

Institute for Policy and Economic Development

IPED Technical Reports

University of Texas at El Paso

Year 2004

2002 Economic Impact of Holloman Air
Force Base (HAFB) on the Regional
Economy

David A. Schauer*

Dennis L. Soden†

Brent McCune‡

David Coronado**

*University of Texas at El Paso, dschauer@utep.edu

†University of Texas at El Paso, desoden@utep.edu

‡

**University of Texas at El Paso

This paper is posted at DigitalCommons@UTEP.

http://digitalcommons.utep.edu/iped_techrep/33



**2002 Economic Impact of Holloman Air Force Base (HAFB)
on the Regional Economy**

by

**David A. Schauer, Ph.D.
Dennis L. Soden, Ph.D.
Brent McCune
David Coronado**

TR 2004-03

**Institute for Policy and Economic Development
University of Texas at El Paso
COBA 314
El Paso, Texas 79968-0703
915.747.7974
Fax: 915.747.7948
Email: iped@utep.edu
Web: iped.utep.edu**



FACT SHEET

2002 Economic Impact of Holloman Air Force Base (HAFB) on Otero County, NM

2002 Key Statistics for the Regional Economy (Otero County)

- Gross Regional Product/Income	\$957.1 million
- Total Retail & Wholesale Sales	\$398.8 million
- Employed Civilian Labor Force	21,085

HAFB-Related Business Effects

- Increased Sales Volume	\$206.9 million
- Increased Sales/Regional Retail & Wholesale Sales	51.9 %
- Increased Use of Business Property	\$61.6 million
- Expansion in Regional Depository Institutions' Credit Base	\$40.2 million

HAFB-Related Household Effects

- Increased Income	\$326.6 million
- Increased Income/Gross Regional Income	34.1 %
- Net Incremental Employment (does not include German military)	2,586

HAFB-Related Government Effects

- Net Local Government Outlays to Provide Municipal Services Allocable to HAFB-Related Influence	\$ 34.6 million
- Capital Required by Local Government to Provide HAFB-Related Public Goods and Services	\$ 39.4 million
- Increased Regional Sales/Net Local Government Outlays	6 to 1
- Increased Regional Income/Net Local Government Outlays	9 to 1
- Increased Regional Business Property Utilization/ Capital Requirements by Local Government	1.6 to 1



EXECUTIVE SUMMARY

2002 Economic Impact of Holloman Air Force Base (HAFB) on Otero County

Introduction

In the fall of 2002, the Institute for Policy and Economic Development (IPED) at the University of Texas at El Paso was contracted by the Otero County Economic Development Council, Inc. to develop and implement a model for estimating the economic impact of HAFB on Otero County. This Executive Summary presents an overview of the results of IPED's economic analysis of HAFB on the region.

HAFB has a rich history and tradition in the region spanning more than 60 years. Yet, there has been no detailed analysis of HAFB's effects upon regional sales volume, household income, and local governments' revenue/expense streams. The present study fills this gap. In addition, the economic effects of various HAFB expansion scenarios are estimated.

Methodology

To implement the study, data concerning the HAFB workforce and HAFB expenditures was acquired from the relevant offices at HAFB along with information from a variety of other local, state, and national sources. In addition, a survey instrument was designed and given to active duty and civilian personnel at HAFB. Specifically, the 6400+ (6469) active military and civilian employees at HAFB were given the opportunity to respond to a questionnaire seeking information concerning their rank/grade/title at HAFB, the status of other family members, the location and nature of their residence, along with values for monthly income and expenditures. However, due to duty elsewhere, only 5,500 were able to be distributed by mail. Overall, 532 usable responses were obtained; an 8.2 percent response rate.

The information outlined above was analyzed by IPED's Regional Impact Model (IPED-RIM) to assess the economic effects of the HAFB facilities and their employees upon the region's economy. The IPED-RIM has evolved from the so-called Caffrey-Isaacs model developed in 1971. This comprehensive model was, and is, generally considered the classic approach for determining the economic effects of a public institution or government installation. The model consists of a sophisticated system of equations (technically, linear cash flow formulas) for a variety of sub-sectors of the installation being analyzed. These equations are employed to determine the economic effects on the regional business, household, and local government sectors.

The final portion of this study utilizes IPED's Regional Economic Impact Model (REMI) to assess the effects of an expansion at HAFB. Over the past 20 years, REMI has developed into a leading economic impact and forecasting model. It provides economic as well as demographic impacts that policy makers can use in their planning process.

Results

HAFB-Related Business Effects

The presence of the HAFB facility in Otero County generates an increase of \$ 206.9 million in annual sales volume; an amount which would not occur if HAFB were not part of the regional economic make-up. This value is the sum of:

- The direct purchases from local businesses made by HAFB itself and its employees (active military and civilian).
- The purchases from regional sources by firms in support of their HAFB-related business volume.
- The amount of business volume generated by the expenditures of HAFB-related income received by individuals/households other than HAFB personnel.

The last two components estimate the so-called “indirect” or “second round” or “multiplier” effects. The \$ 206.9 million figure represents 51.9 percent of total regional retail and wholesale sales on an annual basis.

In addition, the increase in business activity requires incremental utilization of capital goods (for example, machinery and equipment) and property by regional firms. The increased use of such business property is calculated to be \$ 61.6 million.

The regional economy also benefits from the addition of \$ 40.2 million to the credit base of depository institutions in the region. This amount represents a source of loanable funds to the Otero county region.

HAFB-Related Household Effects

The impacts, direct and indirect, of HAFB on the area’s household sector are also dramatic. The incremental effect on household income is \$ 326.6 million annually. This value is the sum of two factors:

- The income of HAFB personnel.
- The income of regional individuals employed as a result of HAFB-related business volume.

The \$ 326+ million figure represents 34.1 percent of the area’s gross income.

The impact upon regional employment levels is significant as well. Overall, 4,558 additional civilian jobs are generated given the presence of HAFB. The IPED-RIM nets out those jobs held by dependents of HAFB personnel for a net, and more conservative impact, of 2,586 incremental jobs.

HAFB-Related Government Effects

The final component of the IPED-RIM focuses upon the relationships between HAFB and local government units in the region. Specifically, net local government outlays to provide municipal services, including public schools, allocable to HAFB-related influences are \$ 34.6 million in 2002. The figure reflects the combined effects of:

- HAFB-related revenues received by local governments (sales tax, property tax, and the portion of state/federal funding to local public schools due to children of HAFB-related families).
- Value of municipal-type services self-provided by HAFB.

- The operating cost of government provided municipal services allocable to HAFB-related influences.

The first two factors are netted from the third to determine the net \$ 34.6 million cost.

In addition, annual services ranging from education, utilities, and use of other public infrastructure tied to the HAFB presence require local government to acquire additional capital goods (for example: land, school and other buildings, equipment, and machinery) to support the municipal services' demands allocable to HAFB. At present, the incremental investment in capital goods by local governments is \$ 39.4 million. This figure is not an annual expense or cost value as is the \$ 34.6 million value above. Rather, it represents the current value of local government capital goods/properties required as a result of the HAFB presence in the area.

The annual net cost and incremental capital stock figures presented above are significant. However, these government costs should be viewed as investments in the regional economy and should be evaluated in terms of the returns generated to the region in the form of increased business activity, private land and capital goods utilization, and household income. Consider the following:

- For every \$1 of net annual operating cost to local government, \$6 of incremental business revenues is realized and \$9 of additional income to regional households is generated. Benefit/cost ratios of 6 to 1 and 9 to 1 are impressive by any standard!
- For each \$1 of additional capital goods acquired by local government to support HAFB-related municipal services' demand, utilization of private property/capital goods increases \$1.60. Once again, a respectable return in today's economic environment.

