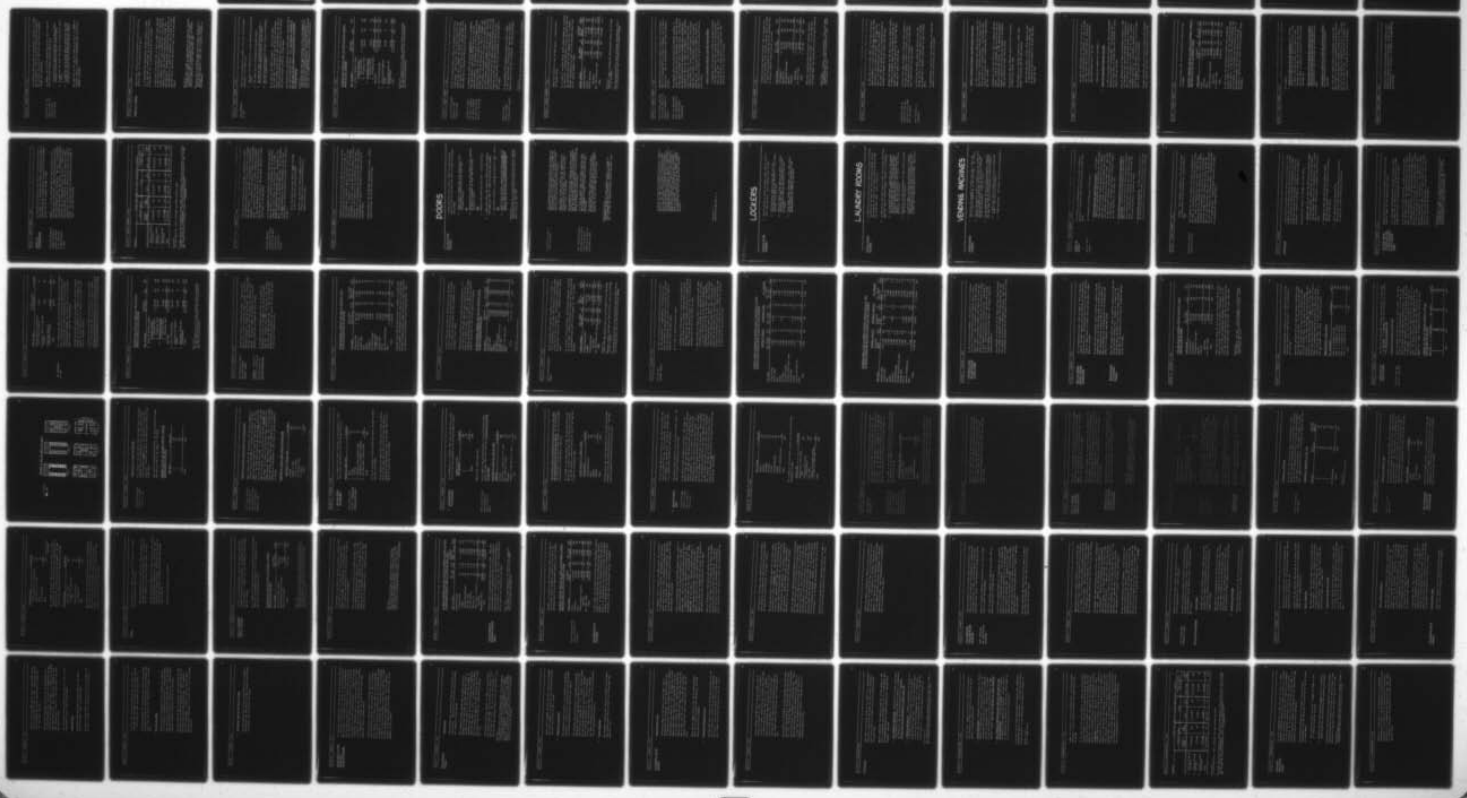
AD-A062 988 BUFFALO ORGANIZATION FOR SOCIAL AND TECHNOLOGICAL INN--ETC F/G 5/11
REDUCING VANDALISM IN NAVAL BACHELOR ENLISTED QUARTERS, VOLUME --ETC(U)
JUL 78 C BRADY, M BRILL N68305-77-C-0018

UNCLASSIFIED CEL-CR-78.021 NL

1 OF 2

AD A062988



(12) LEVEL III

AD58144
VOL. III

(18) CEL

(19) CR-78.021

Moves.

CIVIL ENGINEERING LABORATORY
Naval Construction Battalion Center
Port Hueneme, California

Sponsored by
NAVAL FACILITIES ENGINEERING COMMAND

(9) Final rept.,

(6) REDUCING VANDALISM IN NAVAL BACHELOR ENLISTED QUARTERS. VOLUME IV: ANALYSIS OF THEFT & THEFT-RELATED PROPERTY DAMAGE,

and

(11) July 1978

(12) 160 p.

An Investigation Conducted by

BOSTI
THE BUFFALO ORGANIZATION FOR
SOCIAL & TECHNOLOGICAL INNOVATION
Buffalo, New York

(15) N68305-77-C-0018

(16) F53534

(17) YF53534091

Approved for public release; distribution unlimited.

(10) Christine Brady
Michael Bull

393 202

78 12 1 032

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER: CR 78.021 / 2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle): REDUCING VANDALISM IN NAVAL BACHELOR ENLISTED QUARTERS, VOLUME IV: ANALYSIS OF THEFT & THEFT-RELATED PROPERTY DAMAGE	5. TYPE OF REPORT & PERIOD COVERED: Final July 1978 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): Christine Brady Michael Brill	8. CONTRACT OR GRANT NUMBER(s): N68305-77-C-0018 /
9. PERFORMING ORGANIZATION NAME AND ADDRESS: BOSTI ✓ 1479 Hertel Avenue Buffalo, NY	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: YF53.534.091.01.301
11. CONTROLLING OFFICE NAME AND ADDRESS: Civil Engineering Laboratory Naval Construction Battalion Center Port Hueneme, CA 93043	12. REPORT DATE: July 1978 13. NUMBER OF PAGES: 157
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office): Naval Facilities Engineering Command 200 Stovall Street Alexandria, VA 22332	15. SECURITY CLASS. (of this report): Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

DDC RECEIVED DEC 8 1978 B

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

BEQ Facility, BEQ Management, BEQ Planning, BEQ Construction, Vancalism Reduction, Crime Reduction, Theft

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Results of a study on the extent of vandalism in Naval BEQs are presented in four "stand-alone" volumes. Volume 1 summarizes vandalism damage which was found to be a problem of high incident rate and high maintenance cost. Volume 2 focuses on concepts for remedial programs to combat the problem. Volume 3 proposes administrative measures to deal with the problem. Vol-

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

Over

Vol 1 AD58 858
2 D28
3 144

Blk 20. Abstract (Cont'd)

ume 4 is an analysis of theft and theft-related property damage.

DISCLAIMER

The contents of this report reflect the views of the study's director, Michael Brill, and its principal investigators, Christine Brady and Lisa Richer Bender. The contents do not necessarily reflect the official views or policy of the United States Navy, nor do any of the recommendations constitute a change in NAVFAC policy or documents.

ACKNOWLEDGEMENTS

BOSTI and the project team sincerely thank the following Naval personnel, without whose assistance the study would not have been possible:

1. Master Chief Paul Fleury, formerly of the Law Enforcement and Corrections Division, Bureau of Naval Personnel, Washington, D.C., who contacted the bases that participated in this study and ensured that we received the information we requested.

2. Security personnel at the bases participating in the study, who forwarded copies and/or summaries of Theft Incident and Investigative Reports and completed lengthy questionnaires regarding theft reporting and investigation procedures, theft prevention programs and designs, and unreported thefts.

3. BEQ Officers and/or Managers who provided information about BEQs.

4. 89 BEQ residents who completed questionnaires regarding their attitudes toward the security of their personal belongings and toward various theft prevention measures.

5. Mrs. Brock, of the Judge Advocate General's Office, Washington, D.C., who patiently explained Naval policies and procedures regarding reimbursement of theft victims and provided estimates of the extent of utilization and costs of this program.

Last, but not least, we once again thank Mr. Ken Gray, Manager of the Physical Security R&D Program at the Civil Engineering Laboratory, Naval Construction Battalion Center, Port Hueneme, CA., on whose behalf this study was undertaken. His continuous support, and the patience, flexibility and good humor with which it was provided are sincerely appreciated.

VOLUME IV: ANALYSIS OF THEFT AND THEFT-RELATED PROPERTY DAMAGE

TABLE OF CONTENTS

INTRODUCTION

This volume documents an analysis of theft and theft-related property damage in Naval Bachelor Enlisted Quarters (BEQs) conducted by BOSTI (The Buffalo Organization for Social and Technological Innovation, Inc.), on behalf of the Naval Civil Engineering Laboratory, Port Hueneme, California.

The analysis was prompted by, and constitutes the final phase of, a major study of vandalism in BEQs. The entire study, comprising analyses of vandalism, theft and theft-related property damage in BEQs was undertaken to enable the Navy to reduce the operation and maintenance costs of BEQs. The entire final report for the study consists of four volumes. The first three address vandalism only. Their titles and contents are:

- VOLUME I: PROJECT SUMMARY -- A summary of the analysis of vandalism in BEQs, including the findings, recommendations and methods.

- VOLUME II: DEMONSTRATION PROJECT AND DESIGN GUIDELINES -- A detailed description of those methods for reducing the cost of vandalism which are recommended for testing, and of recommended evaluation methods and procedures.

- VOLUME III: PROJECT METHODS AND RESULTS -- A detailed description of the project's methods and results.

This particular volume, VOLUME IV: ANALYSIS OF THEFT AND THEFT-RELATED PROPERTY DAMAGE, is divided into four sections. They are:

- SECTION I: PROJECT SUMMARY. This section is a summary of the major project findings and recommendations and of the project methods. It is intended for the reader who wants a quick, but nevertheless complete, overview of the entire project.

- SECTION II: FINDINGS. In this section the study's findings regarding the nature and extent of theft and theft-related property damage in BEQs are presented in detail. It is intended for the reader who desires a more complete understanding of the basis for the study's recommendations. Although this study was confined to the development of environmental design recommendations, those readers who are interested in developing administrative and public education measures for the reduction of theft and theft-related property damage in BEQs, will also find some of the information in this section useful.

- SECTION III: RECOMMENDATIONS. In this section, environmental design strategies that the project team believes will effectively reduce vandalism, theft and theft-related property damage in BEQs are presented. A demonstration program to

evaluate the effectiveness of these strategies is also recommended. It is intended for readers who are concerned with reducing the maintenance and operations costs of BEQs through environmental design.

- SECTION IV: METHODS. Described in detail in this final section of the report are the data, data sources, methods of data collection and methods of data analysis used in the study. It is intended for the reader who desires a complete understanding of the project methods.

SECTION I: PROJECT SUMMARY

PROJECT BACKGROUND AND PURPOSE

This section summarizes the results of the analysis of theft and theft-related property damage in Naval Bachelor Enlisted Quarters (BEQs) which is the subject of this volume. Because the analysis was prompted by, and constitutes the final phase of, a major study of vandalism in BEQs, the vandalism study is briefly described below.

The original study of vandalism, which is documented in the first three volumes of this report, was undertaken to enable the Navy to reduce the operation and maintenance costs of BEQs through environmental design. As such, it included the identification and description of the types of property damage due to vandalism occurring in BEQs, estimation of the costs of this damage and, finally, development of environmental design strategies for reducing the damage costs.

Vandalism Defined

For the purposes of the study, vandalism was defined as the intentional or unintentional removal, damage or destruction of government property, where such acts and their attendant costs are unacceptable to the Navy. Clearly, almost all property damage occurring in BEQs would fall within this broad definition. In order to describe the patterns of property damage more precisely, the study attempted to determine possible motives for property damage, such as malice, accident and theft.

SECTION I: PROJECT SUMMARY -- Cont.

One of the findings of this motive analysis is that theft in BEQs is apparently a widespread problem -- BEQ Managers at 100 (97%) of the 103 bases participating in the study, reported that theft of personal and government property occurs in the BEQs on their bases. In addition, prior analysis of property damage by building element indicated that damage to doors (particularly sleeping room doors), to lockers and to vending machines in BEQs accounts for an estimated 35% of property damage costs.

Rationale for Studying Theft

The major concern generated by these findings was that much of the damage to these three building elements might be due to theft-related forcible entry rather than other motives. Since measures for preventing damage due to forcible entry differ quite substantially from, for instance, measures for preventing accidental damage, it was crucial that the nature and extent of theft and theft-related property damage be more precisely determined.

Finally, to enable the Navy to select those environmental design strategies which would <u>most</u> reduce the operation and maintenance costs of BEQs, it was believed that the losses due to theft and theft-related property damage which might be reduced through

environmental design should be considered in addition to losses due to vandalism. Thus the principal objectives and scope of the additional analysis of theft and theft-related property damage were established.

Objectives of the Study of Theft and Theft-Related Property Damage

In summary, the principal objectives of this add-on study of theft and theft-related property damage were:

1. To determine what types and amounts of property damage reported in the vandalism study are theft-related.
2. To determine the nature and extent of losses due to theft in BEQs.
3. To identify, and to design ways of evaluating the effectiveness of, environmental design options for reducing losses due to theft and theft-related property damage.

The remainder of this section consists of first, a SUMMARY OF FINDINGS, second, a SUMMARY OF RECOMMENDATIONS, and third, a SUMMARY OF METHODS.

SECTION I: PROJECT SUMMARY -- Cont.

SUMMARY OF FINDINGS

Approximately 99,000 sailors are berthed in Bachelor Enlisted Quarters (BEQs) on 130 stateside Naval bases.

It is estimated that approximately 38,000 incidents of theft occur each year in these BEQs, at an estimated cost of almost $3,000,000 in 1977, or approximately $72 per incident.[1]

Slightly more than 6,000 (16%) of these incidents were reported to Base Security Departments for investigation. The remaining 32,000 incidents comprise those incidents which were either not reported or which were handled by BEQ managers, rather than Base Security.[2] Although these unreported thefts account for an estimated 84% of all thefts by frequency, they account for less than half of all thefts on the basis of the value of the property stolen.

---

[1] Although theft in BEQs is approximately one-fourth as frequent as vandalism in BEQs, the average cost per theft incident (approximately $72) is considerably higher than the average cost per vandalism incident (approximately $44).

[2] The majority of unreported government property thefts are of items in daily use in the BEQs, such as linen, cleaning equipment and supplies. Their loss is generally handled by BEQ Managers.

SECTION I: PROJECT SUMMARY -- Cont.

THE COMPONENTS OF COST

Theft costs estimated and included in the total cost estimates[1] presented in this report are:

1. The value of property stolen in both reported and unreported thefts.
2. The labor costs of investigating reported thefts.
3. The material labor, overhead and administrative costs of repairing property damage related to reported thefts.
4. The cost of processing theft victims' claims for reimbursement for property stolen.

As is shown in the table on page 6, most of the theft cost (over 80%) is accounted for by the value of the property stolen, followed by the cost of theft investigation, the cost of theft-related property damage, and, finally, the cost of processing theft victims' claims for reimbursement.

Considerably more information was available about reported thefts than about unreported thefts. Thus, the findings presented in the remainder of this report are based primarily on analyses of reported thefts.

[1] Theft costs which were not estimated in this study because of insufficient data include 1) the cost of theft prevention programs and 2) any administrative and property damage costs associated with unreported thefts. Consequently, the estimated total cost of theft is believed to be somewhat conservative.

SECTION I: PROJECT SUMMARY -- Cont.

ESTIMATED COST (1977) OF THEFT AND THEFT-RELATED PROPERTY DAMAGE BY COST COMPONENT

COST COMPONENT	ESTIMATED COST (1977)	% TOTAL	CUM. %
A. VALUE OF PROPERTY STOLEN			
1. Personal Property			
a. Reported Theft*	$ 1,140,600	42%	42%
b. Unreported Theft	386,100	14%	56%
2. Government Property			
a. Reported Theft*	39,900	1%	57%
b. Unreported Theft	648,400	24%	81%
SUB-TOTAL	$ 2,215,000	81%	81%
B. THEFT INVESTIGATION	390,000	14%	95%
C. THEFT-RELATED PROPERTY DAMAGE	68,600	3%	98%
D. PROCESSING CLAIMS FOR REIMBURSEMENT	49,500	2%	100%
TOTAL	$ 2,723,100	100%	100%

*For the purposes of this study, reported thefts are defined as those thefts which are reported to and investigated by Base Security Departments.

SECTION I: PROJECT SUMMARY -- Cont.

Most Reported Thefts Occurred in BEQ Sleeping Rooms

87% of all reported thefts in BEQs (by frequency) occurred in three spaces: sleeping rooms (77%), laundry rooms (7%), and vending areas (3%). However, the thefts from sleeping rooms alone account for 88% of the cost of all reported thefts from BEQs, when cost is defined as the value of property stolen.

Parking Lot Thefts Are Also a Frequent and Costly Problem But Were Not Considered in This Study

In addition to thefts occurring inside BEQs, it is estimated that approximately 1,500 thefts from BEQ parking lots are reported annually. The estimated value of the property stolen during these thefts in 1977 is slightly more than $456,000. Although theft from BEQ parking lots is clearly a frequent and costly problem, the purpose of this study was to identify theft and theft-related property damage losses which might effectively be addressed by environmental design changes in BEQs. Thus, any work concerning parking lot thefts beyond the estimation of their frequency and cost was considered outside the bounds of this study, and these thefts are not considered in the remainder of this report.

