

# **2006 HOUSING MARKET ANALYSIS**

**FINAL REPORT**



**FORT BLISS  
TEXAS**

**Headquarters, Department of the Army  
Assistant Chief of Staff for Installation Management**

*Prepared by ROBERT D. NIEHAUS, INC.*



**FORT BLISS, TEXAS**  
**2006 HOUSING MARKET ANALYSIS**  
**FINAL REPORT**

Prepared for

Headquarters, Department of the Army,  
Office of the Assistant Chief of Staff for Installation Management  
and U.S. Army Corps of Engineers, Louisville District

Prepared by

ROBERT D. NIEHAUS, INC.  
140 East Carrillo Street  
Santa Barbara, CA 93101  
(805) 962-0611

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## EXECUTIVE SUMMARY

This Housing Market Analysis (HMA) evaluates the availability of housing for both accompanied and unaccompanied military personnel stationed at Fort Bliss meeting Army and Department of Defense (DoD) standards for affordability, location, quality, and number of bedrooms. This report is based on criteria and methods approved by Headquarters, Department of the Army, and reflects current guidance by the Office of the Secretary of Defense (OSD) regarding market analyses for military housing. The principal assumptions and results of the analysis are shown in Table ES-1.

**Table ES-1. Military Housing Requirements and Key Assumptions, Fort Bliss, 2006 and 2011**

Assumptions/Results		
1. Methodology Consistent with OSD Guidance for All Services		
2. Personnel Based on the 4 January 07 ASIP Report (10 October 06 SAMAS)		
3. Market Area is Based on a 20-Mile Commute		
4. Rental Mobile Homes are Inadequate for Military Members		
5. 2006 Basic Allowance for Housing (BAH) and Community Rental Costs		
6. One Bedroom Per Family Member for Accompanied, BAH Standard for Unaccompanied		
7. Floor Requirement for Unaccompanied Personnel is E1-E5 Personnel		
	<b>2006</b>	<b>2011</b>
<b>Total Permanent-Party Personnel</b>	13,865	29,818
<b>Total Military Families</b>	9,069	17,975
Floor Requirement in 2011 (Actual Occupancy in 2006)	2,427	955
Community Housing Requirement	6,642	17,020
Military Family Homeowners	2,664	3,465
Military Family Renters	3,978	13,555
Community Housing Shortfall	1,781	5,366
Initial Housing Requirement	4,208	6,321
10 Percent Military Community Adjustment (see note)	-	11
<b>TOTAL ON-POST MILITARY FAMILY HOUSING REQUIREMENT</b>	<b>4,208</b>	<b>6,332</b>
Military Family Housing Inventory	2,577	3,052
Deficit/(Surplus) of Military Family Housing	1,631	3,280
<b>Total Unaccompanied Personnel</b>	<b>3,822</b>	<b>10,058</b>
In On-Post Housing (E5 and below)	2,926	7,412
Community Housing Requirement	896	2,646
Unaccompanied Personnel Homeowners	340	846
Unaccompanied Personnel Renters	556	1,800
Community Housing Shortfall	187	592
Total Unaccompanied Housing Requirement	3,113	8,004

Notes: The 10 percent military community adjustment reflects any necessary increases when the initial housing requirement is less than 10 percent of total families on a grade by grade basis (see text). Voluntarily separated and military spouses in dual military couples are not included in requirements.

Source: Headquarters, Department of the Army, 2007; and estimates prepared for this study.

For 2011, the on-post accompanied housing requirement totals 6,332 units. The on-post unaccompanied housing requirement totals 8,004 units in 2011.

This analysis is consistent with current OSD guidance for the preparation of HMAs (U.S. Department of Defense, 2003). Chapter 1 of this report describes the OSD-approved methodology in detail. In

summary, the projected requirement for on-post housing consists of three components – the floor requirement, the community housing shortfall, and a military community adjustment factor. A military community adjustment factor is added when the total requirement for on-post military family housing for any individual pay grade is less than 10 percent of the total number of families in that grade.

The floor housing requirement for accompanied personnel is based on four components as projected for the fifth year of the analysis (2011). These requirements are not additive but are calculated as the greatest of the four criteria for each grade. The four components are:

- Military On-Post Community
- Key and Essential Personnel
- Historic Housing
- Quality of Life

The floor requirement in this analysis has been initially calculated assuming there is no military on-post community housing requirement component. If the initial estimate of the total requirement for on-post military family housing for any individual pay grade is less than 10 percent of total families in that grade, the requirement in that grade is increased to equal 10 percent of families. The initial requirement was raised to equal 10 percent of families in the O4 and W3 pay grades (Table ES-2).

For unaccompanied personnel, the floor housing requirement is defined as all unaccompanied E1-E5 personnel. These unaccompanied personnel are assumed to be housed in on-post unaccompanied quarters.

The community housing shortfall is the number of military renters projected not to find suitable housing off post. Summaries of the projected floor, community housing shortfall, and total on-post accompanied and unaccompanied personnel housing requirements, by grade, are presented in Tables ES-2 and ES-3.

**Table ES-2. Floor Requirement, Private Sector Shortfall, and Total On-Post Housing Requirement, Accompanied Personnel, Fort Bliss, 2011**

Pay Grade	Military Families	Military Community	Key and Essential	Historic Units	Quality of Life	Floor Requirement	Private Sector Shortfall	Initial Housing Requirement	10-Percent Military Community	Total Military Housing Requirement
O7 & Above	8	-	8	4	-	8	-	8	1	8
O6	78	-	47	28	-	47	1	48	8	48
O5	265	-	36	32	-	36	3	39	27	39
O4	479	-	1	32	-	32	9	41	48	48
O3	656	-	183	5	-	183	13	196	66	196
O2	257	-	-	-	-	-	34	34	26	34
O1	174	-	-	-	-	-	39	39	17	39
Officers	1,917	-	275	101	-	306	99	405	193	412
W5	3	-	-	1	-	1	-	1	1	1
W4	55	-	-	5	-	5	4	9	6	9
W3	138	-	-	-	-	-	10	10	14	14
W2	199	-	-	-	-	-	28	28	20	28
W1	102	-	-	-	-	-	28	28	10	28
Warrants	497	-	-	6	-	6	70	76	51	80
E9	388	-	72	1	-	72	20	92	39	92
E8	1,509	-	473	-	-	473	106	579	151	579
E7	1,679	-	-	-	-	-	242	242	168	242
E6	2,983	-	-	-	-	-	602	602	298	602
E5	3,530	-	-	-	-	-	1,270	1,270	353	1,270
E4	4,116	-	-	-	-	-	2,272	2,272	412	2,272
E3	870	-	-	98	-	98	425	523	87	523
E2	341	-	-	-	-	-	179	179	34	179
E1	145	-	-	-	-	-	81	81	15	81
Enlisted	15,561	-	545	99	-	643	5,197	5,840	1,557	5,840
<b>Total</b>	<b>17,975</b>	<b>-</b>	<b>820</b>	<b>206</b>	<b>-</b>	<b>955</b>	<b>5,366</b>	<b>6,321</b>	<b>1,801</b>	<b>6,332</b>

Note: The total military housing requirement is the greater of the initial housing requirement and the 10 percent community component for each grade.

Source: Estimates prepared for this study.