The economic impact values presented above do not consider the effects of the German military presence at HAFB.

Effects of HAFB Expansion

IPED's REMI model analyzed the impact of four expansion scenarios at HAFB:

- An increase of 250 Active Duty personnel in 2006.
- An increase of 500 Active Duty personnel in 2007.
- An increase of 750 Active Duty personnel in 2008.
- An increase of 1,000 Active Duty personnel; 250 per year over 2005-2008.

As the figures in Table 1 on the next page indicate, Otero County would experience significant economic benefits in terms of jobs, regional income, household/business spending, and construction activity under any of the four scenarios. At the same time, the attending increase in the region's population requires consideration of the incremental demands placed upon the area's infrastructure. Specifically, are water, sewer, fire, police, hospitals, etc. capable of supporting the additional active military and their dependents? Will local school districts have the capacity to handle the influx of students? Will there be adequate housing on and off base? Additional analysis is required to address such issues.

Table 1: Incremental Impact as of 2010 and 2020

	Increase in Active Duty			
	250	500	750	1000
Population - 2010	802	1,625	2,453	3,447
- 2020	690	1,421	2,178	2,843
Employment	519	1,048	1,585	2,131
	493	989	1,488	2,014
Gross Regional Product (million \$)	32	64	97	130
	32	64	96	130
Consumption Spending (million \$)	18	36	53	73
	19	38	57	78
Investment Spending (million \$)	6	14	23	27
	5	9	15	20
Incremental Construction Expenditures Over 2005- 2010 Period (million \$)	30	39	44	91

2002 Economic Impact of Holloman Air Force Base (HAFB) on the Regional Economy

Introduction

In the fall of 2002, the Institute for Policy and Economic Development (IPED) at The University of Texas at El Paso (UTEP) was contracted by Otero County Economic Development Council, Inc. to develop and implement a model for estimating the economic impact of the HAFB facility on the regional economy. This report presents the results of IPED's economic impact analysis of HAFB on the region; defined to be Otero County. Specifically, this study examines the facility and its personnel in terms of:

- (1) Economic Impact on Regional Businesses.
- (2) Economic Impact on Regional Households.
- (3) Economic Impact on Local Government Units in the Region.

HAFB has a rich history and tradition in the area spanning more than 60 years. The installation has been a significant contributor and mainstay of the regional economy, a fact that is often overlooked in discussions about the development of the regional economy. The present study develops analysis to fill this gap.

Methodology

This study required the development of an analytical framework meeting three criteria: (1) the model must identify relevant segments of the regional economy (once again, Otero county) impacted by HAFB, (2) the model must lend itself to quantification; that is, data must be available or be generated in a timely, cost effective manner so that the conceptual equations may be estimated and applied to the current relationships between HAFB and the region, and (3) the model must have the ability to incorporate changes in base size and composition and then forecast consequent economic impacts over time.

IPED's Regional Impact Model (IPED-RIM) was utilized to identify and assess the economic effects of the HAFB facilities and their employees upon the region's economy as of 2002. The IPED-RIM has evolved from the so-called Caffrey-Isaacs model developed in 1971. This comprehensive model was, and is, generally considered the classic approach for determining the economic effects of a public institution or government installation. Originally developed to study the role of educational institutions in a regional economy (Caffrey and Isaacs, 1971), the model was modified for application to military institutions by UTEP in its analysis of the economic impact of Ft. Bliss in 1989 (Schauer and King, 1989). The model continued to evolve and was implemented in an updated study of Ft. Bliss in 2002 (Schauer and Soden, 2002) and White Sands Missile Range in 2003 (Schauer, Soden et al, 2004). The model consists of a sophisticated system of equations (technically, linear cash flow formulas) for a variety of sub-sectors of the installation being analyzed. These equations are employed to determine the economic effects on the regional business, household, and local government sectors.

To operationalize the IPED-RIM, data concerning the HAFB workforce and HAFB expenditures was acquired from the relevant offices at HAFB along with information from a variety of other local, state, and national sources. In addition, a survey instrument was designed and given to active duty and civilian personnel at HAFB. Specifically, the 6400+ employees at HAFB were given the opportunity to respond to a questionnaire seeking information concerning their rank/grade/title at HAFB, the status of other family members, the location and nature of their residence, along with values for monthly income and expenditures. Overall, 532 usable

responses were obtained; an 8.2 percent response rate. A copy of the survey instrument is provided in Appendix 1 to this report.

IPED's Regional Economic Impact Model (IPED-REMI) is employed to assess the effects of various expansion scenarios at HAFB. Over the past 20 years, REMI has developed into a leading economic impact and forecasting model. It is currently used by over 400 government agencies and planning organizations around the world. It provides economic as well as demographic impacts at a point in time (static) and over time (dynamic analysis) that local/regional policy makers can use in their planning process. The IPED-REMI has the capacity to conduct such analysis at the county level in general; Otero county in particular.

Survey Results

As noted, a sample representing 8.2 percent of the HAFB employee population was generated in the survey. In analyzing the response group, population distribution weights for Active Military and Civilian Employee groups were utilized to insure any insights gained would be representative of the HAFB population. Overall, the sample size provides a confidence level and interval of 99 percent plus/minus 4 percent. Table 2 provides a detailed breakdown by Active Military and Civilian Employee households. The table reveals the following:

- Roughly 40 percent of Active Military respondents live On-Base. Over 90 percent of Civilian Employees live Off-Base with eight of nine households owning or buying their home.
- Active Military household income runs approximately 65 percent of Civilian households. This percentage rises to almost 90 percent with respect to property tax levels for those respondents buying their home.
- Military household expenditures run roughly 40 percent of the Civilian household level; approximately 60 percent for Groceries, Retail Purchases, and Charitable Contributions; and 75 percent of higher for Entertainment and Auto expenses.
- The expenditure levels/patterns revealed for HAFB households, both Active Military and Civilian, are similar to those identified in the Ft. Bliss (Schauer and Soden, 2002) and the White Sands Missile Range (Schauer, Soden et al, 2004) studies.
- HAFB-related households are two (or more) income families. This is especially the case with Civilian households.
- HAFB households maintain significant checking and saving/time deposit accounts in regional depository institutions. Generally, \$ 2.40 of savings/time deposits are held for every \$ 1.00 of transactions balances in Active Military households. The ratio climbs to roughly \$ 4.00 to \$ 1.00 in Civilian households.

Complete frequency data for the HAFB group to all questions posed in the survey are provided in Appendix B to this report.

TABLE 2: Characteristics of HAFB-Related Households

	Active Military	Civilian Employees
Nature of Residence		
On-Base Quarters	42.7 %	4.0 %
Rent of Lease Off-Base	27.9 %	35.3 %
Own or Buy Off-Base	29.2 %	59.9 %
Annual Property Taxes (1)	\$ 821	\$917
Family Members – Employment Status (2)		
Average Number of Household Members Employed in Region	1.00	1.19
Monthly Gross Income and Expenditures		
Income	\$ 3,351	\$ 5,177
Housing/Utilities	\$ 1,101	\$ 2,593
Groceries (3)	\$ 212	\$ 335
Auto (3, 4)	\$ 339	\$ 413
Retail Purchases (3)	\$ 155	\$ 272
Entertainment (3)	\$ 139	\$ 181
Charitable Contributions	\$ 64	\$ 111
Other	\$ 205	\$ 398
Average Balances in Regional Depository Institutions		
Checking Account	\$ 1,170	\$ 1,897
Savings/Time Deposit Accounts	\$ 2,757	\$ 7,737

- (1) For those who Own or are Buying.
- (2) Excluding the HAFB employee and only non-HAFB jobs held by household member.
- (3) Does not include any expenses or purchases at any base facility such as the Commissary, Base Exchange, Exchange Concession, MWR, etc.
- (4) Does not include car insurance payments.