Theft-Related Property Damage Is Apparently Minimal

Of the estimated 4,700 reported incidents of theft in BEQs[1] in 1977, approximately 1,100 (about 23%) resulted in property damage as well as the loss of property. Theft-related property

[1] Thefts from BEQ parking lots are not included in this estimate.

damage was reported in only two BEQ spaces -- sleeping rooms and vending areas.

As is shown in the table below, theft-related damage was sustained by three items: sleeping room doors, lockers and vending machines. The estimated total cost[1] of this damage, for 1977, is almost $69,000, representing less than 1% of the estimated annual cost of all property damage in BEQs.

ELEMENT DAMAGED	EST. ANNUAL FREQUENCY	% INCI.	ESTIMATED COST OF REPAIR	% REPAIR COST
Sleeping Room Doors	280	25%	$ 30,700	53%
Lockers	670	61%	15,400	26%
Vending Machines	160	14%	12,200	21%
SUB-TOTAL	1,100	100%	$ 58,300	100%
Est. Administrative Cost	(1,100)	(100%)	10,300	(15%)[2]
TOTAL	1,100	100%	$ 68,600	n.a.

[1] Material, labor, overhead and administrative costs are included in this estimate.

[2] Estimated administrative costs constitute approximately 15% of the estimated total cost of theft-related property damage.

SECTION I: PROJECT SUMMARY -- Cont.

Most Property Reported Stolen from BEQs is the Personal Property of Sailors

Reported thefts of personal property account for an estimated 92% of all reported thefts in BEQs by frequency, and for 95% of same by cost. (Cost is defined here as the value of property stolen.)

There are Three Major Theft "Scenarios" on Which This Report Concentrates

The frequency with which government and personal property is stolen from each BEQ space was estimated, as was the total value of each type of property stolen from each space. Only three of the possible twenty-two property type/BEQ space combinations accounted for 85% of the thefts (by frequency). These combinations ("scenarios") are: theft of personal property from sleeping rooms (75%), theft of personal property from laundry rooms (7%), and theft of "government" property from vending machines (3%). These same three theft scenarios account for almost 90% of the thefts on the basis of the value of the property stolen.

1. Theft of Personal Property from BEQ Sleeping Rooms

An estimated 3,600 incidents of theft of personal property from BEQ sleeping rooms were reported on stateside Naval Bases during 1977. The estimated total value of the items reported stolen in these thefts is slightly more than $631,000, or almost $180 per incident.

SECTION I: PROJECT SUMMARY -- Cont.

Although more than twenty different items of personal property were reported stolen from BEQ sleeping rooms, the theft of only five accounted for almost 95% of the estimated value of personal property reported stolen from rooms.

ITEM STOLEN	EST. TOTAL VALUE (1977)	% VALUE	CUM. %
"Noisemakers"[1]	$ 227,900	36%	36%
Cash/Wallet	220,100	35%	71%
Photography Equipment	74,500	12%	83%
Jewelry	37,600	6%	89%
Clothing	33,100	5%	94%
SUB-TOTAL	$ 593,200	94%	94%
All Other Items	38,100	6%	100%
TOTAL	$ 631,300	100%	100%

Additional characteristics of personal property reported stolen from sleeping rooms are that: 1) in more than half the thefts (62%), the victims would be able to easily identify

[1] "Noisemakers" includes: stereo equipment, albums and tapes; cassette recorders, recording microphones and tapes; radios, clock radios and T.V.s.

at least one of the stolen items; 2) the items stolen were highly portable -- in most cases (93%) one person would have been able to easily remove the stolen items in one trip; and 3) the items stolen were also easy to conceal -- in most cases (91%) no unusual effort at concealment would be necessary to remove the stolen item(s) from the base.

Neither the frequency nor the cost (value of property stolen) of thefts of personal property from sleeping rooms was unusually high or low for any particular BEQ type, BEQ deck, month, day of week or time of day.

Sufficient Time To Search the Room Was Available in at Least Half the Thefts

In half of the theft incidents, items which were hidden in the room, for example, locked in a locker, were stolen. In the remaining half of the incidents, only items which were visible in the room were stolen.

Door Security is Inadequate

In 72% of the incidents, access was gained to the room through the door. In most of these cases (81%), the door was locked but, in general, there were no signs of forced entry.

In approximately a quarter of the incidents, the victim was sleeping in the room at the time of the theft.

2. Thefts of Personal Property from BEQ Laundry Facilities

For 1977, it is estimated that slightly more than 2,000 incidents of theft of personal property from BEQ laundry facilities occurred on all stateside bases. The estimated total value of the stolen items is almost $43,000, or approximately $21 per incident.

Clothing and linen were the only types of property reported stolen. In 58% of the incidents, all the articles the victims were washing were stolen. In the remaining incidents, however, specific articles were the targets of the thefts. Items were generally stolen from the dryer.

No particular type of BEQ had unusually high or low rates of theft from laundry rooms.

The following is a "typical" scenario of a theft from a laundry area based upon the data analysis:

> "During off-duty hours, a male sailor places his wash in the washing machine and leaves the laundry area. He returns to put his clothes in the dryer and again leaves the area.

He returns approximately an hour later to pick up his clothes, having played pool, watched T.V., etc., to pass the time, and finds his clothes missing. Missing are six articles of civilian and military clothing/linen, whose approximate value is $21.00.

There are no suspects for the theft."

3. Theft of Government Property from BEQs

In 1977, an estimated 23,000 incidents of theft of government property occurred in stateside BEQs. The estimated total cost of these thefts is slightly more than $700,000, or approximately $30 per incident.

Only an estimated 2% of thefts of government property in BEQs are reported to base security departments for investigation. This is because most of the government property thefts are of items in constant use in BEQs, such as linens, cleaning equipment and supplies. These thefts, reported to us as occurring daily on some bases, are subject to action by BEQ staff, rather than base security personnel.

Although thirteen types of government property were reported stolen, theft of only four of these accounts for over 90%

of the estimated total value of government property stolen from BEQs.

ESTIMATED FREQUENCY AND COST OF THEFTS OF GOVERNMENT PROPERTY FROM BEQs (1977) BY TYPE OF PROPERTY STOLEN

ITEM STOLEN	ESTIMATED VALUE	% VALUE	EST. # OF INCIDENTS	% OF INCI.
Linen	$ 233,000	34%	6,400	28%
Furniture	152,000	22%	3,000	13%
Tools	152,000	22%	1,400	6%
Cleaning Equip./Supplies	92,000	13%	8,900	38%
SUB-TOTAL	$ 629,000	91%	19,700	85%
All Other Items	59,000	9%	3,300	15%
TOTAL	$ 688,000	100%	23,000	100%

In this study, the information available about government property thefts is less detailed than that concerning personal property thefts. On the basis of the limited information that was available, it is concluded that the majority of thefts of government property from BEQs would be most effectively addressed by administrative, rather than environmental design strategies.

For example:

- Improving check-in/check-out procedures would address losses of linen and of small items of furniture: Linen is usually lost when sailors fail to return it upon checking out of the BEQ; and furnishings such as trash cans and lamps are apparently stolen by sailors who are checking out.

- Marking large items of government property with identification for the building to which the items belong has reduced thefts of BEQ furnishings and maintenance equipment.

- Instituting a "check-out" system for government property has reduced thefts of tools and cleaning equipment/ supplies.

The fifth most frequent theft of government property from BEQs is that of cash and/or merchandise from vending machines. These thefts are generally managed by reaching up into a machine for merchandise, by breaking the glass, or by forcing the lock for the coin box. In the majority of incidents, the machine is damaged. All these thefts can be effectively

addressed through the environmental design strategies recommended for reducing vandalism of machines. Copies of these recommendations are included in the SUMMARY OF RECOMMENDATIONS which follows.

SECTION I: PROJECT SUMMARY -- Cont.

SUMMARY OF RECOMMENDATIONS

As previously mentioned, on the basis of information received in this study, it is concluded that theft-related property damage is relatively minimal, accounting for less than 1% of the estimated annual cost of all property damage in BEQs.

Three Environmental Design Strategies Address One-Third Of All Theft and Vandalism Losses in BEQs

However, it is also concluded that at least one-third of the estimated annual theft loss in BEQs could be prevented by using three environmental design strategies. They are: 1) strengthening sleeping room doors and door locks; 2) strengthening vending machines, and 3) redesigning laundry facilities. These strategies also address substantial losses due to vandalism in BEQs; consequently, their costs are offset by both theft and vandalism losses. The estimated total loss addressed by each strategy is shown in the table following.

SECTION I: PROJECT SUMMARY -- Cont.

STRATEGY	NATURE AND EXTENT OF LOSSES ADDRESSED BY STRATEGY					
	PROPERTY DAMAGE		THEFT		PROPERTY DAMAGE AND THEFT	
	PROPERTY DAMAGE[1]	% PROP. DAMAGE	THEFT	% THEFT	TOTAL LOSS	% TOTAL LOSS
1. Improve Sleeping Room Doors	$1,590,000	20%	$779,000[2]	29%	$2,369,000	24%
2. Improve Vending Machines	617,000	8%	15,000	1%	632,000	6%
3. Improve Laundry Facilities	271,000	3%	65,000	2%	336,000	3%
TOTAL	$2,478,000	31%	$859,000	32%	$3,337,000	33%

[1] Includes material, labor, overhead and administrative costs.

[2] Includes the value of property stolen, theft investigation costs and the costs of processing victims' claims for reimbursement. This figure is probably under-estimated in that it does not include the value of property stolen in unreported thefts.

A fourth environmental design strategy, strengthening lockers, also addresses vandalism and theft losses totalling an estimated $417,000 annually. The vandalism loss addressed (approximately $200,000), is in addition to that which is shown in the preceding table. The theft loss, however, is almost completely addressed by improved sleeping room doors as well as by improved lockers, and thus should not be added to the estimated reduction in theft costs shown in the same table.

Testing Improved Sleeping Room Doors Should be the First Priority in a Demonstration Project

It is recommended that testing of improved sleeping room doors, where the doors are improved in accordance with the guidelines contained in this volume, be the first priority in an ANTI-VANDALISM RENOVATION demonstration project. Assessment of the doors' effectiveness in reducing theft losses can be undertaken in the same demonstration project undertaken to assess their effectiveness in reducing vandalism, provided that two conditions are met:

1. Test sites which have high rates of theft from BEQs as well as vandalism should be selected.

2. Baseline and test data regarding theft as well as property damage should be collected during the demonstration project.

Although the losses which might be reduced by improving lockers, vending machines and laundry facilities are not as great as those addressed by improved sleeping room doors, they are still substantial. In addition, it is believed that the recommended improvements to lockers, vending machines and laundry facilities contained in this report will be cost-effective at some bases. Therefore, it is recommended that testing of these ideas should be undertaken, but not at the expense of thorough testing of improved doors.

A description of the recommended improvements to doors, lockers, vending machines and laundry facilities follows.

DOORS

POSSIBLE DESIGN RESPONSES

1. In BEQs which have high rates of theft from BEQ sleeping rooms but which do not have high rates of vandalism-related door damage:

   a. Replace easily loided locks with combination locks (with keyed or combination master over-ride). *(Hardware Design)*

   OR

   b. Replace easily loided locks with deadbolt locks operated by either a thumbturn or lever from the inside. *(Hardware Design)*

   AND

   c. Replace locks when keys are lost. *(BEQ Maintenance)*

2. In BEQs which have high rates of theft from BEQ sleeping rooms and high rates of vandalism-related door damage:

   a. Use either strategy a. above OR strategies b. and c. above

   AND

   b. Install doors and door hardware which meet at least the Class II specifications of the NILECJ Standard for the Physical Security of Door Assemblies and Components.[1]

[1] NILECJ-STD-0306.00, Law Enforcement Standards Program, National Institute of Law Enforcement and Criminal Justice, U.S. Department of Justice, May, 1976.

Discussion of use of NILECJ standard.

This standard establishes performance requirements and methods of test for the resistance of door assemblies and components to forced entry. It addresses the capability of doors to withstand common methods of entry used by unskilled and semi-skilled burglars.

Four classes of door assemblies and components are established, from Class I, with the lowest level of resistance to forced entry, to Class IV, with the highest level of resistance.

The recommendation that BEQ sleeping room doors adhere to the Class II requirements is based on the assumption that the resistance of door assemblies and components must be greater than the forces most likely to be exerted during an attempted forced entry.

Human factors analysis of forces generated in forced entry use in selection of level of resistance needed.

In a previous BOSTI study, the impact energies which can be generated by people of various ages and sizes while engaged in several different activities were estimated.[1]

The estimated impact energy of a 20-year-old male, hitting with his shoulder and torso, is approximately 37 ft.lbs. (for the 50th percentile males) and approximately 119 ft.lbs. for a 95th percentile male.

---

[1] PERFORMANCE DESIGN OF SAFER WINDOWS, Phase II, Volume II: Glass Breakage Analysis, Table 3a. Prepared by BOSTI, Inc., for the U.S. Consumer Product Safety Commission, 1977.

In Table 1 of the NILECJ Standard,[1] the Class I requirement for the impact resistance of the door is 2 blows of 59 ft. lbs. per blow, a level of resistance which would barely prevent the 50th percentile 20-year-old male from breaking in, and would be totally ineffective in deterring the 95th percentile subject. Since Class II requirements generally increase impact resistance by a magnitude of 2 over Class I, Class II would provide, at least in this particular method of entry, a minimum level of security. The use of these figures is merely to illustrate the possible use of the NILECJ standard in choosing door and lock equipment which improves security.

---

[1] NILECJ-STD-0306.00, p. 4.

LOCKERS

POSSIBLE DESIGN RESPONSES

1. Design lockers to resist the most common methods used to enter them forcibly. Such redesign could include:

   a. Stiffening door panels so that they are very rigid and do not permit the generation of sufficient leverage to pry them open.

   b. Mounting hinges so that none of the bolts or screws attaching the hinges to the locker door or frame are accessible from the outside when the door is locked.

   c. Using locks, rather than hasps. Such locks should resist loiding, and impact as specified in the recommendations for sleeping room doors.

LAUNDRY ROOMS

POSSIBLE DESIGN RESPONSES

1. In BEQs which have high rates of theft from laundry facilities but which do not have high rates of machine damage, advise BEQ residents to stay in the laundry facilities while they are doing their wash. *(Public Education)*

2. In BEQs which have high rates of theft from laundry facilities and high rates of machine damage, consider the following:

   a. In large BEQ complexes, centralize one or two laundry facilities within the complex and have an attendant there during peak-use periods. The attendants should be able to perform preventive maintenance and minor repairs. *(BEQ Site Planning; BEQ Design; BEQ Policy, Management and Maintenance)*

   b. Provide a less than $5.00/week, on-base laundry service. *(BEQ Policy and Management)*

   c. In smaller BEQs, increase the surveillance of laundry areas by centralizing them within the BEQ, within sight of passers-by or the front desk and adjacent to, but visible from a lounge/recreation/T.V. area. *(BEQ Design)*

VENDING MACHINES

POSSIBLE DESIGN RESPONSES

1. Centralize the location of vending machines so that they are in sight of passers-by or the front desk. *(BEQ Design)*

2. Construct protective covers on vending machine islands which restrict movement of machines and any other type of tampering but which permit access to coin slots, selector buttons and purchases. *(Hardware Design)*

3. In very large BEQs which are almost continually occupied, and in which rates of vending machine theft and vandalism are very high, explore alternatives to vending machines:

   a. A "food cart" service which comes around at appointed times. *(BEQ Policy and Management)*

   b. A BEQ snack bar. *(BEQ Design, BEQ Policy and Management)*

SECTION I: PROJECT SUMMARY -- Cont.

SUMMARY OF METHODS

The findings and recommendations of this study are based on analyses of information about theft provided by fifteen Naval bases.

Data and Data Sources

The information received was in three forms:

1. Theft Incident and Investigative Reports: 1,136 usable reports were provided by security personnel at fifteen bases. These reports document thefts reported to Security Departments and, as a group, constitute the highest quality and most complete information available about theft. Described in them are theft locations, the methods used to gain access to these spaces; the types and values of property stolen; the time available for the theft, etc.

2. Questionnaires completed by Base Personnel Knowledgeable About Theft: Personnel most knowledgeable about theft in BEQs at ten of the participating bases completed a questionnaire concerning theft reporting and investigation procedures; theft-prevention programs currently in place; and the nature and extent of unreported thefts.

3. BEQ Resident Questionnaires: 89 BEQ residents at five of the participating bases completed a questionnaire concerning their perception of the safety of their personal belongings

SECTION I: PROJECT SUMMARY -- Cont.

in BEQs; their personal experiences with theft and their attitude toward various strategies for reducing theft in BEQs.

Estimating Navywide Frequency and Cost

The frequency and cost of theft at the bases participating in the study was estimated from the first two data sources listed above. Then, the frequency and cost of theft in BEQs on all stateside bases was estimated by extrapolation from this sample. The method of extrapolation consisted of first, calculating a theft rate (number of theft incidents per person berthed per year) for the sample bases taken as a group, and second, multiplying this theft rate by the estimated number of personnel berthed in all stateside BEQs. (Separate theft rates were calculated for reported and unreported thefts.)

SECTION II: FINDINGS

INTRODUCTION

In this section we present the results of our analyses of Theft Incident and Investigative Reports and questionnaires completed by BEQ residents and Base personnel knowledgeable about theft. (These data sources and the methods of analysis employed are discussed in detail in SECTION IV: METHODS of this report.)