**Table ES-3. Floor Requirement, Private Sector Shortfall, and Total On-Post Housing Requirement, Unaccompanied Personnel, Fort Bliss, 2011**

<b>Pay Grade</b>	<b>Total Unaccompanied Personnel</b>	<b>Floor Requirement</b>	<b>Private Sector Shortfall</b>	<b>Total Military Housing Requirement</b>
O7 & Above	-	-	-	-
O6	33	-	-	-
O5	110	-	6	6
O4	199	-	18	18
O3	259	-	17	17
O2	93	-	15	15
O1	73	-	45	45
<b>Officers</b>	<b>767</b>	<b>-</b>	<b>101</b>	<b>101</b>
W5	-	-	-	-
W4	21	-	3	3
W3	45	-	3	3
W2	75	-	9	9
W1	38	-	17	17
<b>Warrants</b>	<b>179</b>	<b>-</b>	<b>32</b>	<b>32</b>
E9	89	-	5	5
E8	646	-	65	65
E7	420	-	93	93
E6	545	-	296	296
E5	1,160	1,160	-	1,160
E4	2,850	2,850	-	2,850
E3	1,453	1,453	-	1,453
E2	915	915	-	915
E1	1,034	1,034	-	1,034
<b>Enlisted</b>	<b>9,112</b>	<b>7,412</b>	<b>459</b>	<b>7,871</b>
<b>Total</b>	<b>10,058</b>	<b>7,412</b>	<b>592</b>	<b>8,004</b>

Source: Estimates prepared for this study.

The total on-post accompanied and unaccompanied housing requirements by grade and bedroom entitlements are presented in Tables ES-4 and ES-5.



**Table ES-4. Total Requirement for On-Post Housing by Grade and Bedroom Entitlement, Accompanied Personnel, Fort Bliss, 2011**

2011 Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+	
O7 & Above	-	-	8	8
O6	-	-	48	48
O5	-	15	24	39
O4	-	23	25	48
O3	86	59	51	196
O2	10	12	12	34
O1	23	12	4	39
<b>Officers</b>	<b>119</b>	<b>121</b>	<b>172</b>	<b>412</b>
W5	-	-	1	1
W4	-	6	3	9
W3	-	4	10	14
W2	2	6	20	28
W1	3	13	12	28
<b>Warrants</b>	<b>5</b>	<b>29</b>	<b>46</b>	<b>80</b>
E9	-	61	31	92
E8	-	370	209	579
E7	-	136	106	242
E6	53	238	311	602
E5	243	521	506	1,270
E4	982	740	550	2,272
E3	304	146	73	523
E2	97	61	21	179
E1	38	33	10	81
<b>Enlisted</b>	<b>1,717</b>	<b>2,306</b>	<b>1,817</b>	<b>5,840</b>
<b>Total</b>	<b>1,841</b>	<b>2,456</b>	<b>2,035</b>	<b>6,332</b>

Source: Estimates prepared for this study.

**Table ES-5. Total Requirement for On-Post Housing by Grade and Bedroom Entitlement, Unaccompanied Personnel, Fort Bliss, 2011**

2011 Pay Grade	Number of Bedrooms			Total
	One	Two	Three	
O7 & Above	-	-	-	-
O6	-	-	-	-
O5	-	-	6	6
O4	-	-	18	18
O3	-	17	-	17
O2	-	15	-	15
O1	-	45	-	45
<b>Officers</b>	-	<b>77</b>	<b>24</b>	<b>101</b>
W5	-	-	-	-
W4	-	-	3	3
W3	-	3	-	3
W2	-	9	-	9
W1	-	17	-	17
<b>Warrants</b>	-	<b>29</b>	<b>3</b>	<b>32</b>
E9	-	5	-	5
E8	-	65	-	65
E7	-	93	-	93
E6	-	296	-	296
E5	1,160	-	-	1,160
E4	2,850	-	-	2,850
E3	1,453	-	-	1,453
E2	915	-	-	915
E1	1,034	-	-	1,034
<b>Enlisted</b>	<b>7,412</b>	<b>459</b>	<b>-</b>	<b>7,871</b>
<b>Total</b>	<b>7,412</b>	<b>565</b>	<b>27</b>	<b>8,004</b>

Source: Estimates prepared for this study.

The following points compare the results of this study to those of the 2005 Housing Market Analysis (Robert D. Niehaus, Inc., 2006):

- The projected 2011 requirement is 6,332 family housing units, 1,622 more than the projected 2010 requirement of 4,710 units.
- The projected number of military families in 2011 is 17,975, or 81 more than the projected 2010 family count of 17,894. The difference is due primarily to changes in authorized personnel projected for the installation (29,818 in 2011 using the 4 January 2007 ASIP figures compared to 29,673 in 2010 using 2005 ASIP figures adjusted for BRAC).
- Rental housing affordability declined between the analyses of 2005 and 2006, as increases in rental costs out-paced MAHC over this period. Weighted-average MAHC increased by a total of 1.5 percent over the past year. From 2005 to 2006, median rental costs (rent, plus utilities, plus renter's insurance) increased by 7.6 percent for one-bedroom units, 8.4 percent for two-bedroom units, 5.4 percent for three-bedroom units, and 2.5 percent for units with four or more bedrooms.

- The projected number of accompanied homeowners is 3,465 in this analysis, 943 less than the 4,408 homeowners projected for the 2005 analysis. The decline in homeowners is due to reduced affordability in the sales market. The number of military family homeowners in this analysis is based on the number of military family homeowners estimated for the 2005 HMA adjusted for changes in homeownership affordability since 2005. Homeownership rates in the 2005 HMA were derived from the 1997 VHA survey adjusted for changes in affordability (U.S. Air Force, 1998).
- This analysis uses an overall estimate of 25.0 percent of the rental housing inventory as unsuitable by DoD criteria; reflecting an evaluation of interview data, published crime statistics, the number of rental mobile homes, and observations from a systematic windshield survey of the market area. The 2005 HMA used an estimate of 30.3 percent of the rental housing inventory as unsuitable.

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## 1. INTRODUCTION

This Housing Market Analysis (HMA) evaluates the availability of housing for both accompanied and unaccompanied military personnel stationed at Fort Bliss, meeting Army and Department of Defense (DoD) standards for affordability, location, quality, and number of bedrooms. This report is based on criteria and methods approved by Headquarters, Department of the Army, and reflects current guidance by the Office of the Secretary of Defense (OSD) regarding market analyses for military housing.

### 1.1 STUDY PURPOSE AND SCOPE

The purpose of this HMA is to assess the capacity of the area housing market to provide military personnel with housing meeting Army and DoD criteria for acceptability. These criteria are of four principal types:

- (1) **Location** – Housing must be located within a reasonable commute distance of the principal work areas of an installation.
- (2) **Affordability** – Rent plus utilities plus renter's insurance must be affordable for the military member, based on accompaniment status and pay grade.
- (3) **Quality** – Housing must meet or exceed minimum Army and DoD standards for decent, safe, and sanitary housing.
- (4) **Number of Bedrooms** – Housing must have the proper number of bedrooms for the military member, based on accompaniment status, number of dependents, and pay grade.

This analysis is conducted for two points in time: current (2006) and projected (2011). Addressing projected conditions permits decision-makers to plan, budget, and implement actions to provide for future needs.

This HMA includes an assessment of the private and public-assisted housing inventories and the demands for housing from all sources.

### 1.2 METHODOLOGY

The analysis is consistent with current OSD guidance for the preparation of HMAs (U.S. Department of Defense, 2003). The following summarizes the principal features of this guidance:

**A.** The primary focus of the HMA process is to assess the balance between projected acceptable off-post rental housing and the projected off-post military rental housing requirement. However, the off-post housing balance is not the sole determinant of the total on-post military housing requirement. For accompanied personnel, current OSD guidance allows for a projected minimum on-post housing requirement, or the floor requirement, as the greatest of four criteria for each pay grade:

- **Military On-Post Community** – Ten percent of military families in each grade, with a minimum of one on-post housing unit for any pay grade with at least one family. The floor requirement is initially calculated assuming there is no military community housing requirement component (i.e. this component is zero). If the total requirement for on-post military family housing for any

individual pay grade is less than 10 percent of total families in that grade, the requirement in that grade is then increased to equal 10 percent of families in that grade.