Economic Impact Analysis

The first part of the IPED-RIM estimates the increase in commercial activities resulting from the presence of HAFB. The Business (B) portion of the model has three components:

- B-1: HAFB-Related Local Business Volume
- B-2: Expansion in Regional Depository Institutions' Credit Base Resulting from HAFB-Related Deposits
- B-3: Value of Local Business Property Committed to HAFB-Related Business

The specifics concerning each of these components along with the estimates of the relevant economic affects are presented below.

Holloman Air Force Base-Related Regional Business Volume

This component and its sub-sections sum the direct purchases from regional businesses made by HAFB organizations, its staff, and visitors (B-1.1); the purchases from local sources by businesses in support of their HAFB-Related business volume (B-1.2); and, the amount of business volume generated by the expenditure of HAFB-Related income of regional individuals (B-1.3). B-1.2 and B-1.3 estimate the so-called "second round" purchases. Specifically, beginning with Model Estimator 1:

**Model Estimator 1:
Holloman Air Force Base-Related Business Volume**

Total HAFB-Related Local Business Volume (BV_{HAFB})	\$ 206,892,898
$BV_{HAFB} = (E_L)_{HAFB} + (P_{LB})_{HAFB} + (BV_I)_{HAFB}$	
$(E_L)_{HAFB} =$ HAFB-Related Local Expenditures (B-1.1)	\$ 147,938,005
$(P_{LB})_{HAFB} =$ Purchases from Local Sources by Local Businesses in Support of Their HAFB-Related Business Volume (B-1.2)	\$ 46,230,627
$(BV_I)_{HAFB} =$ Local Business Volume Stimulated By the Expenditure of HAFB-Related Income by Individuals Other than Staff, or Visitors (B-1.3)	\$ 12,724,266

Further:

B-1.1: HAFB-Related Local Expenditures

B-1.1 totals the expenditures by HAFB as an organization (B-1.1.1), by staff (B-1.1.2), and by visitors (B-1.1.3). That is:

B-1.1 = HAFB-Related Regional Expenditures (EL) _{HAFB}	\$ 147,938,005
$(E_L)_{HAFB} = (E_L)_O + (E_L)_S + (E_L)_V$	
$(E_L)_O =$ Local Expenditures by the Organization (B-1.1.1)	\$ 31,755,871
$(E_L)_{SR} =$ Local Expenditures by Staff (B-1.1.2)	\$ 116,068,046
$(E_L)_V =$ Local Expenditures by Visitors (B-1.1.3)	\$ 114,088

**Model Estimator 2:
Holloman Air Force Base Organizational Expenditures**

B-1.1.1 estimates the value of purchases of goods and services by the On-base organizations from regional businesses. $(EL)_O$ is derived from both appropriated and non-appropriated funds. Appropriated fund expenditures include military construction, supplies and maintenance. Non-appropriated expenditures include those of the Exchange, Commissary, and other miscellaneous non-appropriated accounts such as the Chaplain's fund and other associations. More specifically, B-1.1.1 includes:

Local Expenditures by HAFB (EL) _O		\$ 31,755,871
(EL) _O =	(EL) _A + (EL) _E + (EL) _C + (EL) _M	
(EL) _A =	Appropriated Funds	\$ 25,000,000
(EL) _E =	Exchange Expenditures	\$ 1,022,125
(EL) _C =	Commissary Expenditures	\$ 879,082
(EL) _M =	Miscellaneous Expenditures	\$ 4,854,664

**Model Estimator 3:
Personnel Impact**

B-1.1.2 estimates the dollar volume of regional purchases of personal goods and services by the Active Military and Civilian Employees of HAFB. Both rental housing and non-housing expenditures by residents are considered. Non-rental housing is considered as part of the value of local real property related to HAFB. Details include:

Local Expenditures by Staff (EL) _S		\$ 116,068,046
(EL) _S =	(E _H) _S + (E _{NH}) _S	
(E _H) _S =	Expenditures by Staff for Local Rental Housing	\$ 11,003,047
(E _{NH}) _S =	Local Non-Housing Expenditures by Staff	\$ 105,064,999

**Model Estimator 4:
Visitors**

The direct and indirect impact of HAFB visitors and their expenditures is calculated as:

Total Local Expenditures by Visitors (EL) _V		\$ 114,088
(EL) _V =	(NN _{OFF})(PD)(E _{OFF})	
(NN _{OFF}) =	Number of Nights TDY to HAFB, Off-base	1,097
(PD) =	Average Per Diem Dollars	\$ 104.00
(E _{OFF}) =	Portion of Expenditures Made Off-base	1.00

The next two sections of the business impact component of the model quantify the additional or "second round" expenditure volume resulting from the stimulus provided by the purchases of goods and services identified in B-1.1, such that when Holloman Air Force Base and its personnel buy from a local supplier or when a visitor eats in a regional restaurant, a chain of economic transactions is triggered. The initial dollar of expenditure will be re-spent a number of times. To the extent that these additional spending episodes occur within the local economy, more business volume will be generated. These additional sales benefit the region and are due, indirectly, to the presence of HAFB. B-1.2 and B-1.3 measure these additional impacts.

Model Estimator 5:

Purchases from Local Sources by Business in Support of Their Holloman Air Force Base-Related Business Volume

B-1.2 =

Purchases from Local Sources by Businesses in Support of Their HAFB-Related Business Volume $(P_{LB})_{HAFB}$ \$ 46,230,627

$$(P_{LB})_{HAFB} = (mp) (E_L)$$

mp = Coefficient Representing the Degree to which Local Businesses Purchase Goods and Services from Local Sources or Non-Local Sources 0.3125

$(E_L)_{HAFB}$ = HAFB-Related Regional Expenditures (B-1.1) \$147,938,005

**Model Estimator 6:
Business Volume Stimulated by the Expenditure of Holloman Air Force Base-Related Income by Local Individuals Other than Staff or Visitors**

The second estimation of indirect effects of HAFB-Related business activity represents personal income-induced business activity in the region. Some of the receipts by businessmen will be paid out to residents in the form of wages, salaries, and entrepreneurial returns, and a portion of this money will be spent for the everyday purposes of its recipients. The coefficient m_i represents the proportion of income received from local HAFB-Related business activity that is spent and re-spent in the area. Specifically:

B-1.3 =

Local Business Volume Stimulated by the Expenditure of HAFB-Related Income by Local Individuals Other than Staff or Visitors (BV_i) \$ 12,724,266

$$(BV_i)_{HAFB} = (m_i) (I_L)_{HAFB}$$

(m_i) = Coefficient Representing the Degree to which Individual Income Received from Local Business Activity is Spent and Re-Spent .2479953

$(I_L)_{HAFB}$ = HAFB-Related income by area Individuals (I-2.4) \$ 51,308,482

**Model Estimator 7:
Expansion in Local Depository Institutions Resulting from Holloman Air Force Base-Related Deposits**

Another effect of economic activity by Holloman Air Force Base is the expansion in the credit base at local banks. This results from deposits made by base personnel. (Holloman Air Force Base does not deposit any federal funds in checking or time deposits at area institutions.) The specifics of B-2 are presented below:

B-2 =

Expansion of Regional Financial Institutions' Credit Base Resulting from HAFB-Related Deposits (CB) \$ 40,243,858

CB =	$D_A + D_C$	
D_A =	Savings and Checking Account Balances of Active Duty Military	\$ 15,195,614
D_C =	Savings and Checking Account Balances of Civilian Employees	\$ 25,048,244

**Model Estimator 8:
Value of Local Business Property Committed to
Holloman Air Force Base -Related Business**

Component B-3 captures the capital and property related to business volume generated by the presence of HAFB. That is:

B-3 =

Value of Local Business Property Committed to HAFB-Related Business(P_B) _{HAFB}		\$ 61,575,995
$(P_B)_{HAFB}$ =	$BV_{HAFB} / BV_L * V_B$	
BV_{HAFB} =	HAFB-Related Business Volume	\$ 206,892,898
BV_L =	Local Total Business Volume	\$ 957,122,692
V_B =	Assessed Valuation of Local Business Property	\$ 284,861,313

Economic Impact on Area Households and Individuals

The next portion of the impact model quantifies the increase in employment and income to the region as a result of HAFB. The Household and Individual (I) section has two components:

- I-1: Local Jobs Attributable to the Presence of HAFB.
- I-2: Personal Income Resulting from HAFB-Related Jobs and Business Activities.

The details concerning each of these sub-sectors along with the estimates or their values are presented below.

**Model Estimator 9:
Number of Regional Jobs Attributable to
Holloman Air Force Base**

The model assumes that the ratio of HAFB-Related business volume to gross regional sales is the same as the ratio of area jobs attributable to the presence of HAFB to total employment. The employment value emerging from this relationship is then adjusted downward by the number of local jobs held by family members of HAFB personnel. Specifically:

I-1 =	Number of area jobs attributable to the presence of HAFB (J_L)	2,586
J_L =	$(BV_{HAFB} / BV_L) L_{FL} + (L_A - L_{DA})$	

BV _{HAFB} =	HAFB-Related Business Volume	\$ 206,892,898
BV _L =	Local Business Volume	\$ 957,122,692
LF _L =	Local Employed Civilian Labor Force	21,085
L _A =	Active Military	3,869
L _{DA} =	Employed Family Members & HAFB Personnel	5,841

**Model Estimator 10:
Personal Income of Individuals and Households from
Holloman Air Force Base -Related Jobs and Business Activities**

The personal income estimate is the sum of two factors: (1) The income of those directly associated with HAFB. This includes the average family incomes of Active Military and Civilian Employees less allotments of pay sent out of the area. (2) Income of local persons employed as a result of HAFB-Related business volume. That is:

I-2 =

Personal Income of Individuals from HAFB-Related jobs and Business Activities (PI) \$ 326,593,962

PI _{HAFB} =	$A(FI_A - PA_A) + C(FI_C - PA_C) + (CP_{EP} / ELF_{EP}) * ELF_{HAFB}$	
A =	Active Military	3,869
C =	HAFB Civilian Employees	2,600
FI _A =	Average Annual Family Income Active Military	\$ 40,211
PA _A =	Average Annual Pay Allotments Active Military	\$ 5,637
FI _C =	Average Annual Family Income Civilian Employees at HAFB	\$ 62,125
PA _C =	Average Annual Pay Allotments Civilian Employees at HAFB	\$ 7,694
CP _{ot} =	Total Annual Civilian Payroll	\$ 237,362,000
ELF _{ot} =	Total Employed Civilian Labor Force	21,085
ELF _{HAFB} =	Off-base Employed Civilian Labor Force as a result of HAFB Activities	4,558

Economic Impact of Holloman Air Force Base on Local Government

The final segment of the impact model is designed to reveal the effects of the presence of HAFB upon local government revenues and expenditures. This portion of the model (G) identifies five areas of interaction between the military base and local government.

- G-1: HAFB-Related Revenues Received by Local Government
- G-2: Value of Municipal-Type Services Self-Provided by HAFB

- G-3: Operating Cost of Government Provided Municipal Services Allocable to HAFB-Related Influences
- G-4: Real Estate Taxes Foregone Through the Tax Exempt Status of HAFB
- G-5: Value of Local Government Properties Allocable to HAFB-Related Portion of Services Provided

**Model Estimator 11:
Holloman Air Force Base-Related Revenues Received by Local Government**

This component of the Government section of the model summarizes the annual tax receipts, federal aid and other local government receipts derived from HAFB Range and from HAFB-Related individuals and business activities. Specifically:

G-1 =

HAFB-Related Revenues Received by Local Government (R) _{HAFB}		\$	7,150,694
$R_{HAFB} =$	$(R_{RE})_{HAFB} + (R_{NRE})_{HAFB} + (R_{ST})_{HAFB} + (R_A)_{HAFB}$		
$(R_{RE})_{HAFB} =$	HAFB-Related Real Estate Taxes Paid to Local Government (G-1.1)	\$	4,647,935
$(R_{NRE})_{HAFB} =$	HAFB-Related Taxes, Other Than Real-Estate, Paid To Local Government (G-1.2)	\$	722,186
$(R_{ST})_{HAFB} =$	Sales Tax Revenue Received by Local government as a Result of HAFB-Related local purchases (G-1.3)	\$	1,167,485
$(R_A)_{HAFB} =$	Federal Aid to Local Government Allocable to the Presence of Holloman Air Force Base (G-1.4)	\$	613,088

**Model Estimator 12:
Holloman Air Force Base-Related Real Estate Taxes Paid to Local Government**

G-1.1 estimates the annual payment of real estate taxes to local government by Active Duty, Civilian Employees, and by local businesses for real property allocable to HAFB-Related business. (HAFB itself pays no real estate taxes to local government.) Details are presented below:

G-1.1 =

HAFB-Related Real Estate Taxes Paid Local Government (R _{RE}) _{HAFB}		\$	4,647,935
$(R_{RE})_{HAFB} =$	$(R_{RE})_A + (R_{RE})_C + (R_{RE;B})_{CR}$		
$(R_{RE})_A =$	Real Estate Taxes Paid To Local Government By Active Military (G-1.1.1)	\$	941,622
$(R_{RE})_C =$	Real Estate Taxes Paid To Local Governments By Civilian Employees (G-1.1.2.)	\$	1,849,550
$(R_{RE;B})_{Cr} =$	Real Estate Taxes Paid To Local Government By Local Businesses For Real Property Allocable To HAFB-Related Business (G-1.1.3)	\$	1,856,763

And:

G-1.1.1 Real Estate Taxes Paid to Local Government by Active Military $(R_{RE})_A$ \$ 941,622

$$(R_{RE})_A = (M_{RE})_A * AM$$

$(M_{RE})_A$ = Mean Real Estate Taxes Paid to Local Government by Active Military \$ 243

AM = Number Active Military Paying Real Estate Taxes 3,869

G-1.1.2 Real-Estate Taxes Paid to Local Governments by Civilian Employees $(R_{RE})_C$ \$ 1,849,550

$$(R_{RE})_C = (M_{RE})_C * AC$$

$(M_{RE})_C$ = Mean Real Estate Taxes paid to Local Government by Civilian Employees \$ 711