This particular section is divided into three parts:

1. FREQUENCY AND COST OF THEFT AND THEFT-RELATED PROPERTY DAMAGE: The estimated annual frequency and cost of theft and theft-related property damage in all stateside BEQs; what is stolen and from where; what property is damaged, where and at what cost.

2. PATTERNS OF THEFT AND THEFT-RELATED PROPERTY DAMAGE: Detailed descriptions of theft and theft-related property damage by BEQ space.

3. THEFT PREVENTION AND INVESTIGATION: Descriptions of theft-prevention measures in current use at bases and of theft investigation procedures.

SECTION II: FINDINGS -- Cont.

1. ESTIMATED ANNUAL FREQUENCY AND COST OF THEFT AND THEFT-RELATED PROPERTY DAMAGE

Approximately 99,000 sailors are berthed in Bachelor Enlisted Quarters (BEQs) on 130 stateside Naval bases.

It is estimated that approximately 38,000 incidents of theft occur each year in these BEQs, at an estimated cost of almost $3,000,000 in 1977, or approximately $72 per incident.[1]

As is shown in the table following, slightly more than 6,000 (16%) of these incidents were reported to Base Security Departments for investigation. The remaining 32,000 incidents comprise an estimated 9,000 thefts of personal property from BEQs which were not reported by the victim, and an estimated 23,000 incidents of theft of government property which are not reported to Base Security Departments for investigation. (The majority of these government property thefts are of items in daily use in the BEQs, such as linen, cleaning equipment and supplies. Their loss is generally handled by BEQ Managers.)

[1] Although theft in BEQs is approximately one-fourth as frequent as vandalism in BEQs, the average cost per theft incident (a proximately $72) is considerably higher than the average cost per vandalism incident (approximately $44).

TYPE OF THEFT	ESTIMATED ANNUAL NO. INCIDENTS	% INCIDENTS
Reported Thefts of Government and Personal Property	6,000	16%
Unreported Thefts of Personal Property	9,000	24%
Unreported Thefts of Government Property	23,000	60%
TOTAL	38,000	100%

THE COMPONENTS OF COST

As is shown in the table on the following page, most of the theft cost is accounted for by the value of the property stolen, followed by the cost of theft investigation, the cost of theft-related property damage, and, finally, the cost of processing theft victims' claims for reimbursement.

Although unreported thefts of government and personal property account for an estimated 84% of all thefts by frequency, they account for less than half of all thefts on the basis of the value of property stolen.

In addition, the information available about reported thefts is far more extensive than that concerning unreported thefts. Therefore, the findings presented in the remainder of this report are based on analyses of reported, rather than unreported thefts.

ESTIMATED COST (1977) OF THEFT AND THEFT-RELATED PROPERTY DAMAGE BY COST COMPONENT

COST COMPONENT	ESTIMATED COST (1977)	% TOTAL	CUM. %
A. VALUE OF PROPERTY STOLEN			
1. Personal Property			
a. Reported Theft*	$ 1,140,600	42%	42%
b. Unreported Theft	386,100	14%	56%
2. Government Property			
a. Reported Theft*	39,900	1%	57%
b. Unreported Theft	648,400	24%	81%
SUB-TOTAL	$ 2,215,000	81%	81%
B. THEFT INVESTIGATION	390,000	14%	95%
C. THEFT-RELATED PROPERTY DAMAGE	68,600	3%	98%
D. PROCESSING CLAIMS FOR REIMBURSEMENT	49,500	2%	100%
TOTAL	$ 2,723,100	100%	100%

*For the purposes of this study, reported thefts are defined as those thefts which are reported to and investigated by Base Security Departments.

SECTION II: FINDINGS -- Cont.

THE LOCATION OF THEFTS AND THEFT-RELATED PROPERTY DAMAGE

REMINDER: Frequencies and Costs Presented In This Section Are for Reported Thefts Only.

Thefts were reported in twelve BEQ spaces: sleeping rooms, parking lots, laundry facilities, heads, lounges, stairwells, hallfways/entryways, storage lockers/locker rooms, storage rooms, offices, vending areas and other spaces (for example, phone booths). The annual number of incidents and the value of property stolen were estimated for each of these.

As is shown in the following table, 90% of the thefts (by frequency) occurred in only four of the twelve BEQ spaces. These are: sleeping rooms (58%), parking lots (24%), laundry rooms (6%) and vending areas (2%). In addition, thefts from sleeping rooms and parking lots account for 93% of the thefts by the value of property stolen.

ESTIMATED ANNUAL FREQUENCY AND COST OF REPORTED THEFTS IN ALL STATESIDE BEQs, BY BEQ SPACE

BEQ SPACE	Est. Annual Value of Prop. Stolen	% Of Value	Est. Annual Number of Incidents	% Of Inci.
Sleeping Room	$ 636,100	54%	3,600	58%
Parking Lot	456,300	39%	1,500	24%
Laundry Room	7,300	1%	300	6%
Head	5,400	.5%	100	1%
Lounge	12,100	1%	100	2%
Stairwell	6,300	1%	100	1%
Hallway/Entryway	5,700	.5%	100	1%
Storage Locker/ Locker Room	6,100	1%	100	1%
Storage Room	9,200	1%	100	1%
Office	22,700	2%	100	2%
Vending Area/Machines	6,000	1%	200	2%
Other	7,200	1%	100	1%
TOTAL	$ 1,180,400	100%	6,200	100%

Although theft from BEQ Parking Lots is clearly a frequent and costly problem, the purpose of this study was to identify theft and theft-related property damage losses which might effectively be addressed by environmental design changes in BEQs. Thus,

any work concerning parking lot thefts beyond the estimation of their frequency and cost was considered outside the bounds of this study, and these thefts are not considered in the remainder of this report.

When parking lot thefts are excluded from consideration, it is clear that thefts from BEQ sleeping rooms account for the majority of thefts in BEQs. As is shown in the following table, sleeping room thefts account for 88% of the thefts by value of property stolen and for 77% of the thefts by frequency.

ESTIMATED ANNUAL FREQUENCY AND COST* OF REPORTED THEFTS IN BEQs, EXCLUDING PARKING LOTS

BEQ SPACE	Estimated Cost	% Cost	Est. Annual # Incidents	% Inci.
Sleeping Room	$ 636,100	88%	3,600	77%
Laundry Room	7,300	1%	300	7%
Head	5,400	< 1%	< 100	1%
Lounge	12,100	2%	100	3%
Stairwell	6,300	< 1%	< 100	1%
Hallway/Entryway	5,700	< 1%	< 100	1%
Storage Locker/Locker Rm.	6,100	< 1%	< 100	1%
Storage Room	9,200	1%	< 100	1%
Office	22,700	3%	100	2%
Vending Area (Machines)	6,000	< 1%	200	3%
Other	7,200	1%	< 100	1%
TOTAL	$ 724,100	100%	4,700	100%

*Value of property stolen only.

THEFT-RELATED PROPERTY DAMAGE

Of the estimated 4,700 reported incidents of theft in BEQs[1] in 1977, approximately 1,100 (about 23%) resulted in property damage as well as the loss of property. Theft-related property damage was reported in only two BEQ spaces -- sleeping rooms and vending areas.

As is shown in the table below, theft-related damage was sustained by three items: sleeping room doors, lockers and vending machines. The estimated total cost[2] of this damage, for 1977, is almost $69,000.

ELEMENT DAMAGED	EST. ANNUAL FREQUENCY	% INCI.	EST. COST OF REPAIR	% REPAIR COST
Sleeping Room Doors	280	25%	$ 30,700	53%
Lockers	670	61%	15,400	26%
Vending Machines	160	14%	12,200	21%
SUB-TOTAL	1,100	100%	$ 58,300	100%
Est. Administrative Cost	(1,100)	(100%)	10,300	(15%)[3]
TOTAL	1,100	100%	$ 68,600	n.a.

[1] Thefts from BEQ parking lots are not included in this estimate.

[2] Material, labor, overhead and administrative costs are included in this estimate.

[3] Estimated administrative costs constitute approximately 15% of the estimated total cost of theft-related property damage.

THE TYPE OF PROPERTY STOLEN

In order to establish an organizing structure and priorities for the development of recommendations, the frequency with which government and personal property is stolen from each BEQ space was estimated, as was the total value of each type of property stolen from each space.

As is shown in the following two tables:

1. Considering all BEQ spaces as a group, reported thefts of personal property far outweigh reported thefts of government property, by both frequency and value of property stolen. Thefts of personal property account for 92% of the thefts by frequency and for 95% of the thefts by value.

2. When the type of property stolen is considered by BEQ space and these property type/BEQ space combinations are ranked, it is clear that only three of the possible twenty-two combinations account for 85% of the thefts (by frequency). These combinations (types of theft) are: theft of personal property from sleeping rooms (75%), theft of personal property from laundry rooms (7%), and theft of government property from vending machines (3%). These same three types of theft account for almost 90% of the thefts on the basis of the value of the property stolen.

ESTIMATED ANNUAL FREQUENCY OF REPORTED THEFTS FROM BEQs BY TYPE OF PROPERTY STOLEN AND BEQ SPACE IN WHICH THE THEFT OCCURRED

	PERSONAL PROPERTY		GOVERNMENT PROP.		ALL PROPERTY	
BEQ SPACE	Est. Annual No. Incid.	All Inci.	Est. Annual No. Incid.	All Inci.	Est. Total No. Inci. In Space	% Total
Sleeping Room	3,500	75%	<100	1%	3,600	76%
Laundry Room	300	7%	0	0%	300	7%
Head	<100	1%	0	0%	<100	1%
Lounge	<100	2%	<100	1%	100	3%
Stairwell	<100	1%	0	0%	<100	1%
Hallway/Entryway	<100	1%	0	0%	<100	1%
Storage Locker/Locker Room	<100	2%	0	0%	<100	2%
Storage Room	<100	<1%	<100	<1%	<100	2%
Office	<100	2%	<100	<1%	100	3%
Vending Area/Machines	0	0%	200	3%	200	3%
Other	<100	<1%	<100	<.5%	<100	1%
TOTAL	4,400	92%	400	8%	4,800	100%

ESTIMATED ANNUAL VALUE OF PROPERTY REPORTED STOLEN IN BEQs BY TYPE OF PROPERTY STOLEN AND BEQ SPACE IN WHICH THE THEFT OCCURRED

	PERSONAL PROPERTY		GOVERNMENT PROPERTY		ALL PROPERTY	
BEQ SPACE	Estimated Annual Value	% Total Value	Estimated Annual Value	% Total Value	Est. Annual Value for Space	% Total Value
Sleeping Room	$ 631,300	87%	$ 4,800	< 1%	$ 636,100	88%
Laundry Room	7,300	1%	0	0	7,300	1%
Head	5,400	< 1%	0	0	5,400	< 1%
Lounge	8,300	1%	3,800	< 1%	12,100	2%
Stairwell	6,300	< 1%	0	0	6,300	< 1%
Hallway/Entryway	5,700	< 1%	0	0	5,700	< 1%
Storage Locker/Locker Room	6,100	< 1%	0	0	6,100	< 1%
Storage Room	2,900	<.5%	6,300	< 1%	9,200	1%
Office	7,900	1%	14,800	2%	22,700	3%
Vending Area/Machines	0	0	6,000	< 1%	6,000	< 1%
Other	6,100	< 1%	1,100	<.5%	7,200	1%
TOTAL	$ 687,300	95%	36,900	5%	$ 724,100	100%

2. PATTERNS OF THEFT AND THEFT-RELATED PROPERTY DAMAGE

As was previously mentioned in the discussion of the frequency and costs of theft and theft-related property damage, three types of theft -- theft of personal property from BEQ sleeping rooms, theft of personal property from laundry facilities and theft from vending machines, account for the majority of thefts by both frequency and value of property stolen. (See pages 37 to 39.) (Also mentioned was that all reported theft-related property damage occurs during thefts from sleeping rooms and vending machines.)

The remainder of this part of the report reflects these findings: First, thefts of personal property from BEQ sleeping rooms and from laundry facilities are separately discussed; then, thefts of government property from all BEQ spaces are discussed as a group.

THEFT OF PERSONAL PROPERTY FROM BEQ SLEEPING ROOMS

It is estimated that almost 3,600 incidents of theft of personal property from BEQ sleeping rooms were reported on Stateside Naval bases during 1977. The estimated total value of the items reported stolen in these thefts is slightly more than $631,000, or almost $180 per incident.

As was previously mentioned, theft of personal property from BEQ sleeping rooms is the single largest group of thefts occurring in BEQs, representing an estimated 76% of all reported thefts in BEQs by frequency and an estimated 87% of the estimated total value of all property reported stolen.

1. Characteristics of the Stolen Property

More than twenty different items of personal property were reported stolen from BEQ sleeping rooms. However, as is shown in the following table, the theft of only five of these accounts for almost 95% of the estimated value of personal property reported stolen from rooms.

TYPE AND VALUE OF PERSONAL PROPERTY REPORTED STOLEN FROM BEQ SLEEPING ROOMS

ITEM STOLEN	EST. TOTAL VALUE (1977)	% VALUE	CUM. %
"Noisemakers"[1]	$ 227,900	36%	36%
Cash/Wallet	220,100	35%	71%
Photography Equipment	74,500	12%	83%
Jewelry	37,600	6%	89%
Clothing	33,100	5%	94%
SUB-TOTAL	$ 593,200	94%	94%
All Other Items	38,100	6%	100%
TOTAL	$ 631,300	100%	100%

These same five items are also the most frequently stolen items -- cash was stolen in 51% of the incidents, "noisemakers" in 32%, clothing in 12%, and photography equipment and jewelry in 7%. Also, BEQ residents were asked to name the three items they own whose theft would upset them the most. The three items most

[1] "Noisemakers" includes: stereo equipment, albums and tapes; cassette recorders, recording microphones and tapes; radios, clock radios and T.V.s.

frequently mentioned in response to this question are the three items most frequently reported stolen -- cash, "noisemakers", and clothing.

Additional characteristics of personal property reported stolen from sleeping rooms are that: 1) in more than half the thefts (62%), the victims would be able to easily identify at least one of the stolen items; 2) the items stolen were highly portable -- in most cases (93%) one person would have been able to easily remove the stolen items in one trip; 3) the items stolen were also easy to conceal -- in most cases (81%) no unusual effort at concealment would be necessary to remove the stolen item(s) from the base; and 4) in most incidents (76%) items in only one category were stolen. (See table following.)

COMBINATIONS OF ITEMS STOLEN

NO. CATEGORIES	% INCIDENTS	CUM. %
Items in 1 category stolen	76%	76%
Items in 2 categories stolen	17%	93%
Items in 3 categories stolen	4%	97%
Items in 4 categories stolen	2%	99%
Items in 5 categories stolen	1%	100%
TOTAL	100%	100%

2. Location of the Theft Incidents

The location of the theft incidents was described in three ways: 1) by BEQ Type, 2) by BEQ deck, and 3) by location of the stolen items within the sleeping room.

Location of Incidents by BEQ Type

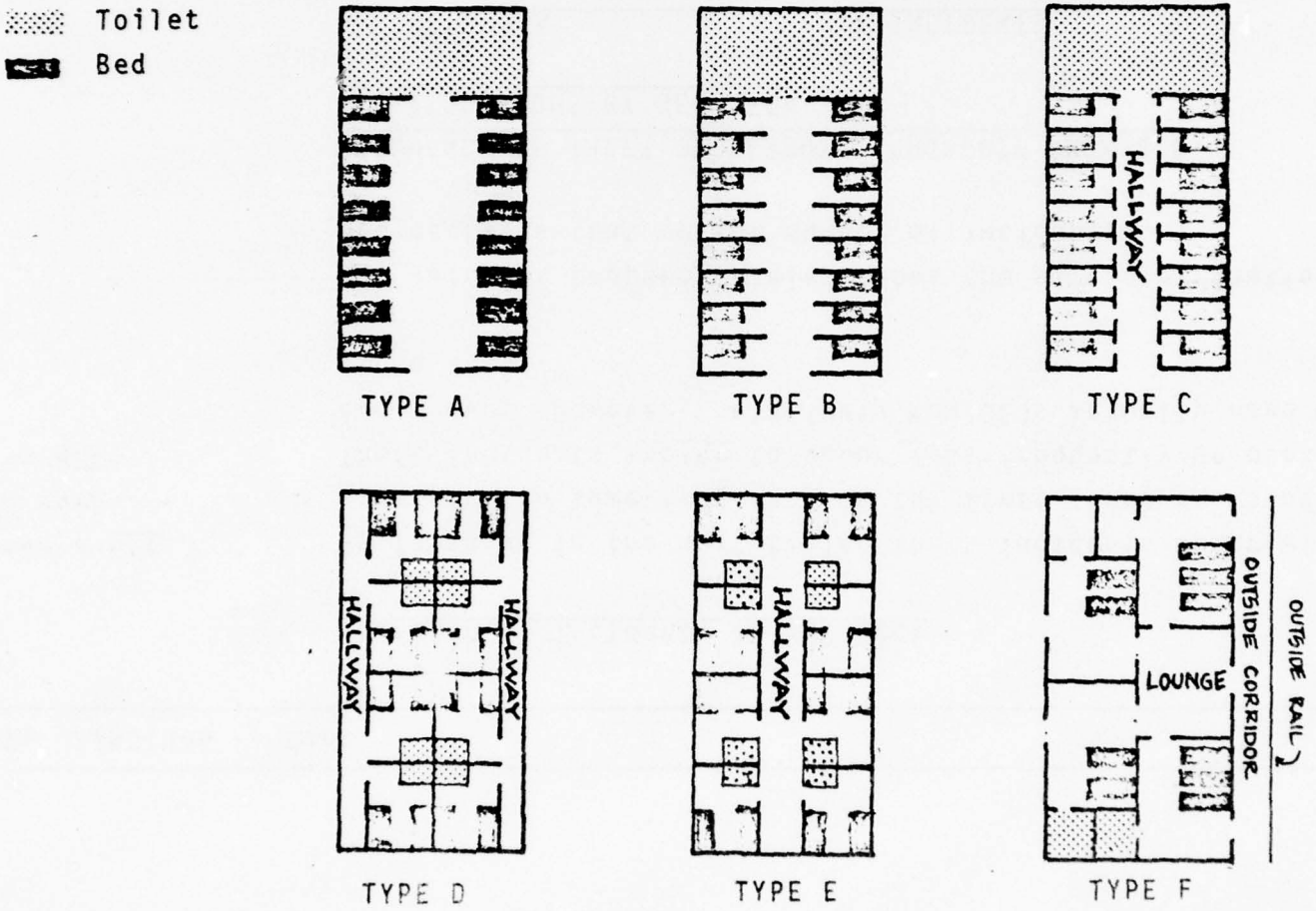
Theft patterns not related to BEQ Type

Theft incidents occurred in all six types of BEQs. (The layout of each is shown on the following page.) As is shown in the table following, no BEQ type had unusually high or low numbers of thefts when compared to the number of buildings of each type in the sample. Also, the value of property stolen shows the same distribution among BEQ types as that of the number of incidents. Not enough bases provided theft and berthing data by BEQ type to allow comparison among BEQs on the basis of theft rates (e.g., number incidents per person berthed per year).