- **Key and Essential Personnel** – All key and essential, or Priority 1, personnel.
- **Historic Housing** – On-post family housing listed on or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act.
- **Quality of Life** – Housing for members whose annual regular military compensation (RMC) falls below 50 percent of the median family income for the housing market area.

**B.** No corresponding floor requirement is calculated for the current year of the analysis for accompanied personnel. For analysis of current year conditions, on-post military family housing is considered to be occupied at recent actual levels.

**C.** For unaccompanied personnel, the floor housing requirement is defined as all unaccompanied E1-E5 personnel. These personnel are assumed to be housed in on-post bachelor quarters in both the current and projected years.

**D.** For accompanied personnel, total potential community housing demand is defined for 2006 as those families in excess of the current occupants of on-post housing and for 2011 as those families in excess of the projected floor requirement. For unaccompanied personnel the potential community housing demand includes those personnel in excess of the floor requirement in both years.

**E.** The analysis assumes, in accordance with OSD guidance, that military homeowners are acceptably housed (U.S. Department of Defense, 1993). This study therefore focuses primarily on the rental market within the market area. The number of potential military renters is the difference between the overall community housing demand and the number of military homeowners. The HMA determines if the private sector could potentially provide sufficient affordable, suitable-quality rental housing for military renters in the local community.

**F.** The methodology used in this HMA simulates a dynamic process of adjustment between market area housing demand and supply. The analysis incorporates changes in military manpower, competing civilian demand, and rental housing supply over a five-year period, estimating the military market share for each year of the analysis. The military market share is based on competition among accompanied personnel, unaccompanied personnel, and civilians who actively seek housing during the year.

**G.** This analysis distinguishes between all market area rental housing and that rental housing estimated to be of acceptable quality (see below) for military personnel within the installation's housing market area. The analysis uses a market segment approach, dividing the housing market into segments by cost (rent, utility costs, and renter's insurance) and number-of-bedroom categories. The military share of adequate-quality housing in each segment (also termed expected suitable rental housing) is equal to the proportion of the military requirement in the total competing housing demand within the segment.



**H.** This analysis also evaluates the community's ability to absorb the potentially transitioning accompanied personnel over the five-year planning horizon. The potentially transitioning accompanied personnel are those families in excess of the projected floor requirement currently living in on-post quarters.

**I.** The projection process applies these major assumptions:

- The U.S. government-controlled family housing inventory is hypothetically adjusted to the floor housing requirement in five years. The number of military families occupying U.S. government housing would change each year until by the fifth year of the analysis only the floor housing would be occupied.
- Market competition only occurs for rental housing units that become available for rent during the year. Rental housing becomes available when current occupants terminate their occupancy for whatever purpose or additional housing units enter the rental market through new construction or net conversions from owner-occupancy. Estimated changes, if any, in the rental housing supply are based on the potential rental market response to any projected changes in demand – from civilian population growth, military families moving from government-controlled housing to the private sector, or any increases in military personnel authorizations.
- Competing demand each year is generated by those households, both military and civilian, that actively seek rental housing during the year. These include households occupying suitable housing that choose to seek different rental housing; military households currently occupying unsuitable housing; and new households entering the housing market. The new households include military households newly authorized to the installation, military families who are part of the simulated transition from on-post housing to the private sector, and civilian households new to the housing market. Current on-post military residents are assumed to compete for rental housing during the transition phase.
- Unaccompanied personnel who are not required to live on post compete in the private sector as well.
- Military households who own their homes are considered suitably housed under current policy.
- The shortfall or surplus in the private-sector housing market is determined in the fifth year of the analysis as the difference between the military's share of adequate-quality rental housing (expected suitable rentals) and the military rental requirement. When there is insufficient private-sector rental housing of adequate quality in a cost-band/bedroom segment, a community housing shortfall exists in that segment.

**J.** Finally, the HMA determines the total housing requirement for the installation as the sum of the projected floor housing requirement and the projected community housing shortfall. If the sum of the projected floor housing requirement and the projected community housing shortfall is not at least 10 percent of the total families in each pay grade, a military community adjustment factor is added so that the total requirement equals 10 percent of families in each pay grade.

### 1.3 KEY ASSUMPTIONS

This HMA uses the best available information to assess housing supply and demand in the market area, from both military and civilian sources. Any analysis involving interaction of economic forces, individual behavior, and public policies must necessarily rely on assumptions regarding those factors not easily observed or unknown in advance (such as the future course of population growth and housing development). This HMA likewise relies on assumptions in utilizing available information, as discussed here:

1. Fort Bliss is assumed to remain open and functioning through the year 2011. Current and projected authorized permanent party military personnel strength is provided by Headquarters, Department of the Army from the Army Stationing Installation Plan (ASIP). Current (2006) and projected (2011) permanent party personnel were obtained from the 4 January 2007 ASIP report (10 Oct 06 SAMAS).
2. The market area is defined as an approximate 20-mile commute along the area road network to and from the principal work areas of the installation.
3. Housing is considered to be affordable if rent plus utilities plus renter's insurance does not exceed Maximum Acceptable Housing Cost (MAHC). In 2006 and 2011 MAHC equals the military Basic Allowance for Housing (BAH). Military personnel are assumed to pay approximately 85 percent to 100 percent of MAHC for rent, utilities, and renter's insurance.
4. Accompanied personnel were estimated to have requirements for two-, three-, or four-bedroom units based on the number of family members and grade of the military member. Each family member, other than the spouse, is entitled to his or her own bedroom. Accompanied military personnel in grades E7-E9, W4-W5, and O4-O5 were assigned a minimum of three bedrooms due to seniority. Accompanied personnel in grades O6 and above were assigned a minimum of four bedrooms. The bedroom entitlements for unaccompanied personnel are one-bedroom units for grades E1-E5; two-bedroom units for grades E6-E9, W1-W3, and O1-O3; and three-bedroom units for grades W4-W5 and O4 and above.
5. A community rental housing unit is classified as adequate and is considered adequate in this analysis if it meets the following standards (U.S. Army, 2005, and Runzheimer International, 2006):
  - (a) is a complete unit with private entrance, bath and kitchen for the sole use of its occupants and so arranged that each bedroom can be entered without passing through another bedroom;
  - (b) is well maintained and structurally sound;
  - (c) has hot and cold running potable water;
  - (d) has a shower or bathtub, lavatory, and flushable toilet;
  - (e) has a heating system and air conditioning;

- (f) has adequate electrical service;
  - (g) has kitchen cabinets, space and connections for a stove and refrigerator, and space for food preparation;
  - (h) affords convenient access to parking;
  - (i) has convenient access to roadways and sidewalks;
  - (j) has or can readily be equipped with smoke detectors;
  - (k) has washer and dryer connections or access to laundry facilities within one-quarter mile;
  - (l) has adequate sanitary and sewage disposal facilities;
  - (m) meets DoD minimum size standards;
  - (n) is not a mobile or manufactured home;
  - (o) is not in an area subject to unacceptably high risk of crime; and
  - (p) is not in an area, subdivision, or housing complex designated by a local commander as not acceptable for reasons of health and safety.
6. The accompanied and unaccompanied housing requirements were derived from two sets of data. Accompaniment rates of personnel assigned to Fort Bliss in 2005 were provided by the Fort Bliss Housing Office and used in the 2005 HMA (Robert D. Niehaus, Inc., 2006). This data was applied to 10,278 personnel (i.e., the number of personnel at Fort Bliss in 2005) in the current and projected years of this analysis. The standard accompaniment rate for UA groups, 56 percent, was applied to the remaining personnel— 3,587 in the current year and 19,540 in the projected year. The UA group accompaniment rate data was provided by Headquarters, Department of the Army (2007)..
7. As directed by OSD policy, all military homeowners are considered adequately housed. The number of military family homeowners in this analysis is based on the number of military family homeowners estimated for the 2005 HMA adjusted for changes in homeownership affordability since 2005. Mobile homes owned by their military occupants were assumed to be acceptable, just as all other military owner-occupied units are considered acceptable housing regardless of any other factors involved.
8. Current market area population and housing stock estimates were prepared using data from the 1990 and 2000 censuses, current information on population and housing levels provided by state and local planning and research organizations, and trends extrapolated from these sources.
9. The rental vacancy rate in the market area was estimated using 1990 and 2000 structural relationships, information from interviews with property managers, housing development trends, and population growth trends.