AC = Number of Civilian Employees Paying Real Estate Taxes 2,600

G-1.1.3 Real-Estate Taxes Paid to Local Government by Local Business for Real Property Allocable to HAFB-Related Business $(R_{RE,B})_{HAFB}$ \$ 1,856,763

$$(R_{RE,B})_{HAFB} = (PT) \frac{(BV_{HAFB})}{(BV_L)} (V_B)$$

PT= Local Property Tax Rate for Region .030154

BV_{HAFB} = HAFB-Related Local Business Volume (B-1) \$ 206,892,898

BV_L = Local Business Volume \$ 957,122,692

V_B = Assessed Valuation of local Business Real Property \$ 284,861,313

**Model Estimator 13:
Holloman Air Force Base-Related Taxes, Other Than Real Estate
Paid to Local Government**

G-1.2 estimates the inventory and other non real property taxes paid to local government by businesses for assets allocable to HAFB-Related volume. Specifically:

G-1.2 =

Inventory and Other Nonreal-Property Taxes paid to Local Government by Area Businesses for Assets Allocable to HAFB-Related Business $(R_{NRE})_{HAFB}$ = \$ 722,186

$$(R_{NRE})_{HAFB} = (it)(I_B)_{HAFB}$$

it = Local Inventory Tax Rate .030154

$(I_B)_{HAFB}$ = Value Of Regional Business Inventory Committed To HAFB-Related Business \$ 23,949,922

$$(I_B)_{HAFB} = (BV_{HAFB}) (I_n/S_n)$$

$$(I_n/S_n) = \text{National Inventory to Sales Ratio} \quad .11576$$

**Model Estimator 14:
Sales Tax Revenue Received by Local Government as a Result
of Holloman Air Force Base-Related Local Purchases**

Local government levys sales taxes and receive a share of the sales taxes collected by the state. G-1.3 represents the sales tax revenue received by local government as result of Holloman Air Force Base-Related local purchases.

G-1.3 =

Sales Tax Revenue Received by Local Government as a Result of HAFB-Related Local Purchases $(R_{ST})_{HAFB} =$	\$ 1,167,485
---	--------------

$$(R_{ST})_{HAFB} = (ST_{LG}) * (TP_A + TP_C + TP_V)$$

$$ST_{LG} = \text{Proportion Of Sales Tax Returned To Local Government} \quad .01375$$

$$TP_A = \text{Taxable Purchases Active Military} \quad \$ 14,901,270$$

$$TP_C = \text{Taxable Purchases Civilian Employees} \quad \$ 42,894,800$$

$$TP_V = \text{Taxable Purchases Visitors} \quad \$ 114,088$$

**Model Estimator 15:
Federal Aid to Local Government Allocable to the Presence of
Holloman Air Force Base in the Region**

G-1.4 summarizes another source of HAFB-Related revenue for local government. It shows Federal Aid to local public schools allocable to children of HAFB families.

G-1.4 =

Federal Aid to Local Public Schools Allocable to Children of Holloman Air Force Base-Related Families $(R_A)_{CH} =$	\$ 613,088
---	------------

**Model Estimator 16:
Value of Municipal-Type Services Self-Provided by
Holloman Air Force Base**

This component estimates the value of municipal services provided by HAFB instead of relying on provision of such services by local government. In this sense, this factor represents an annual savings to local government.

G-2 =

Value of Municipal-Type Services Self -Provided by HAFB ¹ $(OC_M)_{SC}$	\$ 3,570,000
--	--------------

¹ Value estimated by Otero County Economic Development Council, Inc.

- (OC_M)_{SFB} =
- 1) Police and security services
 - 2) Sanitation
 - 3) Street, lighting
 - 4) Street maintenance
 - 5) Other services

**Model Estimator 17:
Operating Cost of Government Provided Municipal Services Allocable
to Holloman Air Force Base-Related Influences**

G-3 intends to estimate the annual operating costs of government services provided to HAFB and/or to individuals related to HAFB. These costs include those for municipal services allocable to HAFB-Related activities and costs for local public schools allocable to HAFB associated persons. That is:

G-3 =

Operating Cost of Local Government Provided Municipal and Public School Services Allocable to HAFB Influences (OC_{M,PS})_{HAFB} = \$ 44,971,350

(OC_{M,PS})_{HAFB} = (OC_M)_{HAFB} + (OC_{PS})_{HAFB}
 (OC_M)_{HAFB} = operating cost of local government provided municipal services allocable to HAFB-Related influences (G-3.1) \$ 21,864,269

(OC_{PS})_{HAFB} = operating cost of local public schools allocable to HAFB-Related persons (G-3.2) \$ 23,107,081

Further:

**Model Estimator 18:
Operating Cost of Government Provided Municipal Services Allocable to
Holloman Air Force Base-Related Influences**

G-3.1 estimates the cost of government provided municipal services allocable to HAFB-Related influences. If it were possible to separate these services into those that are people-oriented versus those that are property-oriented, allocation could be made on a prorated basis with respect to population in the first case and with respect to either geographic area or value of property in the second. Such a distinction, however, is not easily made, and for the present purpose, population relationships will be emphasized.

G-3.1 =

Operating cost of government provided municipal services allocated to HAFB-Related Influences (OC_M)_{HAFB} \$ 21,864,269

(OC_M)_{HAFB} = POP * (B_M/POP_{LR})

POP_{HAFB} = Total Number of HAFB Staff And Dependents 21,000

POP_{LR} = Total Resident Population 60,747

B_M = Local Government Operating Budget for Municipal Services \$ 63,247,084

**Model Estimator 19:
Operating Costs of Local Public Schools Allocable to
Holloman Air Force Base-Related Persons**

In G-3.2, the portion of the operating cost of local public education allocable to HAFB related persons is determined under the assumption that the HAFB community population bears a proportionate share of total public education expenses in the region. That is:

G-3.2 =

Operating Costs Of Local Public Schools Allocable To HAFB Related-Persons $(OC_{PS})_{HAFB}$	\$ 23,107,081
---	---------------

$$(OC_{PS})_{HAFB} = (B_{PS}/POP_{LR}) * (POP_{HAFB})$$

B_{PS} =	Local Governments' Operating Budgets for Public Schools	\$ 66,842,182
------------	---	---------------

POP_{LR} =	Total Population in Region	60,747
--------------	----------------------------	--------

POP_{HAFB} =	Total Population of HAFB Community	21,000
----------------	------------------------------------	--------

**Model Estimator 20:
Real Estate Taxes Foregone Through Tax-Exempt Status**

Real Estate Taxes Foregone through the Tax-Exempt Status of HAFB is estimated in G-4 and represents the amount of taxes foregone by local governments as a result of HAFB tax-exempt status. The model assumes that the assessed value of HAFB property is similar to that of like-property in the region. Specifically:

G-4 =

Real Estate Taxes Forgone Through the Tax Exempt Status of HAFB $(RF_{RE})_{HAFB}$	\$ 387,174
---	------------

$$(RF_{RE})_{HAFB} = PV_{HAFB} * TR_L$$

PV_{HAFB} =	Potential Taxable Property Values HAFB Property	\$ 38,519,650
---------------	---	---------------

TR_L =	Local Tax Rate for Similar Properties	0.01005
----------	---------------------------------------	---------

**Model Estimator 21:
Value of Local Government's Properties Allocable to
Holloman Air Force Base-Related Portion of Services Provided**

G-5 determines the current dollar value of local government owned capital facilities employed to support services provided to HAFB and to HAFB-Related individuals. This is:

G-5 =

Value of Local Government Properties Allocable to HAFB-Related Population $(GP)_{HAFB}$	\$ 39,361,456
--	---------------

$$GP_{HAFB} = POP_{HAFB} * (GP_M/POP_{LR})$$

POP_{HAFB} =	Total Population HAFB-Related	21,000
----------------	-------------------------------	--------

POP _{LR} =	Total Resident Population	60,747
GP _M =	Regional Government Properties	\$ 113,861,445

The G-1 through G-4 components of the Government sector represent annual revenue and/or saving streams to and expenditures flows from local government, given the presence of HAFB. If we sum these four components, we estimate the annual cost carried by local government to support HAFB activities. The net annual cost is \$34,637,830. Thus, local government spends approximately \$35 million per year and employs over \$39 million in capital and property (G-5) to support HAFB-Related activity. Of course, the region receives significant increases in sales volume, income and jobs for this investment.