FREQUENCY OF THEFT OF PERSONAL PROPERTY FROM BEQ SLEEPING ROOMS BY BEQ TYPE

BEQ TYPE	% INCIDENTS	NO. BLDGS.	% BLDGS.
A	8%	19	10%
B	6%	13	7%
C	59%	106	57%
D	4%	4	2%
E	8%	17	9%
F	15%	28	15%
TOTAL	100%	187	100%

DIAGRAMS OF THE SIX MAJOR BEQ TYPES:



Location of Incidents by BEQ Deck

Theft patterns not related to number of decks in BEQ

As is shown in the next table, theft incidents occur with approximately the same frequency on the first three decks of BEQs. Theft incidents appear to occur less frequently on decks four and above. However, relatively few BEQs actually have more than three decks.

The value of property stolen shows the same distribution among BEQ decks as that of the number of incidents.

FREQUENCY OF THEFT OF PERSONAL PROPERTY FROM BEQ SLEEPING ROOMS BY BEQ DECK

BEQ DECK	% INCIDENTS
1	32%
2	31%
3	26%
4 +	11%
TOTAL	100%

Location of Stolen Item(s) Within the Sleeping Room

Half of the sleeping room thefts are of highly visible items and half required a search of room

Recall that in 24% of the incidents, more than one category of item was stolen (see page 43). However, the location of only one of the stolen items was coded for each incident. The location of that item whose location required the most effort on the part of the thief was coded. If the locations of all items were equally accessible, then the location of the most valuable item was coded. As is shown in the following table, almost half the thefts were of items visible in the room. This is to be expected, given the high frequency with which property which is relatively difficult or inconvenient to store (such as stereo equipment), is stolen.

LOCATION OF STOLEN ITEMS WITHIN SLEEPING ROOM

LOCATION OF STOLEN ITEM	% INCIDENTS
Visible	49%
Hidden in Room	19%
Locked in Locker	19%
In Unlocked Locker	12%
On Sailor*	1%
TOTAL	100%

*These were incidents of armed robbery in sleeping rooms.

SECTION II: FINDINGS -- Cont.

3. How the Thefts Were Managed

Most thieves came through a locked door without using force.

As is shown in the table following, in the majority of cases (72%) access was gained to the room through the door.

METHOD OF ROOM ENTRY	% INCIDENTS
1. Door	72%
2. Window	5%
3. Ceiling	1%
4. Emergency Doors between rooms	1%
5. Unnecessary, probably roommates	7%
6. Not applicable, Open Bay BEQ	14%
TOTAL	100%

In 81% of the cases in which access was gained through the door, the door was locked.

In the majority of cases (79%), there were no signs of forced entry to the room, and in only 6% of the cases was there a maintenance problem (broken lock, missing door vents) at the point of access prior to the theft.

SECTION II: FINDINGS -- Cont.

4. Characteristics Of the Victims

In the majority of incidents (89%) there was only one victim, that is, only one occupant of the room had property stolen.

NUMBER OF VICTIMS PER INCIDENT	% INCIDENTS
1	89%
2	11%
3	< 1%
TOTAL	100%

96% of the victims were male.

Over 1/4 of victims were sleeping in room at time of theft.

As is shown in the following table, in a surprisingly large number of cases (28%) the victim was in the room at the time of the theft.

LOCATION OF VICTIM AT TIME OF THEFT

LOCATION	% INCIDENTS
In room	28%
Definitely in BEQ but not in room	10%
Not in BEQ but on base	33%
Off-Base	22%
Probably in BEQ but not in room	7%
TOTAL	100%

Of the thefts which occurred while the victim was in the room, 94% occurred while the victim was sleeping. Of the remaining 6%, almost half were cases of armed robbery while the remainder occurred while visitors were in the room.

As is shown in the table below, of the victims who were in the BEQ but not in their rooms at the time of the theft, 43% were in the BEQ lounge or recreation areas, 35% were in the head and 9% were in the laundry room.

VICTIM ACTIVITY AT TIME OF THEFT

BEQ ACTIVITY	% INCIDENTS
Lounge/Recreation	43%
Head	35%
Laundry	9%
Unknown	13%
TOTAL	100%

The majority of the victims who were not in the BEQ but who were on-base at the time of the theft were at work (71%). 18% were using recreational facilities and 11% were at mess.

Of the victims who were off-base at the time of the theft, 28% were on a short trip, e.g., movies, shopping; 38% were on a short leave, e.g., weekend away; 24% were on extended leave, e.g., vacation and 10% were working off-base.

5. When the Thefts Occur

The time at which thefts occur was analyzed on three levels: by month, by day of week and by time of day.

Theft rates not related to month, day of week, or time of day.

On the basis of the information received in this study, no months of the year have particularly high or low rates of theft. However, this may vary from base to base, depending on base-loading patterns. Also, as is shown in the table following, theft rates do not vary significantly by day of week. The slightly higher frequency associated with Saturday is probably due to the method of coding used in the study. Theft Incident and Investigative reports which indicated "weekend" as the day of week on which the theft occurred, were coded as "Saturday". Thus "Saturday" includes all thefts which are known to have occurred on Saturday and thefts which are known to have occurred sometime over the weekend.

DAY OF WEEK	% INCIDENTS
Monday	13%
Tuesday	10%
Wednesday	14%
Thursday	14%
Friday	15%
Saturday/Weekend	19%
Sunday	9%
Unknown, Extended Leave	6%
TOTAL	100%

As is shown in the next table, thefts are evenly distributed throughout the day:

TIME OF DAY	% INCIDENTS
Working Hours (app. 0700-1600)	29%
Off-Duty Hours (after working hours)	29%
Over-night	27%
Unknown, for example, person on leave for more than 24 hrs.	15%
TOTAL	100%

SECTION II: FINDINGS -- Cont.

TIME AVAILABLE FOR THEFT

The time available for the theft was analyzed for those thefts which occurred while the victim was away from his room. For most thefts, the time available is the amount of time the victim was absent. For the remainder, a roommate was in the room for part of this period, thus the time available for the theft is shorter than the amount of time the victim himself spent out.

Thief has enough time to "check" room occupancy and complete theft. With victim known to be away for extended period, much more property is stolen.

As is shown in the following table, at least an hour was available for almost 85% of the thefts. At least four hours were available for 65% of the thefts.

TIME AVAILABLE FOR THEFT	% INCIDENTS
Less than 1 hour	16%
1 - 4 hours	19%
4 - 8 hours	14%
8 - 16 hours	17%
More than 24 hours	34%
TOTAL	100%

The value of the property stolen and the amount of effort the thief went to to get the property both increase as the time available for the theft increases: the average value of the

highest value item stolen is approximately $130 for the "less than 1 hour" thefts, and steadily increases to approximately $230 for the "more than one day" thefts. Items were stolen from a locked locker in only 9% of the "less than 1 hour" thefts, but this steadily increases to 26% of the "more than 1 day" thefts.

THEFT OF PERSONAL PROPERTY FROM BEQ LAUNDRY FACILITIES

For 1977, it is estimated that slightly more than 2,000 incidents of theft from BEQ laundry facilities occurred on all Stateside bases. The estimated total value of the stolen items is almost $43,000, or approximately $21 per incident.

Of the 2,000 incidents, it is estimated that only about 400 (17%) were reported. The characteristics of thefts from laundry facilities described on the following pages were derived from analysis of a sample of reported thefts.[1] However, we have no reason to believe that unreported and reported thefts from BEQ laundry facilities differ.

1. Characteristics of the Stolen Property, the Theft Victims and The Offenders

Clothing and linen were the only types of property reported stolen from BEQ laundry facilities. As is shown in the table following, both civilian and military articles were stolen.

[1] Sixty-two reports of thefts from laundry rooms were actually received. See SECTION IV: METHODS, of this report, for a detailed discussion of the methods of extrapolation and estimation of the frequency and cost of unreported thefts.

TYPE OF PROPERTY STOLEN	% REPORTED INCI.
Civilian Clothing only (slacks, skirts)	31%
Military clothing and linen only (stencilled dungarees, sheets)	52%
Both civilian and military articles	18%
TOTAL	100%*

All laundry stolen 58% of time -- selected items stolen 39% of time. No suspects.

On the average, six articles of clothing/linen were stolen in each of the theft incidents. In 58% of these incidents, all the articles the victims were washing were stolen. In twenty-four incidents (39%), however, specific articles were the targets of the thefts. These were generally items of civilian clothing, such as levis and sweaters, most likely stolen for personal use.

In all but 5% of the incidents, the victim of the theft was male (95%). Additionally, in all but one incident, there were no suspects for the theft.

2. Location of the Theft Incidents

The location of thefts from laundry facilities was analyzed on two levels: by BEQ type, and by machine.

*Error due to rounding.

Location by BEQ Type

Thefts NOT related to BEQ type.

As is shown in the following table, the distribution of the number of incidents among BEQ types is, on the whole, equivalent to that of the number of buildings of each BEQ type represented in the sample, by percentage. These results suggest that BEQ type is not related to thefts of clothing from laundry facilities.

LOCATION OF INCIDENTS BY BEQ TYPE

BEQ TYPE	% OF INCIDENTS	% OF BEQ TYPES IN SAMPLE
A	2%	10%
B	0%	7%
C	63%	57%
D	0%	2%
E	13%	9%
F	13%	15%
No Information	11%	-
TOTAL	100%*	100%

*Error due to rounding.

Location by Machine Type

Clothing stolen from dryer.

As can be seen in the following table, most incidents of theft occurred when laundry was taken from the dryer, rather than from the washing machine. (This makes sense -- the perpetrator of the theft may wear, carry or conceal a dry article of clothing whereas the removal of wet clothing from laundry facilities would not only be inconvenient but would also arouse suspicion.)

TYPE OF MACHINE	% INCIDENTS
Washer	21%
Dryer	76%
No Information	3%
TOTAL	100%

3. The Circumstances Under Which The Thefts Occurred

After placing their laundry in a machine, the victims left the laundry room to engage in a variety of activities. These are presented in the following table accompanied by the frequency with which each was reported.

VICTIM ACTIVITY	% INCIDENTS
Short errand (e.g., telephone)	23%
Recreation (e.g., pool)	21%
Work	5%
No Information	52%
TOTAL	100%* (Error due to rounding)

As is shown in the next table, in half the cases the victim returned to the laundry room within an hour (approximately the normal time for a machine cycle to be completed). The time available for theft for the entire sample was as follows:

TIME AVAILABLE	PERCENTAGE
Less than 1 hour	48%
At least 1 but less than 3 hrs.	18%
More than 3 hours	15%
No Information	19%
TOTAL	100%

Half (50%) of the laundry room thefts occured on weekends and half (50%) occurred on week days. Most thefts occurred during off-duty hours when sailors would normally be doing their laundry. There were no patterns within these off-duty hours related to the frequency of occurrence.

SUMMARY

The following is a "typical" scenario of a theft from a laundry area based upon the data analysis:

"During off-duty hours, a male sailor places his wash in the washing machine and leaves the laundry area. He returns to put his clothes in the dryer and again leaves the area.

He returns approximately an hour later to pick up his clothes, having played pool, watched T.V., etc., to pass the time, and finds his clothes missing. Missing are six articles of civilian and military clothing/linen, whose approximate value is $21.00.

There are no suspects for the theft."

THEFT OF GOVERNMENT PROPERTY FROM BEQs

In 1977, an estimated 23,000 incidents of theft of government property occurred in stateside BEQs. The estimated total cost of these thefts is slightly more than $700,000, or approximately $30 per incident.

As is shown in the table below, an estimated 98% of the estimated total cost of government property thefts is accounted for by the value of the property stolen.

ESTIMATED 1977 COST OF THEFT OF GOVERNMENT PROPERTY FROM ALL STATESIDE BEQs

COST ELEMENT	ESTIMATED VALUE (1977)	% VALUE
Value of Property Stolen	$ 688,000	98%
Theft-Related Property Damage	13,000	2%
Theft Investigation	3,000	< .5%
TOTAL	$ 704,000	100%

[1] Thefts from BEQ vending machines were considered thefts of government property, although on most bases vending services are contracted out. These losses must be made up by the contractor with increased prices, thus distributing the costs to machine users.

As was shown in the table on the previous page, a minimal amount (less than .5%) of the total cost of thefts of government property from BEQs is accounted for by investigation costs. This is because the majority of the thefts are not reported to base security departments.[1]

Only an estimated 2% of thefts of government property in BEQs are reported to base security departments, as is shown in the table on the following page. However, the average value of the property stolen in reported thefts ($110) is more than three times that of the property stolen in unreported thefts ($28).

[1] The daily loss of linen, cleaning equipment and supplies reported by some bases is subject to action by BEQ Staff, rather than base Security personnel. The cost of this BEQ Staff time has not been estimated, therefore the administrative costs of government property thefts are underestimated.

ESTIMATED FREQUENCY AND COST (VALUE OF PROPERTY STOLEN) OF THEFT OF GOVERNMENT PROPERTY FROM ALL STATESIDE BEQs (1977)

TYPE OF THEFT	EST. NO. OF INCI.	% OF INCI.	ESTIMATED VALUE OF PROP. STOLEN	% OF VALUE
REPORTED THEFTS:				
Sleeping Room	60	<.5%	$ 4,800	<1%
Lounge	60	<.5%	3,800	<1%
Vending Area/Machines	150	<1%	6,000	1%
Storage Areas	40	<.5%	6,300	1%
BEQ Office/Desk	20	<.5%	15,000*	2%
Parking Lot	40	<.5%	3,000	<1%
Other (e.g., Stairwell)	20	<.5%	1,100	<.5%
SUB-TOTAL	390	2%	$ 40,000	6%
UNREPORTED THEFTS	22,800	98%	648,000	94%
TOTAL	23,160	100%	$ 688,000	100%

Type and Value of Government Property Stolen

Thirteen types of government property were stolen. They are: cash/merchandise from vending machines, bicycles, automobile parts/accessories, radios, tools, cleaning equipment/supplies, linen, furniture, T.V.s, keys, food (not from a vending machine), office supplies and recreational equipment.

*This figure is high because of the theft of two expensive walkie-talkie sets reported by one base in the sample. The sets had been left unsecured.

However, as is shown in the table below, theft of only four of the thirteen types of property accounts for over 90% of the estimated total value of government property stolen from BEQs.

ESTIMATED FREQUENCY AND COST OF THEFTS OF GOVERNMENT PROPERTY FROM BEQs (1977) BY TYPE OF PROPERTY STOLEN

ITEM STOLEN	ESTIMATED VALUE	% VALUE	EST. # OF INCIDENTS	% OF INCI.
Linen	$ 233,000	34%	6,400	28%
Furniture	152,000	22%	3,000	13%
Tools	152,000	22%	1,400	6%
Cleaning Equip./Supplies	92,000	13%	8,900	38%
SUB-TOTAL	$ 629,000	91%	19,700	85%
All Other Items	59,000	9%	3,300	15%
TOTAL	$ 688,000	100%	23,000	100%

Most stolen property easily reusable, or saleable.

Characteristics of The Thefts

In this study, the information available about government property thefts is less detailed than that concerning personal property thefts. On the basis of the limited information that was available, it is concluded that the majority of thefts of government property from BEQs would be most effectively addressed by administrative, rather than environmental design, strategies.

For example, linen is usually lost when sailors fail to return it upon checking out of the BEQ. BEQ Managers at some bases report that the Navy is later reimbursed by deducting the cost of the linen from the pay of the person responsible. Improving check-out procedures and/or requiring security deposits on linen would address this problem.

Linen is occasionally stolen from BEQ sleeping rooms, (often in conjunction with theft of personal property), or from BEQ storage rooms. The losses from sleeping rooms would be reduced if sleeping room doors were improved in accordance with the recommendations made in this study. (See SECTION III: RECOMMENDATIONS, of this report.) Improving storage room doors in the same manner would probably reduce storage room thefts. However, on the basis of this study, thefts from BEQ storage rooms are neither very frequent nor very costly, and substantial improvements might not be cost-effective at many bases.