## 1.4 ORGANIZATION OF THE REPORT

The remaining sections of this report are organized to provide a comprehensive and non-technical assessment of housing supply and demand conditions in the market area, particularly as these affect housing availability for military personnel.

**Chapter 2** describes the housing market area, its population, and local economic structure.

**Chapter 3** presents a detailed analysis of the area's housing stock and characteristics. This analysis is provided for both current (2006) and projected (2011) conditions, and consequently addresses both supply and demand factors in evaluating future trends in area housing.

**Chapter 4** discusses military housing demand, affordability, and adequacy in the context of total area demand.

**Chapter 5** presents the total requirement for on-post military housing.

**Chapter 6** summarizes the key findings of the study.

**Chapter 7** identifies the persons and organizations contacted in the course of preparing this analysis.

**Chapter 8** presents references used in the study.

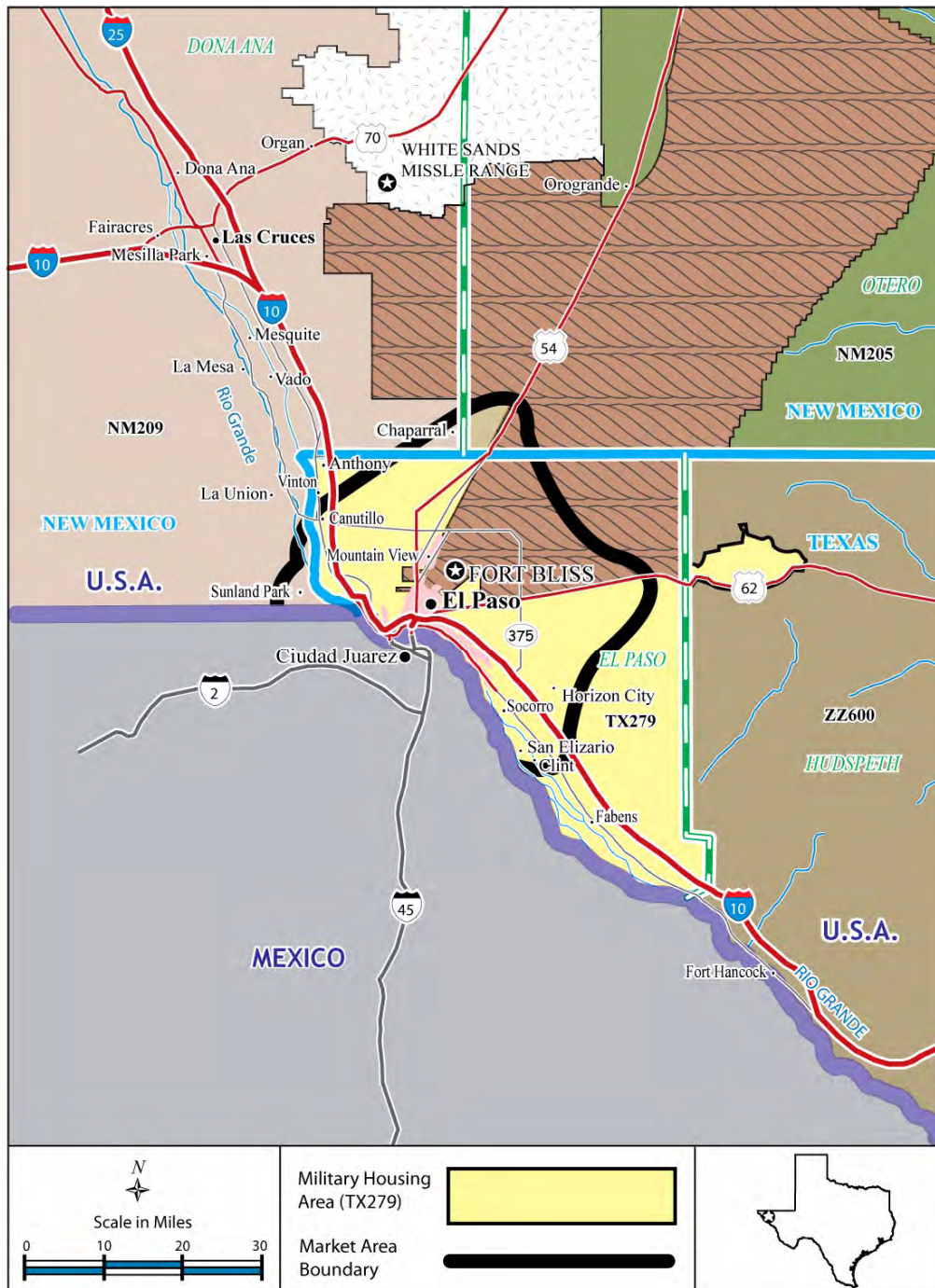
## 2. HOUSING MARKET AREA

This chapter defines the housing market area for Fort Bliss and describes its general population and economic characteristics.

### 2.1 MARKET AREA DEFINITION

Figure 2-1 shows the housing market area for Fort Bliss, which is located in the city of El Paso, Texas.

**Figure 2-1. Housing Market Area Boundary, Fort Bliss, Texas**



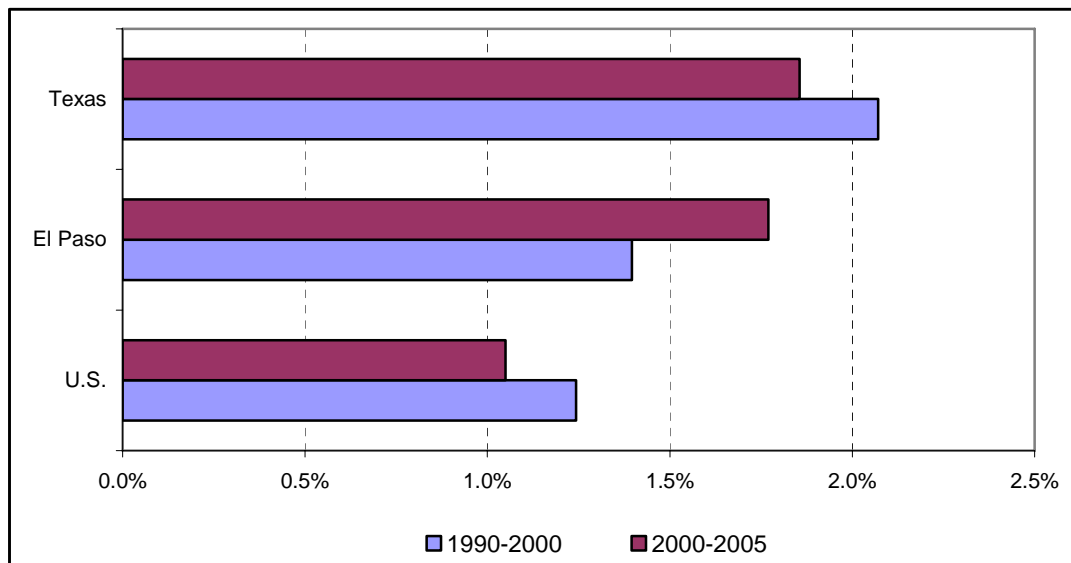
Fort Bliss is located approximately 8 miles north of the United States/Mexico border, and just a few miles north of the city center of El Paso, Texas. The housing market area for Fort Bliss encompasses those communities within a 20-mile commute of the installation’s principal work areas. The Fort Bliss market area includes the city of El Paso, and the communities of Canutillo, Horizon City, Mountain View, San Elizario, and Socorro in El Paso County, Texas, as well as Chaparral and Sunland Park in Dona Ana County, New Mexico (see Figure 2-1). Figure 2-1 also shows the Fort Bliss Military Housing Area (MHA TX279), which is used for the determination of BAH rates for the post.