Effects of HAFB Expansion

The IPED-REMI model was employed to analyze the impact of four expansion scenarios at HAFB:

- (1) An increase of 250 Active Duty personnel in 2006
- (2) An increase of 500 Active Duty personnel in 2007
- (3) An increase of 750 Active Duty personnel in 2008
- (4) An increase of 1,000 Active Duty personnel; 250 per year over 2005-2008.

The IPED-REMI projections for key economic variables as of 2010 and 2020 are presented in Table 3.

Table 3: Incremental Impact as of 2010 and 2020

	Increase in Active Duty			
	250	500	750	1000
Population - 2010	802	1,625	2,453	3,447
- 2020	690	1,421	2,178	2,843
Employment	519	1,048	1,585	2,131
	493	989	1,488	2,014
Gross Regional Product (million \$)	32	64	97	130
	32	64	96	130
Consumption Spending (million \$)	18	36	53	73
	19	38	57	78
Investment Spending (million \$)	6	14	23	27
	5	9	15	20
Incremental Construction Expenditures Over 2005-2010 Period (million \$)	30	39	44	91

As the figures in Table 3 indicate, Otero County would experience significant economic benefits in terms of jobs, regional income, household/business spending, and construction activity under any of the four scenarios. At the same time, the attending increase in the region's population requires consideration of the incremental demands placed upon the area's infrastructure. Specifically, are water, sewer, fire, police, hospitals, etc. capable of supporting the additional active military and their dependents? Will local school districts have the capacity to handle the influx of students? Will there be adequate housing on and off base? Additional analysis is required to address such issues.

Summary and Implications

This study estimates the economic impact of HAFB on the regional economy. The impact model designed for this purpose identifies three sectors of the economic system which are affected by the presence of HAFB:

1. Local Business Sector
2. Local Individual and Household Sector
3. Local Government Sector

To implement the model, data was acquired from the Public Affairs Office at HAFB, along with information from a variety of other local, state and national sources. In addition, a survey instrument was constructed and given to Active Duty and Civilian Personnel at HAFB.

The impact on the business sector is estimated to be:

- Increase in Business Volume: \$ 206,892,898
- Expansion in Regional Banks' Credit Base: \$ 40,243,858
- Increase in Commercial Property Employed to Support HAFB
-Related Business Activity: \$ 61,575,995

The individual and household sector of the impact model determines the additional jobs and income resulting from the presence of Holloman Air Force Base in the region. Specifically:

- Increase in employment attributable to HAFB: 2,586
- Increase in income of individuals from HAFB-Related jobs
and business activity: \$ 326,593,962

The final component of the model concentrates on the relationships between HAFB and local government units in the region. While local government does receive some revenues and/or cost savings from the presence of the military base, local government expenditures to provide public school and other municipal services to HAFB and related individuals and business activities are much greater. In addition, local government must allocate capital and other property to support the provision of municipal services to HAFB-Related factors. That is:

- HAFB-Related revenues received by local government units \$ 7,150,694
- Savings from HAFB self-provided municipal services \$ 3,570,000

- Local government units should also recognize that the property tax dollars lost by the HAFB presence are well offset by additional business and residential developments resulting from HAFB.
- HAFB should be protected as an economic asset at almost all costs.

Finally, when considering the possibility of expansion at HAFB, Otero county needs to address several critical issues and questions:

- Are local infrastructure capacities of water, sewer, fire and police, etc. capable of supporting additional troops and the additional civilians (family members and employees) forecasted to join them?
- Is Otero county prepared to build additional schools, hire additional teachers and provide support to base expansion as it occurs, not after?
- Can and will Otero county market itself to the Department of Defense as a community that will welcome and invest in-kind in base expansion?
- What plans can the business community make to support families and troops?
- Will local governments provide the support necessary for base expansion in a coordinated fashion?
- Can local developers and construction interests respond in a timely fashion to base expansion and off-base needs both residential and commercial?
- Can local credit institutions develop the credit base for residential purchases, etc. to service the growth as it occurs?
- Can Otero county make the investment up-front to insure the transition for additional troops and support personnel is as minimally frustrating as possible?

References

Caffrey, John and Isaacs, Herbert H., *Estimating the Impact of a College or University on the Local Economy*. American Council on Education, Washington, D.C., 1971.

Jafri, S. Hussain Ali, J. Dudley, and D. Buland, "Economic Impact of Tarleton State University." Special Report prepared for the Office of the President, Tarleton State University, p. 199.

Lewis, Pamela M., "The Economic Impact of the Operation and Closure of a Nuclear Power Station," *Regional Studies*, 20 (5), October 1986, pp. 425-432.

Nutter Associates, Community Planners & Development Feasibility Consultants, and Economic Development Research Group, "Fort Drum Regional Economic Impact Study," June, 1999.

Polenske, K.R., Kelly Robinson, Yu Hung Hong, Xiannuan Lin, Judith Moore and Bruce Stedman, "Evaluation of the South Coast Air Quality Management District's Methods of Assessing Socioeconomic Impacts of District Rules and Regulations," In Volume I - Summary of Findings, May, 1992, p. 19.

REMI, "The Future Economic Impact of NAS Oceana," REMI: Amherst, MA, 2000.

Rodriguez, Louis J. and Krienke, Albert, "The Economic Effect of a Military Base on a Small Metropolitan Area," *Texas Business Review*, 56(3), May-June 1982, pp. 138-140.

Salinas, Carlos R., "The University of Texas at El Paso- Its Economic Impact on El Paso, Texas," *The El Paso Economic Review*, 23(3), May-June 1987.

Schauer, David, Dennis L. Soden, Brent McCune and David Coronado, "2002 Economic Impact of White Sands Missile Range (WSMR) on the Regional Economy," Technical Report # 2004-02, Institute for Policy and Economic Development, University of Texas at El Paso, 2004.

Schauer, David A. and Dennis I. Soden, "The Regional Economic Impact of Ft. Bliss, Texas: 2002," Technical Report #2002-08, Institute for Policy and Economic Development, University of Texas at El Paso, 2002.

Schauer, David A. and Henry King, *The Economic Impact of Holloman Air Force Base on El Paso, Texas*, Bureau of Business and Economic Research, University of Texas at El Paso, 1989.

U.S. Department of Commerce, "Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II)," March, 1997.

Yochum Gilbert R. and Agarwal, Vinod B., "Economic Impact of a Post on a Regional Economy," *Growth and Change*, 18(3), Summer 1987, pp. 74-87.

Appendix A: Survey Instrument



IMPACT OF HOLLOMAN AIR FORCE BASE COMMUNITY ON THE REGIONAL ECONOMY (DOÑA ANA, OTERO, AND EL PASO COUNTIES)

This questionnaire is being provided to you because of your association with Holloman Air Force Base. The Institute for Policy and Economic Development has been contracted to examine the economic impact of White Sands on the local area economy.

Responses to the following questions will remain strictly confidential and only considered in the aggregate with all other responses. Your participation in this survey is completely voluntary. You are **not** required to place your name, signature, or address on the form. Please mail the completed survey in the enclosed postage pre-paid envelope by May 21st. If you have any questions concerning this survey, please call Dr. David Schauer (915.747.7790) or Karen Hoover (915.747.7939). We appreciate your participation.