Theft of furniture is the second most costly loss after that of linen. Some items, such as trash cans and lamps, are apparently stolen by sailors who are checking out. Once again, improving check-in/check-out procedures would be effective. One of the bases participating in this study reported that the

institution of individual room inventories of room furnishings upon reporting to and detaching from the BEQ had reduced thefts by about 75% in the nine months it had been in effect.

BEQ lounge furniture is sometimes moved into individual rooms, occasionally to rooms in another BEQ. One base participating in this study reported that it marks all BEQ furnishings and the equipment used in maintaining BEQs with identification for the building to which the items belong. This program is apparently very successful -- theft of marked items has stopped almost completely in the two years since the program was started.

Thefts of tools and cleaning equipment/supplies are, respectively, the third and fourth most costly thefts of government property from BEQs. These items are in constant use in and around BEQs and thus their theft is very difficult to prevent through environmental design. One base participating in this study reports that it has instituted a check-out system for government property and that thefts have decreased "somewhat" in the eighteen months since the program was started. However, the costs of the program are enormous -- an estimated 720 man-hours per month per building.

The fifth most frequent theft of government property from BEQs is that of cash and/or merchandise from vending machines. These

thefts are generally managed by reaching up into a machine for merchandise, by breaking the glass, or by forcing the lock for the coin box. In the majority of incidents, the machine is damaged. All these thefts can be effectively addressed through the environmental design strategies recommended for reducing vandalism of machines. These recommendations are presented in the next section of this report.

SECTION II: FINDINGS -- Cont.

THEFT REPORTING, INVESTIGATION AND PREVENTION

Security personnel at the fifteen bases participating in this study were asked to describe the procedures for reporting and investigating thefts in BEQs, and the programs in-place for preventing these thefts. The responses are summarized below.

THEFT REPORTING AND INVESTIGATION PROCEDURES

Theft of personal property is reported by the victim to Base Security and/or BEQ management.

Theft of government property is reported by the BEQ Staff to Base Security and/or the BEQ Officer.

In all cases reported thefts are investigated, by a security branch or an investigations department. The time between the report of a theft and the beginning of an investigation ranges from 5 minutes to several days. It depends on current case loads and on time the theft is reported. At one base investigations begin upon receipt of the report, and at another base, investigation begins the following morning if theft is reported after duty hours.

All bases reported that some kind of file or report is kept of each theft investigation. One base noted that such files are maintained for several years.

Regarding thefts of personal property, six bases reported that the victim is kept informed of the progress of the investigation on an irregular basis, either when something happens or when the victim calls to inquire. Three bases reported a regular schedule for contacting victims as to the progress of the investigation. Only one respondent reported that the victim is not kept informed.

The average time spent performing one routine theft investigation is 7 hours. However, the investigations do not appear to be very successful: three bases reported that the perpetrators rarely are caught, five reported "sometimes" and only a single base reported "usually". In addition, four bases reported that the stolen item is "rarely" returned, four reported the item is returned "sometimes" and only one base reported "usually". (The same base which reported that it usually catches the thief also reported that it usually retrieves stolen goods.)

We are not surprised by these responses. As described in the previous sections of this report, a large amount of time is apparently available for most thefts and, particularly in the case of theft from sleeping rooms, the poor design of doors and door locks at many bases allows easy access to property. Based on these findings, we recommend that the Navy act to <u>prevent</u>

thefts in the first place, rather than relying on investigations to find perpetrators or to return property.

THEFT PREVENTION PROGRAMS IN-PLACE

The theft prevention programs in-place at participating bases include administrative measures, such as increasing surveillance, and environmental design measures, such as improving doors or door locks.

Administrative Measures

1. Surveillance

The BEQ staff itself performs rounds in seven bases, rounds including fire watches and petty officers of the watch. Two of these bases reported the rounds as having reduced the number of thefts.

Base security is responsible for rounds during regular and off-duty hours, including both fixed and mobile surveillance. The bases were divided as to the effectiveness of base security patrols, four reporting a reduction in thefts and three reporting no effect, generally because of understaffing.

2. Registering Valuables

One base reported that for the last five months personnel have been encouraged to register valuables with the security

service on a voluntary basis, and that this procedure has reduced theft by about 10%. The registration program requires about 20 hours per month to run.

Another base has required registration of CB radios with NAS communications for several years, which has reduced CB radio thefts by an unspecified amount.

3. Public Education

Two bases report that they inform residents of proper security procedures. One reports that residents are instructed to keep rooms and lockers locked, and that the number of thefts has reduced. However, the other reports that residents do not comply with suggestions.

4. Controlling Access to the BEQ

Two bases reported that each BEQ resident is issued a BEQ I.D. card, with one base reporting that thefts have decreased by 5 to 10% in the three months since the program was initiated, because unauthorized personnel are kept out of the BEQ.

5. Check In/Out Procedures

One base takes an inventory of individual room furnishings when residents report to and detach from the BEQ. The program has reduced thefts by an estimated 75% in the nine months since it was initiated. In addition, it is reported to take only two man-hours per month to run. Although this program is apparently successful, we believe that it would take considerably more than two man-hours per month to run at bases which have large and/or very frequent turnover in the number of BEQ residents.

A second base reports that it has instituted a check-out system for government property, presumably for such items as cleaning equipment, supplies and tools. The program is reported to have decreased thefts "somewhat" in the eighteen months since it was started. However, its costs are enormous -- an estimated 720 man-hours per month per building.

Environmental Design Measures

1. Improved Door Locks

Three bases reported having improved sleeping room door locks in an effort to reduce theft of personal property.

One base installed combination locks, thus preventing the loss or duplication of keys to rooms. Thefts were reduced by an estimated 20%, during the two years in which the locks have been in place.

Another base installed new locks on the lounge doors of its Welton-Beckett BEQs. The locks are supposed to automatically lock the lounge door when it is closed, but residents prop these doors open. Thus thefts were reported to have been reduced only "slightly" in the eight months the locks have been in place.

The third base did not describe the specific type of lock improvements made or their effectiveness.

2. Improved Doors

Two bases reported having improved sleeping room doors, rather than door locks, to prevent theft.

One base installed metal doors to rooms and reported a 20% decrease in theft over a subsequent four-month period.

The other base installed plates and bars on doors, but reported that the number of thefts was not reduced because "...there were not that many thefts to begin with...".

One base reported that fire exits had recently been altered to prevent entrance to the BEQ without staff knowledge, but that it was too soon to tell whether this measure is effective.

3. Marking Valuables

Marking sailor's valuables with ID numbers upon checking in to a BEQ was unanimously reported as a desireable procedure, but only a single base reported that it had the equipment available for use on a voluntary basis. Another base reported resident reluctance to use the technique.

One base reported that it marks all BEQ furnishings and the equipment used in maintaining BEQs with identification for the building to which the items belong. This program is also very successful -- thefts of these items have been reduced almost completely in the two years since the program was started.

4. Increasing Security of Specific Items

One base reports that it locks government T.V.s in special receptacles, and that thefts have been reduced significantly in the year since this action was taken.

BEQ RESIDENT ATTITUDE TOWARD THEFT PREVENTION PROGRAMS

An important consideration in designing theft prevention measures is the extent to which they will be used or found acceptable by BEQ residents. For example, the success of voluntary measures, such as attending security lectures or marking one's valuables with identification numbers, depends primarily on the extent to which they are utilized by BEQ residents. Although the success of mandatory measures, such as increasing surveillance or improving doors, does not depend on the cooperation of BEQ residents, it is important to consider the extent to which each might negatively affect resident morale.

In order to assess BEQ residents' attitudes toward potential theft prevention measures, BEQ residents at five of the bases participating in this study, were asked to complete questionnaires concerning common administrative and environmental design strategies for reducing theft. Eighty-nine residents responded, 29 (38%) of whom had been theft victims while residing in a BEQ. Selected responses are summarized below. (For the complete results of this questionnaire, the reader should refer to the Appendix of this report.)

SECTION II: FINDINGS -- Cont.

ADMINISTRATIVE MEASURES

1. Surveillance

BEQ residents were surveyed with regard to two aspects of surveillance: identification checks upon entering the BEQ and frequency of duty watches.

BEQ residents strongly agreed that strangers should be allowed to enter their BEQ only when someone who lives in the BEQ is with them ($\bar{X}$ = 4.4)[1] but were less strongly in agreement when asked if everyone entering should undergo an identification check ($\bar{X}$ = 3.4). In addition, BEQ residents felt that people who live in the BEQ should be free to enter and leave without having their identification checked ($\bar{X}$ = 3.5).

With regard to the duty watches as a means of surveillance, BEQ residents would not like to see more duty watches in the BEQ hallways ($\bar{X}$ = 2.8). This is so even more strongly if the resident has previously been a victim of theft ($\bar{X}$ = 2.6).

[1] For responses from the BEQ Resident Survey, $\bar{X}$ or the average response was calculated from the following 5-point scale: 1 = disagree strongly; 2 = disagree somewhat; 3 = neither agree nor disagree; 4 = agree somewhat; 5 = agree strongly. Responses to questions where a BEQ resident did not know the answer or was not applicable were not included in the calculation of the average response.

These results suggest that BEQ residents would find unacceptable those changes in surveillance which decrease the convenience or the privacy of their "homes".

2. Registering Valuables

BEQ residents were queried as to two methods of registered valuables: filing a list of valuables with the BEQ managers and marking belongings with identification numbers.

BEQ residents were more strongly in agreement that marking belongings should be required through BEQ policy ($\bar{X}$ = 3.8) than listing of valuables ($\bar{X}$ = 3.3). However, neither method was seen by BEQ residents as very effective in reducing thefts (marking valuables $\bar{X}$ = 3.1; listing valuables, $\bar{X}$ = 2.8). (Base security personnel have also commented that these strategies are more useful for recovering property than for preventing its theft.)

3. Public Education

BEQ residents reported that they would attend a base program which taught sailors how to protect their belongings from theft ($\bar{X}$ = 3.8).

ENVIRONMENTAL DESIGN MEASURES

1. Improved Door Locks

Sailors are aware of the need to secure their room as evidenced by the following: Sailors agreed strongly that if they left their room door unlocked when leaving, something would probably get stolen ($\bar{X}$ = 3.70). Consequently, sailors report locking their room door upon leaving ($\bar{X}$ = 4.8), as well as their lockers ($\bar{X}$ = 4.5). However, BEQ residents do believe that it would be very easy to break the lock on the door to their room ($\bar{X}$ = 3.5). Sailors who were previous victims of theft felt more strongly about this issue ($\bar{X}$ = 4.0).

These results suggest that sailors do use those measures which are in place to secure their belongings, but that these are not fully adequate.

2. Improved Storage Facilities

The ease with which lockers can be forcibly entered is of concern to sailors as indicated by responses in the BEQ Resident Survey. While sailors report almost always keeping their lockers secure when leaving their room ($\bar{X}$ = 4.5),

sailors thought the BEQ should provide stronger locks on closets and lockers ($\bar{X}$ = 3.8). If the sailor had been a victim of a theft, he/she felt more strongly about the need for better secured locker space ($\bar{X}$ = 4.1). In general, sailors thought there were not enough safe places in the room to store valuables ($\bar{X}$ = 2.8) and victims of theft reported that they would have more personal belongings if they thought these items would be safe in their rooms ($\bar{X}$ = 3.9).

Additionally, if available, sailors reported that they would use secure storage space in the BEQ when they went on leave ($\bar{X}$ = 3.5). The three items sailors felt most concerned about having stolen were "noisemakers", clothing and cash. Since these items are also the most frequently stolen items, it is clear that the property which sailors most value frequently cannot be safely secured in sleeping rooms for an extended period of time.

SECTION III: RECOMMENDATIONS

INTRODUCTION

Described in the second volume of this report[1] is a demonstration program for determining the extent to which various strategies would reduce vandalism in BEQs, and thus BEQ maintenance and operation costs.

Because strategies for reducing vandalism include changes in BEQ policy, management and maintenance as well as in BEQ design, the recommended demonstration program comprised four demonstration projects. They are:

1. ANTI-VANDALISM RENOVATION: Renovation of physical facilities, using specific anti-vandalism Design Guidelines to demonstrate the effects of, and the cost effectiveness of, physical changes specifically designed to combat vandalism.

2. INCREASED HABITABILITY: Intensive maintenance and repair to bring bases up to a quality level of habitability and to maintain them at that level. This implies that there would be few or no items on Discrepancies Lists for these bases. The goal here is to demonstrate the effects of, and the cost effectiveness of, a quality environment maintained at a

[1] REDUCING VANDALISM IN NAVAL BACHELOR ENLISTED QUARTERS, VOLUME II: DEMONSTRATION PROGRAM AND DESIGN GUIDELINES, APRIL 1978.

quality level. None of the actions taken here are specifically designed to combat vandalism, although some may be taken to increase habitability.

3. BETTER MANAGEMENT: Management and policy changes to simultaneously increase security, increase tenant concern for the environment and the behavior of others, and to upgrade the quality of management of BEQs. The goal here is to demonstrate the effects of, and the cost effectivenss of, non-physical changes specifically designed to combat vandalism.

4. ANTI-VANDALISM RENOVATION and INCREASED HABITABILITY and BETTER MANAGEMENT: To utilize all three of the foregoing strategies in one demonstration project. The goal here is to demonstrate the effects of, and the cost effectiveness of, all of the strategies taken simultaneously.

It is the first of these demonstration projects (ANTI-VANDALISM RENOVATION) which is of concern here. In the detailed description of this project[1] it was recommended that physical changes in a

[1] Ibid., pages 46-48.

number of different building elements/areas, including sleeping room doors, lockers, vending machines and laundry facilities, be tested.

On the basis of the special analysis of theft and theft-related property damage, we conclude that improving sleeping room doors, vending machines and laundry facilities in accordance with the guidelines in this volume, (see pages 87-105 following) would result in a reduction of theft losses by approximately one third *in addition* to the substantial reduction in vandalism losses already identified in previous volumes of this report. Vandalism losses would be further reduced by slightly more than $200,000 annually if lockers were also improved in accordance with guidelines contained in this report. These locker improvements also address theft losses of approximately $200,000 annually, but some of these are already addressed by improving sleeping room doors. The estimated annual theft and vandalism loss addressed by each set of recommendations is shown in the table following.

SECTION III: RECOMMENDATIONS -- Cont.

STRATEGY	NATURE AND EXTENT OF LOSSES ADDRESSED BY STRATEGY					
	PROPERTY DAMAGE		THEFT		PROPERTY DAMAGE AND THEFT	
	PROPERTY DAMAGE[1]	% PROP. DAMAGE	THEFT	% THEFT	TOTAL LOSS	% TOTAL LOSS
1. Improve Sleeping Room Doors	$1,590,000	20%	$779,000[2]	29%	$2,369,000	24%
2. Improve Vending Machines	617,000	8%	15,000	1%	632,000	6%
3. Improve Laundry Facilities	271,000	3%	65,000	2%	336,000	3%
TOTAL	$2,478,000	31%	$859,000	32%	$3,337,000	33%

[1] Includes material, labor, overhead and administrative costs.

[2] Includes the value of property stolen, theft investigation costs and the costs of processing victims' claims for reimbursement. This figure is probably under-estimated in that it does not include the value of property stolen in unreported thefts.

SECTION III: RECOMMENDATIONS -- Cont.

Recommended Demonstration Project

Our major recommendation is that the first priority in an ANTI-VANDALISM RENOVATION demonstration project be testing of improved sleeping room doors, where the doors are improved in accordance with the guidelines contained in this volume. (See pp. 87-96 following.) As is shown in the table on the previous page, it is believed that doors meeting these guidelines can reduce theft and vandalism losses by almost one-fourth.

The evaluation methodology is the same as was previously recommended[1], with the exception of the addition of the following two requirements:

1. Test sites which have high rates of theft from BEQs as well as vandalism should be selected.

2. Baseline and test data regarding theft as well as property damage should be collected during the demonstration project.

Although the losses which might be reduced by improving lockers, vending machines and laundry facilities are not as great as those addressed by improved sleeping room doors, they are still sub-

[1] REDUCING VANDALISM IN NAVAL BACHELOR ENLISTED QUARTERS, VOLUME II: DEMONSTRATION PROGRAM AND DESIGN GUIDELINES, pp. 52-60.

stantial. In addition, it is believed that the recommended improvements to lockers, vending machines and laundry facilities contained in this report will be cost-effective at some bases. Therefore, it is recommended that testing of these ideas should be undertaken, but <u>not</u> at the expense of thorough testing of improved doors.

AD-A062 988 BUFFALO ORGANIZATION FOR SOCIAL AND TECHNOLOGICAL INN--ETC F/G 5/11
REDUCING VANDALISM IN NAVAL BACHELOR ENLISTED QUARTERS, VOLUME --ETC(U)
JUL 78 C BRADY, M BRILL N68305-77-C-0018

UNCLASSIFIED 2 OF 2 CEL-CR-78.021 NL

AD A062988

END
DATE FILMED
3 -79
DDC

DOORS

PROBLEM

In 1977, an estimated 3,600[1] incidents of theft of personal and/or government property from BEQ sleeping rooms were reported on stateside bases. The estimated value of the property stolen in these incidents is $636,000, or almost $180 per incident.

As is shown in the table below, the majority of these incidents involved the theft of personal, rather than government property.