## 2.2 POPULATION

The market area boundary was overlaid on census tract maps of area counties to determine which census tracts are within the market area. Data for these census tracts were then extracted from 1990 and 2000 census files to compile a comprehensive database of population and housing characteristics within the market area as of April 1990 and April 2000. The population of the off-post market area in 2000 was 648,289 persons, having increased at an average annual rate of 1.4 percent since 1990 (U.S. Bureau of the Census, 1992, 2002). Population has grown since 2000 at an estimated annual average rate of 1.8 percent, for a 2006 population of 729,193 persons (El Paso, City of, 2006). The forecasted rate of population growth in the area is 1.7 percent per year, for a projected market area population of 791,384 persons in 2011 (El Paso, City of, 2006).

Population growth in El Paso County has been consistently higher than U.S. averages over the 1990 to 2000 and 2000 to 2005 periods (Figure 2-2). El Paso County’s population increased at a rate of 1.4 percent annually from 1990 to 2000 (U.S. Bureau of the Census, 2007), and at an estimated 1.8 percent per year between 2000 and 2005 (El Paso, City of, 2006).

**Figure 2-2. Population Growth, El Paso County, State of Texas, and United States, 1990-2005**



Source: El Paso, City of, 2006; and U.S. Bureau of the Census, 2007.

## 2.3 ECONOMIC CONDITIONS

Table 2-1 displays key economic indicators for the period 1990 to 2004 for El Paso County, the state of Texas, and the United States. In El Paso County total jobs (including civilian, military, wage and salary, and self-employed persons in all sectors), stood at 340,167 in 2004, the most recent year for which this comprehensive measure is available. Job growth averaged 2.2 percent per year from 1990 to 1995, but declined to 1.7 percent annually between 1995 and 2000. From 2000 to 2004 job growth in El Paso County averaged 1.0 percent per year, which was higher than state and national averages over this period (0.6 percent and 0.5 percent annual growth, respectively).

**Table 2-1. Economic Indicators, El Paso County, State of Texas, and the United States, 1990, 1995, 2000, and 2004**

Jurisdiction/Indicator	1990	1995	2000	2004
<b>El Paso County</b>				
Total Jobs[1]	269,744	300,045	326,272	340,167
Average Annual Change (%) [2]		2.2%	1.7%	1.0%
Earnings per Job[3]	\$30,430	\$32,107	\$34,901	\$39,220
Average Annual Change (%)		1.1%	1.7%	3.0%
Per Capita Income[3]	\$17,394	\$18,412	\$21,157	\$22,986
Average Annual Change (%)		1.1%	2.8%	2.1%
<b>Texas</b>				
Total Jobs	10,507,238	12,244,699	12,356,260	12,652,267
Average Annual Change (%)		3.1%	0.2%	0.6%
Earnings per Job	\$37,625	\$45,577	\$46,295	\$47,570
Average Annual Change (%)		3.9%	0.3%	0.7%
Per Capita Income	\$26,142	\$32,272	\$32,428	\$32,361
Average Annual Change (%)		4.3%	0.1%	-0.1%
<b>United States</b>				
Total Jobs	139,380,900	148,982,800	166,758,800	170,091,500
Average Annual Change (%)		1.3%	2.3%	0.5%
Earnings per Job	\$37,611	\$38,953	\$44,461	\$46,863
Average Annual Change (%)		0.7%	2.7%	1.3%
Per Capita Income	\$27,580	\$28,723	\$34,019	\$34,803
Average Annual Change (%)		0.8%	3.4%	0.6%

Notes: [1] Total Jobs are average annual full- and part-time jobs, by place of work.

[2] Average Annual Change in the 1995 column is for 1990-1995; in the 2000 column, for 1995-2000; and in the 2004 column, for 2000-2004.

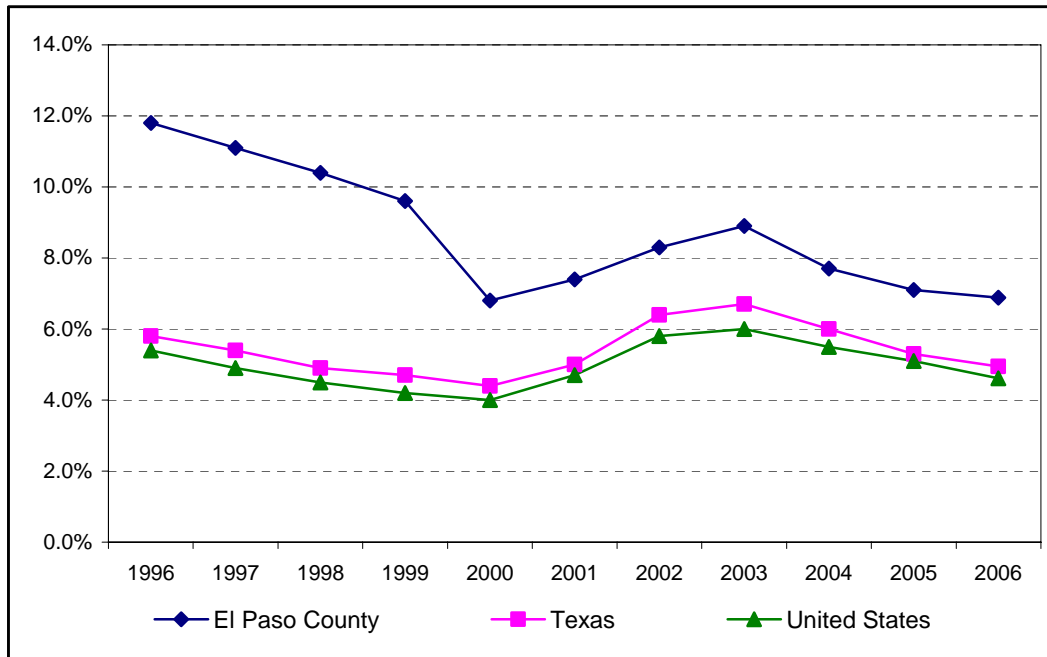
[3] Average Earnings per Job and Per Capita Income were converted to constant 2006 dollars using the implicit price deflator for personal consumption expenditures.

Sources: U.S. Bureau of Economic Analysis, 2006; Congressional Budget Office, 2006.

Average earnings per job and per capita income are lower in El Paso County than in the state of Texas and the U.S. overall. In 2004, per capita income in El Paso County was \$22,986 (in constant 2006 dollars; U.S. Bureau of Economic Analysis, 2006), compared to \$32,361 for Texas and \$34,803 for the United States. However, in El Paso County per capita income increased from 2000 to 2004 at an average annual rate of 2.1 percent per year, while per capita income decreased statewide at an average rate of 0.1 percent per year. Nationally, per capita income increased at a rate of 0.6 percent per year.

Figure 2-3 shows unemployment rates for these areas over the past decade. El Paso County has experienced substantially higher unemployment rates than the state of Texas and the United States overall during this ten year period.