1. What is your principal status in relationship to Holloman Air Force Base? Please check the appropriate response.
 - a. Active U. S. military _____
 - b. Civilian employee at White Sands _____
 - c. Retired U. S. military _____
 - d. Foreign military _____
 - e. Reserve _____
 - f. Other _____
(Please write-in)

2. Please indicate the status of **other** family members that reside with you in the regional area community that includes **Doña Ana, Otero, and El Paso** counties.
 - a. Number that are students in regional area public schools (pre-K -12). _____
 - b. Number that are students in regional area private schools (pre-K -12). _____
 - c. Number that are students in regional area colleges, or universities. _____
 - d. Number, other than you, that are employed in area, but are not active or foreign military on duty at White Sands. _____
 - e. Number, other than you, that are active U. S. military. _____
 - f. Number that are over 18 years of age but are not employed. _____

3. Describe your residence at White Sands or in the regional area.
 - a. On base quarters (i.e., BOQ) _____
 - b. Rent or lease off-base _____
 - c. Own or buy off-base _____
 - d. Do not reside in area _____
 - e. Other _____ (Please write-in)

4. If you own or are buying a home in the region, estimate your most recent **annual** real estate or property taxes. \$ _____

5. If you own or are buying a home in the region, please circle the letter that **best** describes your home.
 - a. Single family-dwelling
 - b. Apartment
 - c. Condominium
 - d. Mobile home
 - e. Other _____

- 6. What is your average daily commute in miles? _____ (Please write-in)

- 7. Estimate your **monthly** expenditures with the businesses in the region. **DO NOT** include expenses or purchases at any base facility such as, the Commissary, base Exchange, Exchange Concessions, and MWR, etc.
 - a. **Monthly** housing and utilities \$ _____
 - b. **Monthly** entertainment (i.e., movies, restaurants) \$ _____
 - c. **Monthly** groceries \$ _____
 - d. **Monthly** charitable contributions (e.g., United Way, Church) \$ _____
 - e. **Monthly** auto expenses (e.g., car payment, gas, repairs) \$ _____
 - f. **Monthly** retail purchases (e.g., clothing, shoes, internet shopping) \$ _____
 - g. **Monthly** all other expenses \$ _____

- 8. Estimate your family's **monthly** gross income before deductions.(e.g., Before Federal Taxes, FICA, Retirement or Allotments.) \$ _____

- 9. If you are disabled, estimate your **monthly** gross disability pay. \$ _____

- 10. Estimate your family's **monthly** pay or allowance allotments that are sent out of the regional area. \$ _____

- 11. Estimate your family's **average** account balance in the regional area depository institutions:
 - a. Checking accounts (all) \$ _____
 - b. Savings (e.g., CDs, regular savings, money markets, etc.) \$ _____

- 12. Please indicate your ZIP Code _____

- 13. Please write in your rank/grade _____

- 14. Once you are no longer in the Military or employed as a civilian would you or do you intend to remain or return to the Holloman Air Force Base regional area? Please check your answer.
 - a. Yes _____
 - b. No _____
 - c. Don't Know _____

Thank you for your participation.

Appendix B: Survey Response Frequencies Tables

Table 1
Respondent Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Active U.S. Military	394	74.0	74.0	74.0
	Civilian Contractor Employee	51	9.6	9.6	83.6
	Civilian DOD	68	12.9	12.9	96.5
	Retired U.S. Military	8	1.4	1.4	98.0
	Reserve	1	.2	.2	98.1
	Other	10	1.9	1.9	100.0
	Total	532	100.0	100.0	

Table 2
Status at HAFB

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Military	398	74.8	74.8	74.8
	Civilian	134	25.2	25.2	100.0
	Total	532	100.0	100.0	

Table 3
Number of Students in Local Public Schools (pre K-12)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	216	40.5	40.5	40.5
	One	199	37.4	37.4	77.9
	Two	62	11.7	11.7	89.7
	Three	37	7.0	7.0	96.7
	Four or more	17	3.3	3.3	100.0
	Total	532	100.0	100.0	

Table 4
Number of Students in Local Private Schools (pre K-12)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	286	53.8	53.8	53.8
	One	229	43.0	43.0	96.7
	Two	11	2.0	2.0	98.7
	Three	4	.8	.8	99.5
	Four or more	2	.5	.5	100.0
	Total	532	100.0	100.0	

Table 5

Number of Students in Regional Colleges and Universities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	241	45.2	45.2	45.2
	One	230	43.2	43.2	88.5
	Two	51	9.6	9.6	98.1
	Three	8	1.6	1.6	99.7
	Four or more	2	.3	.3	100.0
	Total	532	100.0	100.0	

Table 6

Excluding Self, Number Employed in Region (Non-Military)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	207	38.9	38.9	38.9
	One	240	45.1	45.1	84.0
	Two	68	12.8	12.8	96.8
	Three	12	2.2	2.2	99.0
	Four or more	5	1.0	1.0	100.0
	Total	532	100.0	100.0	

Table 7

Excluding Self, Number of Active U.S. Military

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	243	45.7	45.7	45.7
	One	256	48.1	48.1	93.8
	Two	32	6.0	6.0	99.8
	Three	1	.2	.2	100.0
	Total	532	100.0	100.0	

Table 8

Excluding Self, Number Active Foreign Military

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	294	55.3	55.3	55.3
	One	238	44.7	44.7	100.0
	Total	532	100.0	100.0	

Table 9
Number over 18 Not Employed or in College

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	243	45.7	45.7	45.7
	One	251	47.2	47.2	92.8
	Two	35	6.6	6.6	99.4
	Three	3	.6	.6	100.0
	Total	532	100.0	100.0	

Table 10
Residence Type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	On-post	175	32.8	32.9	32.9
	Own or buying off-post	196	36.8	36.9	69.9
	Rent or lease off-post	158	29.7	29.8	99.6
	Do not reside in area	2	.4	.4	100.0
	Total	530	99.7	100.0	
Missing	System	2	.3		
Total		532	100.0		

Table 11
Estimated Annual Real Estate Taxes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$1000 or less	174	32.8	78.6	78.6
	\$1001 to \$2000	39	7.3	17.6	96.2
	\$2001 to \$3000	4	.8	1.9	98.0
	\$3001 to \$6000	3	.7	1.6	99.6
	Greater than \$6000	1	.2	.4	100.0
	Total	222	41.7	100.0	
Missing	System	310	58.3		
Total		532	100.0		

Table 12
Type of Dwelling

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single family-dwelling	210	39.5	90.8	90.8
	Condominium/Townhouse	4	.8	1.9	92.6
	Mobile home	13	2.4	5.4	98.1
	Other	4	.8	1.9	100.0
	Total	232	43.5	100.0	
Missing	System	301	56.5		
Total		532	100.0		

Table 13
Estimated Daily Commute

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10 miles or less	207	39.0	40.1	40.1
	11-20 miles	157	29.5	30.4	70.5
	21 to 30 miles	81	15.3	15.7	86.3
	31 to 40 miles	29	5.4	5.6	91.9
	41 to 50 miles	21	3.9	4.0	95.9
	51 to 75 miles	12	2.2	2.3	98.2
	76 to 100 miles	3	.5	.6	98.7
	101 to 125 miles	1	.2	.2	98.9
	126 to 150 miles	4	.7	.7	99.6
	151 or more	2	.4	.4	100.0
	Total	516	97.1	100.0	
Missing	System	16	2.9		
Total		532	100.0		