TYPE OF PROPERTY	Est. Annual No. Incidents	% Inci.	Est. Value of Property Stolen	% Value
Personal	3,500	98%	$ 631,300	99%
Government	100	2%	4,800	1%
	3,600	100%	$ 636,100	100%

These thefts from sleeping rooms constitute the largest, single group of BEQ thefts, both by frequency (77% of all reported thefts) and by cost (88% of the value of property stolen).[2]

In slightly more than 2,000 of these theft incidents (70% of all sleeping room thefts, excluding those which occurred in Open Bay BEQs) entry was gained through the locked sleeping room door, leaving, in almost 90% of these cases, no signs of forced entry.

---

[1] Unreported thefts are not included here.

[2] Excluding thefts from BEQ Parking Lots.

Door security inadequate.

The high frequency and cost of sleeping room thefts and the apparent ease with which access was gained through locked doors, leaving no signs of forced entry, brings the adequacy of door locks and BEQ key control procedures into question.

Personnel at six of the fifteen bases participating in this study were interviewed, by telephone, regarding the types of locks and key control procedures used in BEQs on their bases. The results of these interviews are as follows:

1. Adequacy of Sleeping Room Door Locks

Locks slipped or "loided".

Four of the six bases reported that the apparent ease of access to BEQ sleeping rooms for purposes of theft was probably due to locksets which could be opened with a Navy I.D. card or a plastic credit card.

Dead bolts and combination locks effective.

Of the remaining two bases, one had installed automatic locks on the lounge doors in its Welton Beckett BEQs. These locks automatically lock the door when it is closed and cannot be slipped from the outside. (However, residents of some suites override these locks by taping them open.) The other base had begun a program of replacing locks with combination locks, and felt that theft incidents had thus been drastically reduced.

2. Key Control Procedures

Key control difficult

Entry to a room with a locked door may be accomplished by getting hold of a duplicate key as well as by slipping the lock. The proliferation of duplicate keys seems to be a problem on most bases. One base reported having a key duplicating machine in the Exchange on base, and three bases reported having keys which could easily be duplicated off-base. The remaining two bases issued keys marked "No Duplicates". (However, our experience is that this is not always honored by hardware store keymakers, at least in urban areas.)

Particularly when there are a number of suite-mates, each of whom has an identical key, control over keys by base administration becomes very difficult. One base on which the suite-arrangement is common, has a key system whereby each sailor's issued key fits not only the main lounge door to his suite, but is specifically fitted to the door of his own room. In this way, his individual room key is a maison[1] key to the suite door. Another base which issues identical keys to a number of roommates has a policy of replacing the lockset if two or more of the keys to a suite are lost or stolen.

---

[1] A maison key system, usually used in large complexes, allows individual unit keys to operate common areas.

Master keys not stolen

Official duplicates of keys are usually kept in a locked space in the BEQ Manager's office. Most security personnel contacted doubted that official key duplicates were stolen in order to gain access to rooms. They also reported that master keys were very seldom stolen[1], because they were usually kept on the person of the Master at Arms or BEQ Manager. One of the bases keeps master keys in a different barracks from the one for which they were designed, in order to prevent its possible theft and use. Another base restricts the carrying of master keys to the daytime BEQ Manager, and in case of nighttime emergency, restricts the rank of personnel allowed to use the master keys to E-5 or above. But one security person admitted that it is not unusual for the Barracks Master to allow maintenance people to borrow master keys.

Deadbolts recommended

When the security personnel were questioned as to what improvements in lock and key systems would help reduce theft, most of them replied that installation of deadbolt lock systems would probably be an effective measure, even though one base

[1] This is supported by the data in this study. None of the BEQs at any of the sample bases had unusually high frequencies of theft in a relatively short period of time, which would we would have accepted as evidence of master keys being used to gain access to rooms.

reported that fire regulations on his base prevented the installation of deadbolt systems[1]. Close control over the issue of keys was stressed by everyone.

Doors damaged in forced entry.

As was previously mentioned, force was used in approximately 10% of the thefts from sleeping rooms in which access was gained through a locked door. This force resulted in door damage whose estimated cost of repair is approximately $31,000. In addition, damage to sleeping room doors is the single most costly vandalism scenario.[2]

While it is possible that many thefts could be prevented by simply improving the locks on sleeping room doors, there are two additional considerations underlying our recommendations. First, if locks that are not easily loided are installed as

---

[1] These regulations may prohibit only the use of the types of deadbolt locks which require keys to unlock them from inside the room, as well as from outside. Those deadbolt locks which are operated by a thumbturn or lever from inside the room may be acceptable.

[2] See REDUCING VANDALISM IN NAVAL BACHELOR ENLISTED QUARTERS, VOLUME II: DEMONSTRATION PROGRAM AND DESIGN GUIDELINES, page 97.

a theft-prevention measure, force might be resorted to more frequently than it currently appears to be. Second, on bases where both theft from sleeping rooms and vandalism of sleeping room doors are costly problems, the costs of both strengthening doors and improving door locks are offset by both theft and vandalism losses. Shown in the table below are the estimated theft and vandalism losses preventable by the appropriate improvement of sleeping room doors.

Door and lock improvements reduce theft and vandalism losses.

ESTIMATED TOTAL LOSSES PREVENTABLE BY IMPROVING SLEEPING ROOM DOORS IN BEQs

TYPE OF LOSS	ESTIMATED LOSS
Door damage due to vandalism	$ 1,510,000
Door damage due to theft	30,000
Value of Property Stolen during theft	636,000
Administrative costs associated with vandalism and theft incidents	193,000
TOTAL	$ 2,369,000

The results of the BEQ Resident Survey offer an additional consideration with regard to sleeping room doors and door locks. BEQ residents agreed that if they left their room door

unlocked, personal belongings were likely to be stolen (X=3.7)[1]. BEQ residents reported that they almost always locked their room door when leaving their rooms (X=4.8). However, BEQ residents did agree that it would be easy to break the lock on a sleeping room door (X=3.5). Residents who had been victims of theft agreed even more strongly (X=4.0) that locks on their sleeping room doors could be easily broken.

[1] For responses from the BEQ Resident Survey, X or the average response was calculated from the following 5-point scale: 1 = disagree strongly; 2 = disagree somewhat; 3 = neither agree nor disagree; 4 = agree somewhat; 5 = agree strongly. Responses to questions where a BEQ resident did not know the answer or was not applicable were not included in the calculation of the average response.

DOORS

POSSIBLE DESIGN RESPONSES

1. In BEQs which have high rates of theft from BEQ sleeping rooms but which do not have high rates of vandalism-related door damage:

   a. Replace easily loided locks with combination locks (with keyed or combination master over-ride). *(Hardware Design)*

   OR

   b. Replace easily loided locks with deadbolt locks operated by either a thumbturn or lever from the inside. *(Hardware Design)*

   AND

   c. Replace locks when keys are lost. *(BEQ Maintenance)*

2. In BEQs which have high rates of theft from BEQ sleeping rooms and high rates of vandalism-related door damage:

   a. Use either strategy a. above OR strategies b. and c. above

   AND

   b. Install doors and door hardware which meet at least the Class II specifications of the NILECJ Standard for the Physical Security of Door Assemblies and Components.[1]

[1] NILECJ-STD-0306.00, Law Enforcement Standards Program, National Institute of Law Enforcement and Criminal Justice, U.S. Department of Justice, May, 1976.

Discussion of use of NILECJ standard.

This standard establishes performance requirements and methods of test for the resistance of door assemblies and components to forced entry. It addresses the capability of doors to withstand common methods of entry used by unskilled and semi-skilled burglars.

Four classes of door assemblies and components are established, from Class I, with the lowest level of resistance to forced entry, to Class IV, with the highest level of resistance.

The recommendation that BEQ sleeping room doors adhere to the Class II requirements is based on the assumption that the resistance of door assemblies and components must be greater than the forces most likely to be exerted during an attempted forced entry.

Human factors analysis of forces generated in forced entry use in selection of level of resistance needed.

In a previous BOSTI study, the impact energies which can be generated by people of various ages and sizes while engaged in several different activities were estimated.[1]

The estimated impact energy of a 20-year-old male, hitting with his shoulder and torso, is approximately 37 ft.lbs. (for the 50th percentile males) and approximately 119 ft.lbs. for a 95th percentile male.

---

[1] PERFORMANCE DESIGN OF SAFER WINDOWS, Phase II, Volume II: Glass Breakage Analysis, Table 3a. Prepared by BOSTI, Inc., for the U.S. Consumer Product Safety Commission, 1977.

In Table 1 of the NILECJ Standard,[1] the Class I requirement for the impact resistance of the door is 2 blows of 59 ft. lbs. per blow, a level of resistance which would barely prevent the 50th percentile 20-year-old male from breaking in, and would be totally ineffective in deterring the 95th percentile subject. Since Class II requirements generally increase impact resistance by a magnitude of 2 over Class I, Class II would provide, at least in this particular method of entry, a minimum level of security. The use of these figures is merely to illustrate the possible use of the NILECJ standard in choosing door and lock equipment which improves security.

---

[1] NILECJ-STD-0306.00, p. 4.

LOCKERS

PROBLEM

It is estimated that in almost 700 (19%) of the sleeping room thefts, at least one of the items was locked in a locker. The estimated value of property stolen in these thefts is $119,000.

Generally, the lockers were entered forcibly, resulting in broken locker doors, hasps, hinges or locks. The estimated cost of this damage is approximately $15,000.

In addition, the annual cost of locker damage due to vandalism[1] is estimated at more than $200,000. Much of this damage is believed to occur when lockers are pried open because keys have been lost. Thus, the costs of improving lockers so that they will not be damaged when forcible entry is attempted are offset by both theft and vandalism costs.

The estimated total loss which could be prevented by strengthening lockers is shown in the following table.

[1] REDUCING THEFT IN NAVAL BACHELOR ENLISTED QUARTERS, VOLUME II: DEMONSTRATION PROGRAM AND DESIGN GUIDELINES, page 124.

TYPE OF LOSS	ESTIMATED LOSS
Locker Damage due to Vandalism	$ 200,000
Locker Damage due to Theft	15,000
Value of Property Stolen during Theft	119,000
Administrative Costs of Theft and Vandalism	83,000
TOTAL	$ 417,000

LOCKERS

POSSIBLE DESIGN RESPONSES

1. Design lockers to resist the most common methods used to enter them forcibly. Such redesign could include:

   a. Stiffening door panels so that they are very rigid and do not permit the generation of sufficient leverage to pry them open.

   b. Mounting hinges so that none of the bolts or screws attaching the hinges to the locker door or frame are accessible from the outside when the door is locked.

   c. Using locks, rather than hasps. Such locks should resist loiding, and impact as specified in the recommendations for sleeping room doors.

estimated theft and vandalism losses preventable by the appropriate measures.

ESTIMATED ANNUAL THEFT AND VANDALISM LOSSES IN BEQ LAUNDRY FACILITIES

TYPE OF LOSS	ESTIMATED LOSS
Damage of Washers and Dryers	$ 259,000
Value of Property Stolen During Theft	43,000
Administrative Costs Associated with Vandalism and Theft Incidents	34,000
TOTAL	$ 336,000

In addition, the BEQ residents' survey indicates that BEQ residents worry that their clothes will be stolen from a washer or dryer when they do their laundry ($\bar{X}$ = 3.60), with BEQ residents who have been theft victims showing more concern ($\bar{X}$ = 4.18) than those who have not ($\bar{X}$ = 3.32).

BEQ residents were also asked whether they would use an on-base laundry service that cost no more than $5.00 per week rather than doing their laundry themselves. The impact of having been a theft victim is evidenced in the response to this question -- residents who have been theft victims tended to report that they would use such a service ($\bar{X}$ = 3.56), whereas residents who have not been theft victims tended to report that they would not ($\bar{X}$ = 2.4).

LAUNDRY ROOMS

POSSIBLE DESIGN RESPONSES

1. In BEQs which have high rates of theft from laundry facilities but which do not have high rates of machine damage, advise BEQ residents to stay in the laundry facilities while they are doing their wash. *(Public Education)*

2. In BEQs which have high rates of theft from laundry facilities and high rates of machine damage, consider the following:

   a. In large BEQ complexes, centralize one or two laundry facilities within the complex and have an attendant there during peak-use periods. The attendants should be able to perform preventive maintenance and minor repairs. *(BEQ Site Planning; BEQ Design; BEQ Policy, Management and Maintenance)*

   b. Provide a less than $5.00/week, on-base laundry service. *(BEQ Policy and Management)*

   c. In smaller BEQs, increase the surveillance of laundry areas by centralizing them within the BEQ, within sight of passers-by or the front desk and adjacent to, but visible from a lounge/recreation/T.V. area. *(BEQ Design)*

VENDING MACHINES

PROBLEM

In 1977, it is estimated that almost 200 incidents of theft of cash and/or merchandise from vending machines were reported in BEQs on all Stateside bases. The estimated value of the property stolen is approximately $6,000, or about $40 per incident.

The thefts were generally managed by reaching up into the machine, by breaking the glass or by breaking the lock on the coin box. Thus, in almost all of the incidents the machines were damaged enough to require repair. The estimated total cost of these repairs is $12,000.

On the basis of the information received in this study, the frequency and cost of reported theft from vending machines and of the associated machine damage is relatively low. However, two additional considerations underlie the recommendations made in this report.

First, the estimated annual cost of vending machine damage reported in the vandalism portion of this study is approximately $580,000. Second, most of this damage is believed to occur when residents try to forcibly remove purchases or change due from malfunctioning machines. The point is that a substantial amount of machine damage occurs each year and that the methods of damage are the same, regardless of motive. Therefore, the

cost of a few improvements to vending machines is offset by both vandalism and theft-related losses. The estimated total loss addressed by the recommendations in this report is shown in the table below.

ESTIMATED TOTAL LOSSES PREVENTABLE BY IMPROVING VENDING MACHINES IN BEQs

TYPE OF LOSS	ESTIMATED LOSS
Machine Damage Due to Vandalism	$ 580,000
Machine Damage Due to Theft	12,000
Value of Property Stolen During Theft	6,000
Administrative Costs Associated with Vandalism and Theft Incidents	34,000
TOTAL	$ 632,000

VENDING MACHINES

POSSIBLE DESIGN RESPONSES

1. Centralize the location of vending machines so that they are in sight of passers-by or the front desk. *(BEQ Design)*

2. Construct protective covers on vending machine islands which restrict movement of machines and any other type of tampering but which permit access to coin slots, selector buttons and purchases. *(Hardware Design)*

3. In very large BEQs which are almost continually occupied, and in which rates of vending machine theft and vandalism are very high, explore alternatives to vending machines:

   a. A "food cart" service which comes around at appointed times. *(BEQ Policy and Management)*

   b. A BEQ snack bar. *(BEQ Design, BEQ Policy and Management)*

SECTION IV: METHODS -- DATA AND DATA BASE BUILDING

INTRODUCTION

The principal purposes of this study are to identify, and to design ways of evaluating the effectiveness of, options for reducing the number or cost of incidents of theft-related property damage and theft in Naval Bachelor Enlisted Quarters (BEQs). To design such options, it is necessary first to have a clear picture of the types of theft and theft-related property damage occurring. To design ways of evaluating the options, it is necessary to know, as precisely as possible, how many theft and theft-related damage incidents they will prevent and how much of the theft and damage cost they will reduce. Thus the purpose of the data analysis in this study was to create a profile of theft and theft-related property damage incidents occurring in BEQs: What items are stolen and how often; from whom the items are stolen and the extent of the loss; from where the items are stolen, under what circumstances, and with what associated property damage; and, to the extent possible, who steals.

The following discussion describes:

1. The sources of information and types of data used in this study.

2. The data base that has been created: the characteristics of the sample, the coding procedures and the structure and content of the data base.

SECTION IV: METHODS -- DATA AND DATA BASE BUILDING -- Cont.

DATA SOURCES AND DATA COLLECTION

Three sources of data were used in this study. They are:

1. Theft Incident and Investigative Reports
2. BEQ Residents
3. Base Personnel Knowledgeable About Theft

Each is described on the following pages.

1. Theft Incident and Investigative Reports

Theft incident and investigative reports are one to ten page reports prepared by base personnel during theft investigations.

Twenty bases were asked to provide copies of these reports for all incidents of theft in BEQs which occurred between January and December 1977.

The reports varied in their formats and in the quality and completeness of the information included. However, most identified:

- The item(s) stolen and their value.
- The location of the theft.

- The time available for the theft.
- The age and sex of the victim (names, addresses, identification numbers, etc., of the victims, were excluded by participating bases in compliance with Privacy Act requirements).
- How the theft was managed, including whether force and/or tools were used to gain access to the item(s) and types of damage done (e.g., to doors, lockers) during the theft.

2. BEQ Residents

BEQ residents at participating bases were asked to complete a questionnaire regarding:

- Their perception of the safety of their personal belongings in BEQs.
- Strategies for reducing theft in BEQs.
- Their personal experiences with theft.

The questionnaire was prepared by BOSTI staff and administered by personnel at each participating base.

3. Base Personnel Knowledgeable About Theft

The person at each base most knowledgeable about theft in BEQs was asked to complete a questionnaire regarding:

- Theft reporting and investigation procedures.
- Programs currently in-place to combat theft.
- Nature and extent of unreported thefts.
- BEQ characteristics.

This questionnaire was also prepared by BOSTI staff and mailed to contacts at each participating base.

DESCRIPTION OF THE SAMPLE

1. Theft Incident and Investigative Reports

Fifteen of the twenty bases asked to provide reports were able to do so. They jointly provided over 1,500 reports. 1,136 of these were used in this study. The remainder of the reports were not used, generally because they concerned theft incidents occurring either prior to 1977 or in 1978. A few reports were unuseable because they were illegible or because they concerned vandalism, rather than theft incidents.