**Figure 2-3. Unemployment Rates, El Paso County, State of Texas, and the United States, 1996-2006**

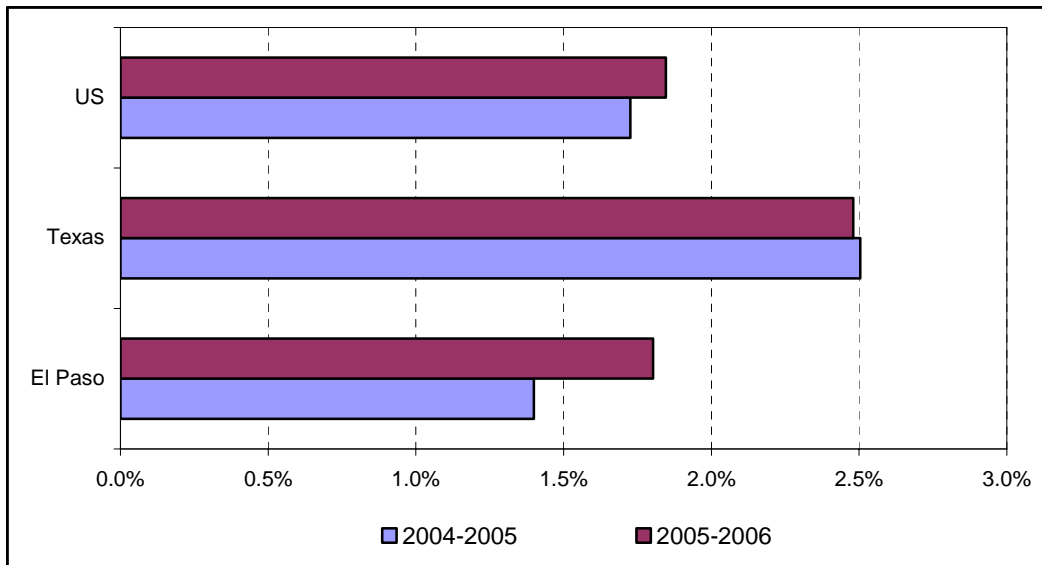


Source: U.S. Bureau of Labor Statistics, 2007.

Figure 2-4 compares the percentage increase in non-farm jobs in 2006 to that of the previous year. Job growth has been accelerating over the past two years both locally and at the state and national levels. El Paso County experienced job growth of 1.8 percent in 2006 (Figure 2-4).



**Figure 2-4. Change in Total Non-Farm Jobs, El Paso County, Texas, and the United States, 2004-2005 and 2005-2006**



Source: Bureau of Labor Statistics, 2007.

A large portion of employment (20.8 percent of total jobs in 2004) in El Paso County is associated with government and government related organizations (including federal civilian, military, and state and local organizations). The next largest employment sector is retail trade with 12.2 percent of jobs. An additional 9.8 percent of jobs are in health care and social assistance, followed by manufacturing (7.6 percent of jobs), and administrative and waste services (7.4 percent of jobs). Due to Fort Bliss, the share of jobs in government is substantially greater in El Paso County than in Texas (14.2 percent) or the U.S. overall (14.0 percent).

**Table 2-2. Employment by Major Economic Sector, El Paso County, State of Texas, and U.S., 2004**

Indicator	El Paso County	Texas	United States
Government and government enterprises	20.8%	14.2%	14.0%
Federal, civilian	2.6%	1.4%	1.6%
Military	3.6%	1.3%	1.2%
State and local	14.6%	11.5%	11.2%
Retail Trade	12.2%	11.0%	11.0%
Health care and social assistance	9.8%	9.0%	9.7%
Manufacturing	7.6%	7.4%	9.5%
Administrative and waste services	7.4%	6.3%	5.7%
Accommodation and food services	7.2%	6.8%	6.5%
Other services, except public administration	6.0%	5.9%	5.5%
Construction	5.6%	6.7%	5.9%
Transportation and warehousing	4.8%	3.6%	3.2%
Wholesale trade	3.5%	4.0%	3.7%
Professional and technical services	3.3%	6.1%	6.3%
All other sectors	11.9%	19.1%	19.1%

Source: U.S. Bureau of Economic Analysis, 2006.

Major private sector employers in the El Paso area include Sierra Providence Health Network, Wal-Mart, Echostar Satellite Corporation, Las Palmas and Del Sol Regional Healthcare System, and MCI Services (El Paso, County of, 2007).

El Paso is situated just north of Juarez, Mexico. The cities of Juarez and El Paso combine to form one of the largest production-sharing centers within North America. Approximately 3,500 commercial trucks cross the border into El Paso daily. A total of five international bridges link the city of Juarez and the city of El Paso. As a result, some companies choose to maintain twin factories, one on each side of the border, which perform different steps in the manufacturing process of a single system or product (El Paso, County of, 2007).

### 3. AREA HOUSING STOCK

This chapter is divided into two sections covering private-sector housing and public-assisted housing. Data and forecasts were compiled and are presented for the housing market area defined in Chapter 2.

#### 3.1 PRIVATE SECTOR HOUSING

Private-sector owners control most of the area's housing stock. Therefore the availability and cost of housing are subject to market forces. An integrated assessment of relevant demand and supply factors is presented in this section, covering recent trends, current conditions, and projected future changes in the availability and cost of housing to military families.

#### Total Housing Units, Tenure of Occupied Units, and Vacancy Rates

##### *Trends to Date*

The off-post population in the market area is currently estimated to total 729,193 persons, having increased at an average rate of 1.8 percent per year since 2000 (Table 3-1). The household population (persons in occupied housing units exclusive of group quarters) is an estimated 720,388 persons in 2006. Average household size declined from 1990 to 2000, and is assumed to continue to decline over the forecast period. The number of occupied units has increased from 172,967 units in 1990 to an estimated 232,231 units in 2006. There are currently an estimated 79,717 renter-occupied housing units in the market area, representing about 34.3 percent of the occupied housing stock in 2006. The renter-occupied share is down from historic levels.

**Table 3-1. Recent Trends and Baseline Projections of Housing Demand, Fort Bliss Housing Market Area, 1990, 2000, 2006, and 2011**

Housing Market Indicator	1990	2000	2006	2011
Total Population	565,474	648,289	729,193	791,384
Average Annual Change (%)	N.A.	1.4%	1.8%	1.7%
Household Population	559,286	640,461	720,388	781,828
Average Annual Change (%)	N.A.	1.4%	1.8%	1.7%
Average Household Size	3.23	3.15	3.10	3.06
Occupied Housing Units	172,967	203,055	232,231	255,188
Average Annual Change (%)	N.A.	2.4%	2.0%	1.9%
Owner-Occupied Units	102,656	128,762	152,514	170,924
Percent of Baseline Total	59.4%	63.4%	65.7%	67.0%
Renter-Occupied Units	70,311	74,293	79,717	84,264
Percent of Baseline Total	40.6%	36.6%	34.3%	33.0%

Note: Average annual change in 2000 column is for 1990-2000; 2006 column is for 2000-2006, and in 2011 column for 2006-2011.

Sources: U.S. Bureau of the Census, 1991, 2002; and 2007; El Paso, City of, 2006; and estimates prepared for this study.

The off-post market area housing stock is currently estimated to total 246,661 units (Table 3-2). Single-family homes comprise 70.7 percent of the total. The share of the housing stock in mobile homes is estimated to be 6.9 percent. (Mobile homes accounted for 6.5 percent of all housing units in the U.S. in 2000.) The remainder (about 22.4 percent) of the housing stock consists of multi-family units. The share of multi-family units decreased over the 1990-2006 period.