Table 14
Estimated Family Gross Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than \$2000	118	22.2	23.1	23.1
	\$2001 to \$3000	116	21.9	22.8	45.9
	\$3001 to \$4000	93	17.4	18.1	64.0
	\$4001 to \$5000	83	15.6	16.2	80.2
	\$5001 to \$6000	41	7.7	8.0	88.2
	\$6001 to \$7000	18	3.4	3.6	91.8
	More than \$7000	42	7.9	8.2	100.0
	Total	511	96.0	100.0	
Missing	System	21	4.0		
Total		532	100.0		

Table 15
Merged Ranks and Positions

		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	General/Colonel	1	.2	.2	.2	
	Lt Colonel/Major	16	2.9	2.9	3.1	
	Lieutenants and Captain	27	5.0	5.0	8.1	
	1st Sgt/Sgt.Major	36	6.8	6.8	14.9	
	Staff Sgt/Sgt	137	25.8	25.8	40.7	
	Airman/Sr Airman	182	34.1	34.1	74.8	
	SES/GS13-15 and equivalents	6	1.1	1.1	75.9	
	GS 10-12 and equivalents	25	4.8	4.8	80.7	
	GS 7-9 and equivalents	43	8.1	8.1	88.8	
	GS 4-6 and equivalents	28	5.3	5.3	94.1	
	GS 1-3 and equivalents	31	5.9	5.9	100.0	
	Total		532	100.0	100.0	

Table 16
Possibility of Retirement in Area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		22	4.1	4.1	4.1
	Yes	118	22.2	22.2	26.3
	No	273	51.2	51.2	77.5
	Do not know	119	22.5	22.5	100.0
	Total	532	100.0	100.0	

Table 17

Estimated Monthly Costs of Housing and Utilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than \$500	254	47.7	49.6	49.6
	\$501-\$1000	169	31.8	33.1	82.6
	\$1001 to \$1500	65	12.2	12.7	95.3
	\$1501 - \$2000	15	2.9	3.0	98.3
	More than \$2000	9	1.7	1.7	100.0
	Total	512	96.2	100.0	
Missing	System	20	3.8		
Total		532	100.0		

Table 18

Estimated Monthly Costs of Entertainment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$100 or less	280	52.6	54.0	54.0
	\$101 - \$250	177	33.3	34.2	88.1
	\$251 - \$500	56	10.5	10.7	98.9
	More than \$500	6	1.1	1.1	100.0
	Total	519	97.5	100.0	
Missing	System	13	2.5		
Total		532	100.0		

Table 19

Estimated Monthly Groceries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$100 or less	139	26.1	26.7	26.7
	\$101 - \$200	149	28.0	28.7	55.4
	\$201 - \$300	102	19.2	19.7	75.0
	\$301- \$400	73	13.7	14.0	89.0
	\$401 - \$500	30	5.6	5.7	94.7
	\$501 - \$1000	25	4.8	4.9	99.6
	More than \$1000	2	.4	.4	100.0
	Total	520	97.8	100.0	
Missing	System	12	2.2		
Total		532	100.0		

Table 20

Estimated Monthly Costs of Charitable Contributions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$100 or less	431	81.0	85.7	85.7
	\$101 - \$250	34	6.4	6.8	92.5
	\$251 - \$500	31	5.7	6.1	98.5
	\$501 - \$1000	5	.9	1.0	99.5
	More than \$1000	2	.4	.5	100.0
	Total	503	94.6	100.0	
Missing	System	29	5.4		
Total		532	100.0		

Table 21

Estimated Monthly Costs of Auto Expenses

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$100 or less	168	31.6	32.3	32.3
	\$101 - \$250	74	14.0	14.3	46.6
	\$251 - \$500	163	30.7	31.3	77.9
	\$501 - \$1000	62	11.7	11.9	89.8
	More than \$1000	38	7.1	7.3	97.1
	6.00	15	2.8	2.9	100.0
	Total	521	97.9	100.0	
Missing	System	11	2.1		
Total		532	100.0		

Table 22

Estimated Monthly Costs of Retail Purchases

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$100 or less	262	49.3	51.0	51.0
	\$101 - \$250	163	30.7	31.7	82.7
	\$251 - \$500	71	13.4	13.8	96.5
	\$501 - \$1000	5	1.0	1.0	97.5
	More than \$1000	8	1.5	1.6	99.1
	6.00	5	.9	.9	100.0
	Total	514	96.7	100.0	
Missing	System	18	3.3		
Total		532	100.0		

Table 23

Estimated Monthly Costs of All Other Expenses

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$100 or less	222	41.7	45.4	45.4
	\$101 - \$250	134	25.3	27.5	72.9
	\$251 - \$500	84	15.8	17.2	90.1
	\$501 - \$1000	12	2.3	2.5	92.6
	\$1001 - \$1500	21	3.9	4.3	96.9
	More than \$1500	8	1.4	1.5	98.5
	7.00	7	1.4	1.5	100.0
Total		489	91.8	100.0	
Missing	System	44	8.2		
Total		532	100.0		

Table 24

Estimated Monthly Disability Pay

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$250 or less	85	16.1	92.6	92.6
	\$251 - \$500	2	.4	2.5	95.1
	\$751 - \$1000	1	.2	1.2	96.4
	\$1001 - \$1250	2	.4	2.3	98.7
	\$1251 - \$1500	1	.1	.8	99.4
	More than \$2000	1	.1	.6	100.0
	Total		92	17.3	100.0
Missing	System	440	82.7		
Total		532	100.0		

Table 25

Estimated Monthly Pay Allotments Sent Out of the Region

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$250 or less	242	45.5	51.7	51.7
	\$251 - \$500	86	16.2	18.5	70.2
	\$501 - \$750	38	7.1	8.1	78.3
	\$751 - \$1000	38	7.2	8.2	86.4
	\$1001 - \$1250	18	3.3	3.8	90.2
	\$1251 - \$1500	13	2.4	2.7	93.0
	\$1501 - \$2000	12	2.2	2.5	95.5
	\$2001 - \$2500	6	1.2	1.4	96.8
	More than \$2500	15	2.8	3.2	100.0
	Total	468	87.9	100.0	
Missing	System	64	12.1		
Total		532	100.0		

Table 26

Estimated Average Balance in Checking Accounts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$500 or less	261	49.1	54.0	54.0
	\$501 - \$1000	76	14.3	15.7	69.6
	\$1001 - \$1500	43	8.1	8.9	78.5
	\$1501 - \$2000	35	6.7	7.3	85.8
	\$2001 - \$3000	25	4.6	5.1	90.8
	\$3001 - \$4000	10	1.8	2.0	92.8
	\$4001 - \$5000	15	2.7	3.0	95.8
	More than \$5000	20	3.8	4.2	100.0
	Total	485	91.1	100.0	
Missing	System	47	8.9		
Total		532	100.0		

Table 27
Estimated Savings Account Balance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	\$500 or less	273	51.2	56.6	56.6
	\$501 - \$1000	41	7.6	8.4	65.0
	\$1001 - \$2000	44	8.2	9.1	74.1
	\$2001 - \$3000	29	5.5	6.1	80.2
	\$3001 - \$5000	31	5.8	6.4	86.6
	\$5001 - \$10,000	24	4.5	4.9	91.5
	\$10,001 - \$15,000	10	1.8	2.0	93.5
	\$15,001 - \$25,000	12	2.3	2.6	96.1
	\$25,001 - \$35,000	5	1.0	1.1	97.2
	\$35,001 - \$50,000	5	.9	1.0	98.2
	More than \$50,000	9	1.6	1.8	100.0
	Total	481	90.5	100.0	
Missing	System	51	9.5		
Total		532	100.0		