Prior to coding and analysis, the reports were sorted by first, the type of property that was stolen (personal vs. government)[1] and second, by the BEQ space in which the theft incident occurred. (Thefts were reported in twelve BEQ spaces: sleeping rooms, parking lots, laundry facilities, heads, lounges, stairwells, hallways/entryways, storage lockers/locker rooms, storage rooms, offices, vending areas/machines, and other (e.g., phone booths).)

In the table on the following page, the number of theft incidents included in this study's data base are presented by the type of property stolen and the space in which the theft occurred.

---

[1] In a few thefts from BEQ sleeping rooms, both personal and government property was stolen. These were treated as two separate incidents. Also, in some thefts from sleeping rooms, property of more than one person was stolen. These were treated as separate incidents, one per victim.

TYPE OF PROPERTY STOLEN

BEQ SPACE	# INC. PERS.	% * TOTAL	# INC. GOV'T.	% * TOTAL	TOTAL # INC.	% * TOTAL
Sleeping Room	663	58%	10	1%	673	59%
Parking Lot	255	22%	7	< 1%	262	23%
Laundry Room	62	5%	0	0	62	5%
Head	9	1%	0	0	9	1%
Lounge	16	1%	10	1%	26	2%
Stairwell	8	1%	0	0	8	1%
Hallway/entryway	11	1%	0	0	11	1%
Storage locker/ Locker Room	13	1%	0	0	13	1%
Storage Room	6	<1%	7	< 1%	13	1%
Office	17	1%	4	< .5%	21	2%
Vending Area/Machines	0	0	27	2%	27	2%
Other (Phone booth, area immediately outside BEQ)	7	< 1%	4	<.5%	11	1%
TOTAL	1,067	94%*	69	6%*	1,136	100%

*All percentages in this table are calculated as a percent of the total number of incidents -- 1,136. Any errors are due to rounding.

On the basis of the reports received by us, it is clear that on the Naval bases in our sample, thefts of personal property from BEQs are a far greater problem than theft of government property from BEQs -- 94% of the incident reports received concerned thefts of personal property. In addition, over 90% of the incidents occurred in only five of the twelve BEQ spaces. These are sleeping rooms (59%), parking lots (23%), laundry rooms (5%), vending areas (2%) and lounges (2%).

2. BEQ Residents

Six of the fifteen bases who provided theft incident and investigative reports were asked to have BEQ residents complete a questionnaire. Five bases were able to do so and jointly returned 89 completed questionnaires.

3. Base Personnel Knowledgeable About Theft

Thirteen of the fifteen bases who provided theft incident and investigative reports were asked to have the personnel on-base most knowledgeable about theft complete a questionnaire. Nine bases were able to do so.

STRUCTURE AND CONTENT OF THE DATA BASE

The data base that has been created for this study allows the description of thefts and theft-related property damage, attitudes of BEQ residents and theft investigation and prevention procedures, etc., at each participating base as well as across bases. (Each base was assigned a base identification number by BOSTI staff which was written on all data received from each base.)

As was discussed on the previous page, theft incident and investigative reports were sorted by type of property stolen and the BEQ space in which the theft occurred. Then, each useable incident report within each type of property stolen/BEQ space group was given an incident identification number. Thus each report can always be identified by the base on which it occurred, the type of property stolen and the BEQ space in which the incident occurred.

Two groups of reports -- theft of personal property from sleeping rooms (58%), and theft of personal property from laundry facilities (5%), were coded and computerized.* BEQ Residents' Questionnaires were also coded and computerized.

*Since the primary purpose of this study was to identify options for reducing theft and theft-related property damage in BEQs, analysis of thefts from BEQ parking lots was not undertaken.

Some of the information included in this computerized data base for each group of reports is listed below. (For a complete list of the data coded, see the coding manuals in the appendix of this report.)

1. Theft of Personal Property from Sleeping Rooms

   - Item(s) stolen and their value; whether the victim would easily be able to identify the item(s); whether the item(s) could be removed easily by one person; whether the item(s) would have to be concealed to remove from base.
   - Month, day of week and time of day theft occurred, including the earliest and latest times at which the theft could have occurred and the total time available for the theft.
   - Location of the incident by base, type of BEQ and deck of BEQ.
   - Location of the stolen property within the sleeping room, whether it was concealed and if so, how.
   - Location and activity of the victim at the time of the theft.
   - How the offender entered the room, whether force and/or tools were used; whether there was a pre-existing maintenance problem at the point of access.
   - Characteristics of the offender, when known.

2. Theft of Personal Property from BEQ Laundry Facilities

- Item(s) stolen and their value.
- Month, day of week and earliest and latest times theft could have occurred.
- Location of the incident by base, BEQ type and type of machine.
- Victim activity at the time of the theft.

3. BEQ Residents' Questionnaires

- Sailor attitude toward safety of personal belongings, in general and by BEQ location.
- Assessment of sailors' own theft prevention behavior.
- Sailor attitude toward Navy and BEQ management of theft prevention and investigation.
- Sailor attitude toward BEQ design and hardware, such as door and window locks.
- Sailor knowledge about theft patterns.
- Personal experience of sailors with theft.
- Sailor assessment of specific theft prevention programs.

The remainder of the theft incident and investigative reports, and the questionnaires completed by base personnel knowledgeable about theft, were tabulated and analyzed manually.

SECTION IV: METHODS

ESTIMATING THE FREQUENCY AND COST OF THEFT

In order to estimate the Navy-wide frequency and cost of theft in BEQs, the costs associated with three elements were estimated and summed. These elements are:

- The value of property stolen
- Property damage due to theft
- Administration

In the following discussion, the data sources and methods used to estimate the costs of these elements are described.

THE VALUE OF PROPERTY STOLEN

The total value of the property stolen in thefts from BEQs in 1977 was estimated from two sources: (1) Theft Incident and Investigative Reports, in which the type and value of property stolen in theft incidents reported by theft victims is documented, and (2) Descriptions, provided by base personnel, of the types of personal and government property that are often stolen but whose theft goes unreported.

Fifteen bases provided copies of Theft Incident and Investigative Reports for 1977, and nine bases provided descriptions of unreported thefts. The estimated annual frequency and cost of reported and unreported thefts were calculated from this data using two different methods. In the discussion which follows,

the method used to estimate the annual frequency and cost of reported thefts is described first, then the method used to estimate the annual frequency and cost of unreported thefts is presented.

1. Estimating the Annual Frequency and Cost of Reported Thefts

As was mentioned on the previous page, Theft Incident and Investigative reports include both descriptions of the property stolen and estimates of its value.

The number of theft incidents and the value of property stolen was summed from the Theft Incident and Investigative reports received from bases participating in this study. Then, this frequency and cost were both multiplied by 5.574 to provide estimates of the annual frequency and cost of reported theft incidents in BEQs on all Stateside bases. The 5.574 multiplier includes an adjustment for missing sample data as well as for extrapolation of the data Navy-wide. The calculation of each of these adjustments resulting in the final multiplier is described below.

Adjustment for Missing Data

Recall that 1,136 incident reports were jointly provided by the fifteen participating bases (see page 109). Of these, 663

(58%) concerned thefts of personal property from BEQ sleeping rooms. Analysis of the periods covered by the 663 sleeping room reports allowed us to identify the periods for which data was probably missing and to adjust appropriately.*

Since each of the fifteen participating bases was asked to provide reports for the entire year (12 months), complete data would have covered 180 base-months (15 bases x 12 months). (This assumes that at least one incident of theft of personal property from BEQ sleeping rooms occurs each month on each base.) Because only six of the fifteen bases were able to provide twelve months' data, (the remaining nine provided from five to ten months' data), the number of base-months covered by the sleeping room reports was 139.

We therefore estimated the total number of reported incidents occurring at all fifteen bases for the entire year as follows:

*Since thefts of personal property from sleeping rooms constitute the majority of the reports, it was assumed that reports of incidents in other BEQ spaces covered the same periods.

$$\frac{\text{Estimated Total Number of Sleeping Room Incidents}}{\text{180 Base-Months}} = \frac{\text{663 Sleeping Room Incidents}}{\text{139 Base-Months Covered}}$$

$$\text{Estimated Total Number of Sleeping Room Incidents} = \frac{180}{139} \times 663 \text{ Sleeping Room Inc.}$$

$$= 1.295 \times 663$$

$$\text{Estimated Total Number of Sleeping Room Incidents} = 859$$

Thus, 1.295 is the multiplier which adjusts for missing data, and the estimated total number of thefts of personal property from BEQ sleeping rooms at all fifteen bases for the entire year is 859.

Extrapolation Navywide

Once the multiplier which adjusts for missing data in the sample had been calculated, a multiplier which extrapolates the sample Navy-wide was computed. The assumption of the following method of extrapolation is that the rate of theft, defined as the number of incidents per person berthed per year, is the same Navy-wide as on the sample bases taken as a group.

SECTION IV: METHODS -- Cont.

x = unadjusted frequency or cost of reported thefts from BEQs on sample bases

$1.295 \times x$ = estimated annual frequency or cost of reported thefts from BEQs on sample bases

23,000 = estimated annual number personnel berthed in BEQs on sample bases

Then,

$$\text{Estimated Annual Frequency or Cost of Reported Theft Per Person Berthed on Sample Bases} = \frac{\text{Estimated Annual Frequency or Cost of Reported Thefts from BEQs on Sample Bases}}{\text{Estimated Annual Number Personnel Berthed in BEQs on Sample Bases}}$$

$$= \frac{1.295 \times x}{23{,}000}$$

An estimated 99,000 personnel are berthed annually in BEQs on Stateside bases.

Therefore,

$$\text{Estimated Annual Frequency or Cost of Reported Theft On All Stateside Bases} = \text{Estimated Annual No. Personnel Berthed in BEQs on all Stateside Bases} \times \text{Estimated Annual Frequency or Cost of Reported Theft Per Person Berthed}$$

$$= 99{,}000 \times \frac{1.295 \times x}{23{,}000}$$

SECTION IV: METHODS -- Cont.

Estimated Annual Frequency or Cost of Reported Theft on All Stateside Bases = $5.574 \times x$

In summary, the estimated annual frequency and cost (value of property stolen) of reported thefts from BEQs on all Stateside bases is 5.574 times the frequency and cost estimates calculated from data provided by the sample bases.

2. Estimating the Annual Frequency and Cost of Unreported Thefts

Unreported thefts are those thefts whose occurrence is not reported to base security departments for investigation. These thefts are not documented in Theft Incident and Investigative Reports kept by the departments, although some of them are subject to investigation and action by BEQ Staff.[1]

[1] The loss/theft of linen is subject to action by BEQ Managers on some bases -- occupants who signed for the lost/stolen items are charged for their replacement. Thus, although the thefts are unreported by our definition, some administrative cost is still incurred because of their occurrence.

Personnel knowledgeable about theft at each participating base were asked to describe the items of personal and government property which, to the best of their knowledge, are stolen but often not reported missing. In addition, for each item described, the respondents were asked to estimate the number of times per month an unreported theft of the item occurred.

Nine bases were able to provide the requested information. This data was used to compute unreported theft rates for thefts of both personal and government property. The methods of calculation and the results are as follows:

1. Personal Property

For 1977, slightly more than 1,200 unreported thefts of personal property were estimated to have occurred by the nine bases.

The estimated number of personnel berthed at these bases is almost 14,000. Therefore a rate of unreported thefts of personal property was calculated as follows:

SECTION IV: METHODS -- Cont.

$$\text{Estimated No. Incidents Per Person berthed Per Year} = \frac{\text{Estimated Total No. Incidents}}{\text{Estimated Total No. Personnel Berthed Per year}}$$

$$= \frac{1{,}250 \text{ incidents}}{13{,}648 \text{ sailors berthed per yr.}}$$

$$\text{Estimated No. Incidents Per Person Berthed Per Year} = .09 \text{ incidents per person berthed per year}$$

Type of Value of Property Stolen in Unreported Thefts

According to the respondents, the items of personal property whose theft most frequently goes unreported, are personal effects, and toilet articles (41% of unreported incidents), small amounts of cash (19% of unreported incidents), and clothing or linen, usually stolen from laundry facilities (19% of unreported incidents). Additional items, the unreported theft of which was less frequently mentioned, are drugs and/or alcohol (10%), jewelry (6%) and "noisemakers" -- stereo equipment, radios, etc. (5%).

SECTION IV: METHODS -- Cont.

For the nine bases providing data about unreported thefts, the estimated total value of personal property stolen in unreported thefts in 1977 is slightly more than $53,000. Therefore, at these bases, the unreported theft rate, expressed as value of property stolen per person berthed per year, is as follows:

$$\text{Estimated Value of Personal Property Stolen Per Person Berthed Per Year} = \frac{\text{Estimated Value of Property Stolen}}{\text{Estimated No. Personnel Berthed}}$$

$$= \frac{\$53,280}{13,648 \text{ sailors berthed}}$$

$$\text{Estimated Value of Personal Property Stolen Per Person Berthed Per Year} = \$3.90$$

Estimates of the frequency of, and the value of property stolen during unreported thefts of personal property from all stateside BEQs were calculated by multiplying each unreported theft rate by the estimated number of personnel berthed in all stateside BEQs in 1977:

SECTION IV: METHODS -- Cont.

1.	Estimated Annual No. Unreported Theft Incidents in all Stateside BEQs (Personal Property only)	=	Estimated No. Incidents per Person Berthed Per Year	x	Estimated No. Personnel Berthed in All Stateside BEQs
		=	.09 Incidents Per Person Berthed Per Year	x	99,000 sailors Berthed per Year
	Estimated Annual No. Unreported Theft Incidents In All Stateside BEQs (Personal Property only)	=	8,910		
2.	Estimated Annual Value of Property Whose Theft Is Not Reported In All Stateside BEQs (Personal Property only)	=	Estimated Value of Property Whose Theft is Not Reported Per Person Berthed Per Yr.	x	Estimated No. Personnel Berthed In All Stateside BEQs
		=	$3.90 per Person Berthed Per Year	x	99,000 Sailors Berthed Per Year
	Estimated Annual Value of Property Whose Theft Is Not Reported In All Stateside BEQs (Personal Property only)	=	$386,100		

2. Government Property

Eight bases described types of government property whose theft is often not reported.

For 1977, almost 3,000 unreported thefts of government property from BEQs were estimated to have occurred on these bases.

The estimated number of personnel berthed at these bases is almost 12,000. Therefore, a rate of unreported theft of government property was calculated as follows:

$$\text{Estimated No. Incidents Per Person Berthed Per Year} = \frac{\text{Estimated Total No. Incidents}}{\text{Estimated Total No. Personnel Berthed per year}}$$

$$= \frac{2{,}772 \text{ incidents}}{11{,}881 \text{ Sailors Berthed Per Year}}$$

$$\text{Estimated No. Incidents Per Person Berthed Per Year} = .23 \text{ incidents per person berthed per year}$$

Type of Value of Government Property Stolen in Unreported Thefts

According to the respondents, the items of government property whose theft most frequently goes unreported are cleaning gear (such as mops and brooms) and supplies (such as toilet paper and cleaning supplies), and linen. The unreported theft of these items represents almost 70% of all the unreported thefts of government property in BEQs -- theft of cleaning gear/supplies accounts for 39% of the incidents and that of linen accounts for an additional 28%.

Additional items, the unreported theft of which was less frequently mentioned are furnishings (13%), office supplies (13%), tools (6%) and recreation equipment (1%).

For 1977, the estimated total value of government property stolen at the eight bases is almost $78,000. Therefore, at these bases the unreported theft rate, expressed as the value of government property stolen per person berthed per year, is as follows:

SECTION IV: METHODS -- Cont.

Estimated Value of Government Property Stolen Per Person Berthed Per Year (Not Reported) = Estimated Value of Property Stolen / Estimated Number Personnel Berthed

= $77,820 / 11,881 sailors berthed per year

Estimated Value of Government Property Stolen Per Person Berthed Per Year (Not Reported) = $6.55

Estimates of the frequency of, and the value of property stolen during unreported thefts of government property from all stateside BEQs were calculated by multiplying each unreported theft rate by the estimated number of personnel berthed in all stateside BEQs in 1977:

1. Estimated Annual No. Unreported Theft Incidents In All Stateside BEQs (Government Property) = Estimated No. Incidents Per Person Berthed Per Year x Estimated No. Personnel Berthed in All Stateside BEQs

= .23 incidents per person Berthed Per Year x 99,000 Sailors Berthed Per Year

SECTION IV: METHODS -- Cont.

Estimated Annual No. Unreported Theft Incidents In All Stateside BEQs (Government Property) = 22,770

2. Estimated Annual Value of Government Property Whose Theft is Not Reported in All Stateside BEQs = Estimated Value of Property Whose Theft Is Not Reported Per Person Berthed Per Yr. x Estimated No. Personnel Berthed in All Stateside BEQs

= $6.55 per Person Berthed Per Year x 99,000 sailors Berthed Per Year

Estimated Annual Value of Government Property Whose Theft Is Not Reported In All Stateside BEQs = $648,450

SECTION IV: METHODS -- Cont.

THEFT-RELATED PROPERTY DAMAGE

Of the estimated 4,700 reported incidents of theft in BEQs[1] in 1977, approximately 1,100 (about 23%) resulted in property damage as well as the loss of property.

As is shown in the table below, theft-related damage was sustained by three items: sleeping room doors, lockers and vending machines. The estimated total cost[2] of this damage, for 1977, is almost $69,000.