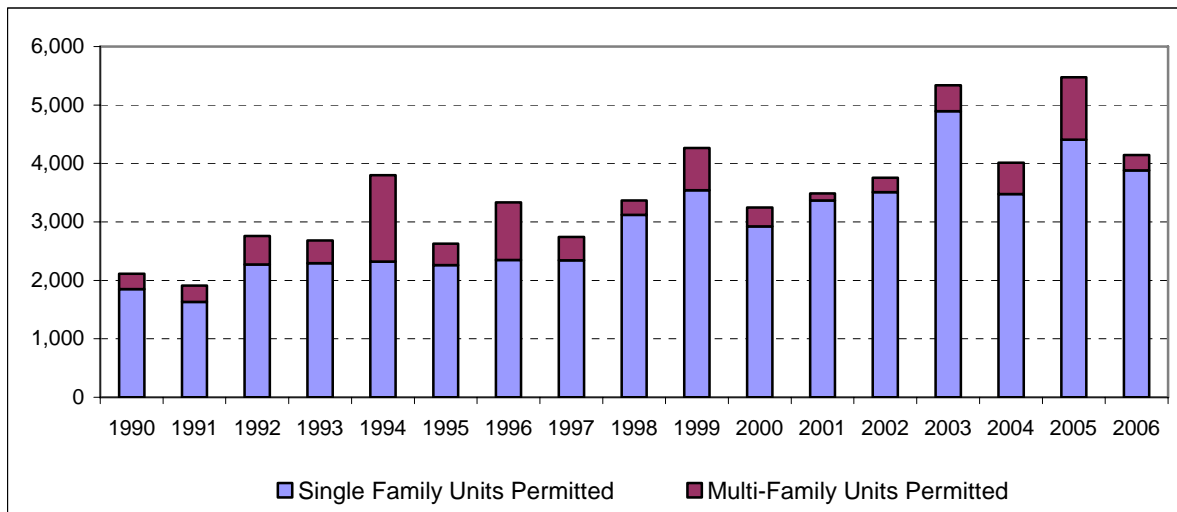
**Table 3-2. Recent Trends and Baseline Projections of Housing Supply, by Type of Structure, Fort Bliss Housing Market Area, 1990, 2000, 2006, and 2011**

Housing Market Indicator	1990	2000	2006	2011
Total Housing Units	181,823	216,363	246,661	270,569
Average Annual Change (#)	N.A.	3,454	4,521	4,782
Average Annual Change (%)	N.A.	1.8%	2.0%	1.9%
Share of Total Housing (%)	100%	100%	100%	100%
Single Family Units	118,582	147,363	174,402	195,708
Average Annual Change (#)	N.A.	2,878	4,035	4,261
Share of Total Housing (%)	65.2%	68.1%	70.7%	72.3%
Multiple Family Units	50,805	53,430	55,335	57,164
Average Annual Change (#)	N.A.	263	284	366
Share of Total Housing (%)	27.9%	24.7%	22.4%	21.1%
Manufactured/Trailers/Other	12,436	15,570	16,924	17,697
Average Annual Change (#)	N.A.	313	202	155
Share of Total Housing (%)	6.8%	7.2%	6.9%	6.5%

Sources: U.S. Bureau of the Census, 1991, 2002, and 2007; and estimates prepared for this study.

As in most housing markets, residential development in the market area is cyclical. The trend in annual permits in El Paso County, Texas and Sunland Park, New Mexico, which together comprise most of the market area, is illustrated in Figure 3-1. Residential development peaked in 2005 with about 5,477 units permitted. More multi-family units were permitted in 2005 (1,072) than in any previous year, with the exception of 1994. Multi-family unit development was strong in the mid-1990s, peaking in 1994 with 1,474 units permitted.

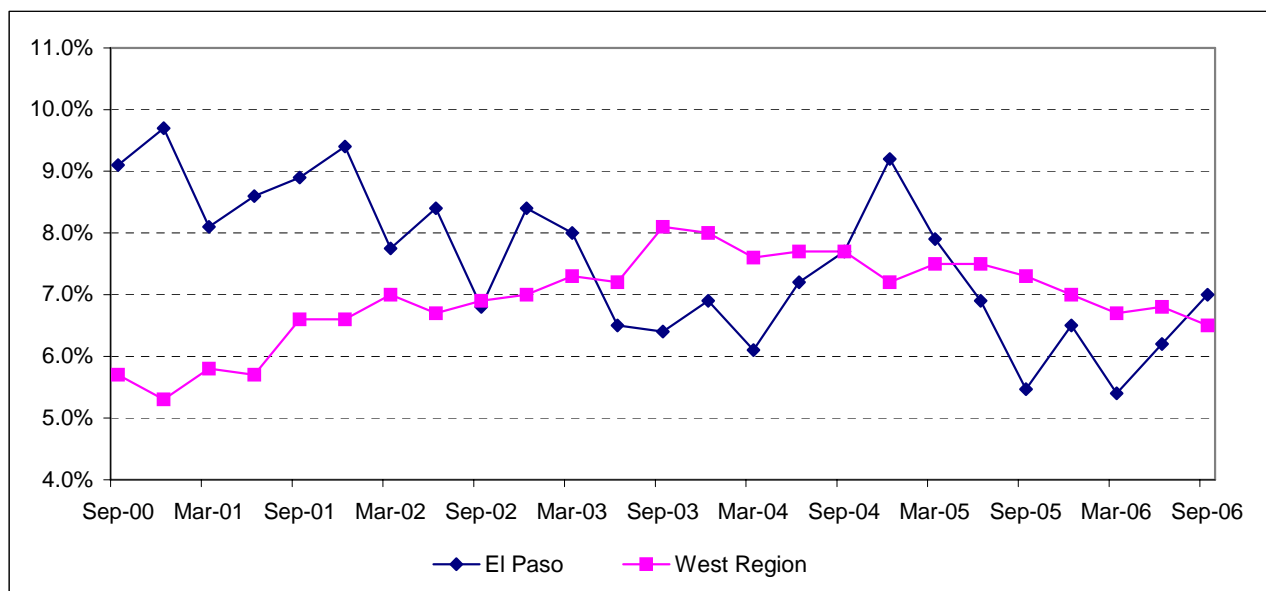
**Figure 3-1. Building Permits for New Residential Units, El Paso County, Texas and Sunland Park, New Mexico, 1990-2006**



Source: U.S. Bureau of the Census, 2007.

Rental vacancy rates in the greater El Paso area have fluctuated significantly over the past five years. Figure 3-2 displays the trend in the rental vacancy rate in El Paso and in the West region from 2000 through 2006. Rental vacancy rates in El Paso peaked in the October-December quarters of 2000, 2001, and 2004. The rental vacancy rate for apartments in El Paso was measured at 7.0 percent during the July-September quarter of 2006 (El Paso Apartment Association, 2006). The rental vacancy rate for all unit types in the West Region of the United States was 6.5 percent in the July-September quarters of 2006 (U.S. Bureau of the Census, 2007).

**Figure 3-2. Rental Vacancy Rates, El Paso and the West Region, 2000-2006**



Note: El Paso data are for apartments only.

Source: El Paso Apartment Association, 2006; and U.S. Bureau of the Census, 2007.

Table 3-3 shows recent trends in vacancy rates in the market area. This analysis estimates the rental vacancy rate to be 6.0 percent at the present time. This is less than the rental vacancy rate observed in the 2000 census (see Table 3-3). The overall vacancy rate in the market area is currently estimated to be 5.9 percent. This includes vacant units for sale, vacant units for rent, and vacant units held for seasonal or recreational use. The vacancy rate for homes in the for-sale market is estimated to be 1.4 percent.

Vacancy rates in the rental market are lower than the national average. The U.S. Bureau of the Census estimates that the national average rental vacancy rate in the fourth quarter of 2006 stood at 9.8 percent (U.S. Bureau of the Census, 2007).