ESTIMATED ANNUAL FREQUENCY AND COST OF THEFT-RELATED PROPERTY DAMAGE

ELEMENT DAMAGED	EST. ANNUAL FREQUENCY	% INCI.	EST. COST OF REPAIR	% REPAIR COST
Sleeping Room Doors	280	25%	$ 30,700	53%
Lockers	670	61%	15,400	26%
Vending Machines	160	14%	12,200	21%
SUB-TOTAL	1,100	100%	$ 58,300	100%
Est. Administrative Cost	(1,100)	(100%)	10,300	(15%)[3]
TOTAL	1,100	100%	$ 68,600	n.a.

[1] Thefts from BEQ parking lots are not included in this estimate.

[2] Material, labor, overhead and administrative costs are included in this estimate.

[3] Estimated administrative costs constitute approximately 15% of the estimated total cost of theft-related property damage.

SECTION IV: METHODS -- Cont.

1. Sleeping Room Doors

Of the 663 incidents of theft of personal property from BEQ sleeping rooms reported by the sample bases, 52 (approximately 8%) involved damage to the door. Damaged door locks and/or hinges were most frequently reported, with damaged door vents less frequently mentioned.

In order to estimate the Navywide frequency of theft-related sleeping room door damage, the estimated annual number of reported thefts of personal property from BEQ sleeping rooms on all stateside bases was multiplied by 52/663:

Estimated Annual No. Incidents Theft-Related Door Damage	=	Estimated Annual No. Reported Thefts Personal Property from BEQ sleeping rooms	x	Percentage of Thefts of Personal Property from BEQ Sleeping Rooms Involving Door Damage
	=	3,556 incidents per year	x	$\frac{52}{663}$
Estimated Annual No. Incidents Theft-Related Door Damage	=	279		

Then, the Navywide cost of this damage was estimated by multiplying the number of incidents by the estimated cost of repair per incident[1]:

Estimated Annual Cost Theft-Related Door Damage	=	Estimated Annual Frequency Theft-Related Door Damage	x	Estimated Cost Per Incident
	=	279 Incidents Per Year	x	$110 per Incident
Estimated Annual Cost Theft-Related Door Damage	=	$30,690 per year		

2. Lockers

Of the 663 incidents of theft of personal property from BEQ sleeping rooms reported by the sample bases, 125 (approximately 19%) involved damage to a locker. Locker doors, hasps and hinges were damaged, generally when the lockers were pried open.

[1] The estimated material, labor and overhead cost of repair per incident of door hardware damage for FY 1976 was assigned. See REDUCING VANDALISM IN NAVAL BACHELOR ENLISTED QUARTERS, VOLUME 3: PROJECT METHODS AND RESULTS, Appendix 8.

SECTION IV: METHODS -- Cont.

In order to estimate the Navywide frequency of theft-related locker damage, the estimated annual number of reported thefts of personal property from BEQ sleeping rooms on all stateside bases was multiplied by 125/663:

Estimated Annual Frequency Theft-Related Locker Damage	=	Estimated Annual Frequency Reported Thefts of Personal Property from BEQ Sleeping Rooms	=	Percentage of Thefts of Personal Property From BEQ Sleeping Rooms Involving Locker Damage
	=	3,556 Incidents Per Year	x	$\frac{125}{663}$
Estimated Annual Frequency Theft-Related Locker Damage	=	670 Incidents Per Year		

Then, the Navywide cost of this damage was estimated by multiplying the number of incidents by the estimated cost of repair per incident[1]:

[1] The estimated material, labor and overhead cost of repair per incident of locker damage for FY 1976 was assigned. Ibid..

Estimated Annual Cost Theft-Related Locker Damage	=	Estimated Annual Frequency Theft-Related Locker Damage	x	Estimated Cost Per Incident
	=	670 Incidents Per Year	x	$23 Per Incident
Estimated Annual Cost Theft-Related Locker Damage	=	$15,410 per year		

3. Vending Machines

Of the 69 incidents of theft of government property from BEQs reported by the sample bases, 28 (approximately 41%) were thefts from vending machines during which the machines were damaged. Broken locks, coin boxes and glass were most frequently reported.

In order to estimate the Navywide frequency of theft-related vending machine damage, the estimated annual number of reported thefts of government property on all stateside bases was multiplied by 28/69:

Estimated Annual Frequency of Theft-Related Vending Machine Damage	=	Estimated Annual Frequency of Reported Thefts of Government Property from BEQs	x	Percentage of Thefts of Government Property from BEQs involving Locker Damage
	=	384 Incidents Per Year	x	$\frac{28}{69}$
Estimated Annual Frequency of Theft-Related Vending Machine Damage	=	156 Incidents Per Year		

Then, the Navywide cost of this damage was estimated by multiplying the number of incidents by the estimated cost of repair per incident[1]:

Estimated Annual Cost Theft-Related Vending Machine Damage	=	Estimated Annual Frequency Theft-Related Vending Machine Damage	x	Estimated Cost Per Incident
	=	156 Incidents Per Year	x	$78 Per Incident

[1]The estimated material, labor and overhead cost of repair per incident of vending machine damage for FY 1976 was assigned.

Estimated Annual Cost Theft-Related Vending Machine Damage	=	$12,168 Per year

It was assumed that all theft-related property damage was repaired, and that the Navy incurred administrative as well as material, labor and overhead costs.

4. Administrative Costs of Theft-Related Property Damage

Administrative costs associated with this damage were calculated as follows:

Estimated Annual Administrative Cost of Theft-Related Property Damage	=	Estimated Annual Frequency of Theft-Related Property Damage	x	Administrative Cost Per Per Incident
	=	1,105 Incidents Per Year	x	$9.31 Per Incident
Estimated Annual Administrative Cost of Theft-Related Property Damage	=	$10,288 Per Year		

ADMINISTRATIVE COSTS

The administrative cost of theft in BEQs is defined as the cost of:

- Reporting and investigating theft incidents
- Prosecuting and punishing offenders
- Processing theft victims' claims for reimbursement
- Procuring replacement items for stolen government property

In this study, only the costs of reporting and investigating theft incidents, and processing theft victims' claims for reimbursement have been estimated. The methods of estimation are as follows:

1. Reporting and Investigating Theft Incidents

Security personnel at the 15 bases participating in the study were asked to describe the theft reporting and investigation procedures employed on base, and to estimate the average number of man-hours required to investigate a theft.

On all sample bases, thefts are investigated as they are reported. The average number of man-hours required per investigation is seven. The average hourly cost of support

per theft investigator is $9 per hour. Therefore:

Estimated Annual Cost of Investigating Thefts from BEQs	=	Estimated Annual No. Investigated Thefts	x	Average Number Man-Hours Per Invest.	x	Cost Per Man-Hour
	=	6,191 Incidents Per Year	x	7 man-hrs. per Incident	x	$9.00 per Man-Hour
Estimated Annual Cost of Investigating Thefts From BEQs	=	$390,033 Per Year				

2. Processing Theft Victims' Claims for Reimbursement

It is Naval policy to reimburse victims of theft of personal property from BEQs for the property stolen.

Between January and March of 1976, 619 claims for reimbursement were paid. The total paid was $186,739, or slightly more than $300 per claim. Assuming that approximately the same number of claims are paid during any given quarter:

SECTION IV: METHODS -- Cont.

Estimated No. Claims Paid, 1976	=	619 Claims Paid Per Quarter	x	4 Quarters Per Year

Estimated No. Claims Paid, 1976 = 2,476 claims

And, assuming that approximately the same amount of money is paid in claims each quarter:

Estimated Amount Paid in Claims, 1976	=	$186,739 Per Quarter	x	4 Quarters Per Year

Estimated Amount Paid in Claims, 1976 = $746,957

In order to estimate the annual cost of processing theft-related claims, the estimated total number of claims submitted each year was multiplied by an estimated minimum processing cost per claim. (NOTE: It is estimated that only 50% of claims submitted are actually paid.) Therefore:

SECTION IV: METHODS -- Cont.

Estimated Cost of Processing Claims, 1976	=	Estimated No. Claims Submitted, 1976	x $10 per Claim[1]
Estimated Cost of Processing Claims, 1976	=	(2,476 claims paid x 2)	x $10 per claim
	=	$49,520	

[1] Assuming that the processing cost per claim is at least $10 in staff time, etc..

APPENDIX: BEQ RESIDENTS' QUESTIONNAIRE

The responses to each of the attitudinal questions on the BEQ Residents' Questionnaire are presented in this appendix.

89 residents of BEQs on five bases responded. 29 residents (33%) had been theft victims while residing in a BEQ. Average responses to each question were separately calculated for victims and non-victims. These averages were calculated from the following 5-point scale: 1 = disagree strongly; 2 = disagree somewhat; 3 = neither agree nor disagree; 4 = agree somewhat; 5 = agree strongly. Responses to questions where a BEQ resident did not know the answer or was not applicable were not included in the calculation of the average response.

RESPONSES

Circle the number below which best reflects how much you agree or disagree with each statement in the left hand column. ——— VICTIM - - - - - NON-VICTIM STATEMENTS	Disagree Strongly	Disagree Somewhat	Neither Agree Nor Disagree	Agree Somewhat	Agree Strongly
1. My personal belongings are safe from theft in my room.					
2. My BEQ is too big for sailors to get to know each other very well.					
3. There are enough safe places in my room to store valuables.					
4. If I left anything valuable in the lounge, it would probably get stolen.					
5. It would be very easy to break the lock on the door to my room.					
6. The BEQ should provide stronger locks on closets and lockers.					
7. My base has a policy which encourages BEQ residents to mark their belongings with identification numbers.					
8. When doing a laundry, I worry that my clothes will be taken from the washer or dryer.					
9. I always lock my room door when I go out.					

Circle the number below which best reflects how much you agree or disagree with each statement in the left hand column. STATEMENTS	RESPONSES: Disagree Strongly	Disagree Somewhat	Neither Agree Nor Disagree	Agree Somewhat	Agree Strongly
10. If belongings are marked with identification numbers, there will be less stealing.					
11. My base has a policy which encourages BEQ residents to file a list of their valuables with the BEQ manager when they first move in.					
12. When my room door is open, it is easy for someone passing by to see into my room.					
13. If I left my room door unlocked when I went out, something would probably get stolen.					
14. The BEQ staff is helpful when there is a problem.					
15. A thief could easily escape from this BEQ without being seen because there are too many doors leading to the outside.					
16. I always lock my room window when I go out.					
17. My belongings are safe in my room when I go on leave.					

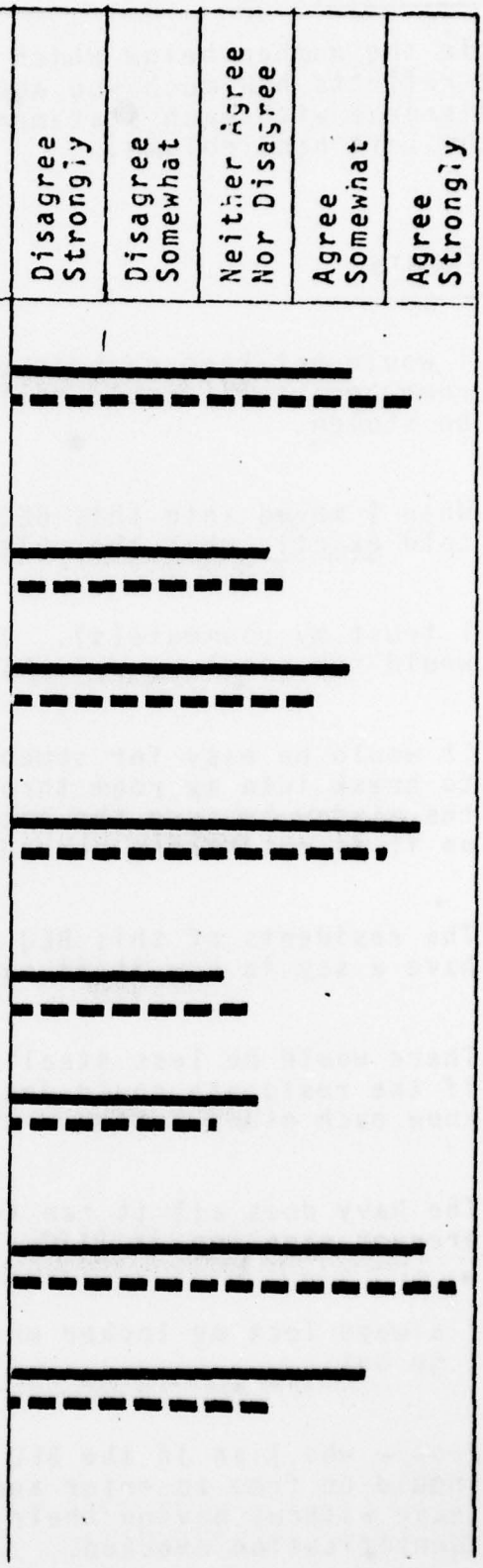
Circle the number below which best reflects how much you agree or disagree with each statement in the left hand column.	RESPONSES				
STATEMENTS	Disagree Strongly	Disagree Somewhat	Neither Agree Nor Disagree	Agree Somewhat	Agree Strongly
18. If residents filed a list of valuables with the BEQ manager when they first moved in, there would be less stealing.					
19. If there was a secure storage space in the BEQ, I would leave my things there when I go on leave, rather than in my room.					
20. BEQ residents should be required to mark their belongings with identification numbers.					
21. I would attend a base program to teach me how to protect my belongings from being stolen.					
22. Most thefts from the BEQ happen when there are fewer people around than usual.					
23. Strangers should be allowed to enter my BEQ only when someone who lives here is with them.					
24. Stolen goods are usually kept by the person who stole them for personal use.					
25. Stolen goods are usually "fenced"/sold on-base.					

Circle the number below which best reflects how much you agree or disagree with each statement in the left hand column.	RESPONSES				
STATEMENTS	Disagree Strongly	Disagree Somewhat	Neither Agree Nor Disagree	Agree Somewhat	Agree Strongly
26. Stolen goods are usually "fenced"/sold off-base.					
27. BEQ residents should be required to file a list of their valuables with the BEQ manager when they first move in.					
28. BEQ residents leaving the base should be spot-checked for stolen goods.					
29. In order to prevent theft, I would like to see more duty watches in BEQ hallways.					
30. Everyone who enters my BEQ should have their identification checked.					
31. If something of mine were stolen, I would know who to report it to.					
32. I always keep my locker locked.					
33. When sailors' belongings are stolen from the BEQ, base authorities do all they can to find them and catch the thief.					
34. Sailors' property is usually stolen by someone they know, not a stranger.					

RESPONSES

Circle the number below which best reflects how much you agree or disagree with each statement in the left hand column. STATEMENTS	Disagree Strongly	Disagree Somewhat	Neither Agree Nor Disagree	Agree Somewhat	Agree Strongly
35. I would not keep cash in my room because it could easily be stolen.					
36. When I moved into this BEQ I was told exactly what the rules are.					
37. I trust my roommate(s). They would not steal my valuables.					
38. It would be easy for someone to break into my room through the window because the lock on it is not strong enough.					
39. The residents of this BEQ can have a say in how it is run.					
40. There would be less stealing if the residents could get to know each other better.					
41. The Navy does all it can to prevent stealing in BEQS.					
42. I always lock my locker when I go out.					
43. People who live in the BEQ should be free to enter and leave without having their identification checked.					

Circle the number below which best reflects how much you agree or disagree with each statement in the left hand column.	RESPONSES				
STATEMENTS	Disagree Strongly	Disagree Somewhat	Neither Agree Nor Disagree	Agree Somewhat	Agree Strongly
44. My base has a policy of encouraging BEQ residents to lock their room doors and windows when they go out.					
45. There should be only one entrance/exit to the BEQ.					
46. I worry that my personal belongings will be stolen from my room.					
47. Sailors in my BEQ often do things together during off-duty hours.					
48. It is easy to see into my room through the windows.					
49. The BEQ staff changes too often for the BEQ residents to get to know them.					
50. If something of mine were stolen, I would report it.					
51. I would have more personal belongings, if I thought they would be safe.					



Circle the number below which best reflects how much you agree or disagree with each statement in the left hand column. STATEMENTS	RESPONSES: Disagree Strongly	Disagree Somewhat	Neither Agree Nor Disagree	Agree Somewhat	Agree Strongly
52. There are enough safe places in the BEQ to safely store a bicycle.					
53. If I put $50.00 in my locked locker and left my room, I would worry that the money would be stolen.					
54. I would use an on-base laundry service if it cost less than $5.00 per week instead of doing the laundry myself.					
55. Sailors live in this BEQ long enough to get to know each other.					

Circle the number below which best reflects how much you agree or disagree with each statement in the left hand column. STATEMENTS	RESPONSES: Disagree Strongly	Disagree Somewhat	Neither Agree Nor Disagree	Agree Somewhat	Agree Strongly

IF YOU KEEP A CAR OR MOTORCYCLE ON-BASE, PLEASE ANSWER THE FOLLOWING QUESTIONS. IF YOU DO NOT KEEP A CAR OR MOTORCYCLE ON BASE, PLEASE SKIP THE NEXT 5 QUESTIONS AND GO DIRECTLY TO THE FOLLOWING PAGE

56. I worry about my car/motorcycle being stolen from the BEQ parking lot.

57. If there were more security patrols of BEQ parking lots, there would be less car/motorcycle theft.

58. The Navy does all it can to prevent theft from automobiles in BEQ parking lots.

59. If I left my car doors unlocked, something would probably be stolen from the car.

60. If the BEQ parking lot had better lighting, there would be less car/motorcycle theft.