**Table 3-3. Recent Trends and Baseline Projections of Vacant Units, Fort Bliss Housing Market Area, 1990, 2000, 2006, and 2011**

Housing Market Indicator	1990	2000	2006	2011
Total Vacant Units	8,856	13,308	14,430	15,381
Total Vacancy Rate (%)	4.9%	6.2%	5.9%	5.7%
Vacant Units for Sale	1,513	1,951	2,196	2,567
For Sale Vacancy Rate	1.5%	1.5%	1.4%	1.5%
Vacant Units for Rent	4,020	6,393	5,088	5,217
Rental Vacancy Rate	5.4%	7.9%	6.0%	5.8%
Other Vacant Units (see note)	3,323	4,964	7,146	7,597
Vacancy Rate	1.8%	2.3%	2.9%	2.8%

Note: Other vacant units include units rented or sold but not yet occupied; boarded-up units; units held for seasonal or recreational use; units held for migrant workers; and other units.

Sources: U.S. Bureau of the Census, 1991, 2002, and 2007; and estimates prepared for this study.

### **Future Outlook**

Market area population is projected to grow 1.7 percent per year over the forecast period (El Paso, City of, 2006). Baseline housing development in the market area is forecast to add about 4,782 units per year to the housing stock, assuming on-post housing is occupied at its recent level (see Table 3-1 and Table 3-2). Vacancy rates for 2011 are projected to be 5.8 percent in the rental market and 1.5 percent in the for-sale market (see Table 3-3). This vacancy rate forecast assumes the recent growth in employment in the area will be sustained, and that interest rates will rise only slightly.

### **Bedroom Composition of Housing**

The market area's renter-occupied housing stock is comprised mostly of one-, two-, and three-bedroom units, with a distribution as shown below (U.S. Bureau of the Census, 2002; and estimates prepared for this study):

- Studio units – 7.0 percent;
- One-bedroom units – 24.7 percent;
- Two-bedroom units – 27.3 percent;

- Three-bedroom units – 27.6 percent; and
- Four-plus-bedroom units – 13.4 percent.

The breakdown of housing units by number of bedrooms (one-, two-, three-, and four-plus-bedroom units) is displayed in Table 3-4.

**Table 3-4. Units by Number of Bedrooms in Unit, with Military Transition, Fort Bliss Market Area, 1990, 2000, 2006, and 2011**

Housing Market Indicator	1990	2000	2006	2011
One Bedroom Units	29,367	32,998	30,029	32,653
Owner-occupied	4,977	6,229	7,413	8,335
Renter-occupied	22,233	23,566	19,148	20,618
Vacant	2,157	3,203	3,468	3,700
Vacant for Rent	1,116	1,793	1,404	1,465
Two Bedroom Units	42,659	49,676	51,414	55,960
Owner-occupied	16,182	20,448	23,840	26,399
Renter-occupied	23,587	24,842	22,813	24,491
Vacant	2,890	4,386	4,761	5,070
Vacant for Rent	1,323	2,087	1,683	1,756
Three Bedroom Units	75,775	92,455	111,384	123,877
Owner-occupied	57,104	71,496	85,012	95,549
Renter-occupied	15,878	16,778	21,841	23,496
Vacant	2,793	4,181	4,531	4,832
Vacant for Rent	1,051	1,673	1,330	1,387
Four-plus Bedroom Units	26,498	32,739	45,228	50,165
Owner-occupied	22,727	28,508	33,765	37,842
Renter-occupied	3,226	3,394	10,551	11,354
Vacant	545	837	912	969
Vacant for Rent	199	307	254	266

Sources: U.S. Bureau of the Census, 1991, 1992, 2002; and estimates prepared for this study.

### Mobile Homes

Information on mobile homes is included here because the mobile home inventory exhibits somewhat different tenure, condition, cost, and vacancy characteristics than other housing units. There are an estimated 16,924 mobile homes in the market area, representing approximately 6.9 percent of all market area housing units (see Table 3-2). Most of the market area mobile homes are owner-occupied (73.4 percent), while 17.4 percent are renter-occupied and 9.2 percent are vacant (Table 3-5).

The vacancy rate in the rental mobile home market is 11.0 percent, which is greater than the vacancy rate for all rental units (Table 3-5; U.S. Department of Housing and Urban Development, 2001). Renter-occupied mobile homes and mobile homes vacant and for rent currently represent 3.9 percent of all rental units in the market area.

**Table 3-5. Recent Trends and Baseline Projections of Tenure and Occupancy of Mobile Homes, Fort Bliss Housing Market Area, 1990, 2000, 2006, and 2011**

Housing Market Indicator	1990	2000	2006	2011
Owner-occupied				
Number of Units	8,740	11,391	12,415	13,008
Share of All Mobile Homes	70.3%	73.2%	73.4%	73.5%
Renter-occupied				
Number of Units	2,875	2,761	2,949	3,043
Share of All Mobile Homes	23.1%	17.7%	17.4%	17.2%
Total Vacant				
Number of Units	821	1,418	1,560	1,645
Share of All Mobile Homes	6.6%	9.1%	9.2%	9.3%
Vacant for Rent				
Number of Units	261	334	363	380
Share of All Mobile Homes	2.1%	2.1%	2.1%	2.1%
Total Mobile Homes	12,436	15,570	16,924	17,697
Rental Vacancy Rate	8.3%	10.8%	11.0%	11.1%
Rental MH Share of All Rentals	4.2%	3.8%	3.9%	3.8%

Sources: U.S. Bureau of the Census, 1991, 2002; U.S. Department of Housing and Urban Development, 2001; and estimates prepared for this study.

### Quality of Housing

Housing quality is one of the primary criteria used by DoD to determine the acceptability of community housing for military households. The minimum acceptable quality standards used in this analysis are discussed in Chapter 1 of this report.

Market area housing exhibits a wide range of quality, depending on age, type of construction, building materials, location, surrounding land use, maintenance, and other factors. Although quality of housing cannot be correlated directly with age, building materials and components in newer units generally are less likely to have experienced high levels of deferred maintenance, and newer units are generally more likely to meet current building codes and living standards. Older units, however, may have other desirable qualities, such as mature landscaping, larger lot sizes, or well-established neighborhoods.

Table 3-6 displays the renter-occupied and total housing stock in the market area by year constructed. An estimated 20.7 percent of the rental housing stock was constructed prior to 1960 and therefore is approaching 50 years of age.



**Table 3-6. Housing Stock by Year Unit Constructed, Fort Bliss Housing Market Area, 2006**

Year Housing Unit Constructed	Renter-Occupied Units			Total Units		
	Number	Percent	Cumulative Percent	Number	Percent	Cumulative Percent
1939 or earlier	5,025	6.3%	6.3%	12,163	4.9%	4.9%
1940 to 1949	3,624	4.5%	10.9%	10,196	4.1%	9.1%
1950 to 1959	7,887	9.9%	20.7%	28,130	11.4%	20.5%
1960 to 1969	11,799	14.8%	35.6%	31,817	12.9%	33.4%
1970 to 1979	19,430	24.4%	59.9%	48,647	19.7%	53.1%
1980 to 1989	15,795	19.8%	79.7%	42,951	17.4%	70.6%
1990 to 1994	4,967	6.2%	86.0%	17,652	7.2%	77.7%
1995 to 1998	4,784	6.0%	92.0%	18,426	7.5%	85.2%
1999-March 2000	965	1.2%	93.2%	6,132	2.5%	87.7%
April 2000 to 2006	5,424	6.8%	100.0%	30,298	12.3%	100.0%

Sources: U.S. Bureau of the Census, 1991, 1992, 2002; and estimates prepared for this study.

Interviews with local property managers, realtors, and planning officials indicated the share of the non-mobile home rental housing stock that is substandard with respect to quality and safety issues ranges from 2.5 percent up to 35.0 percent depending on the neighborhood (Chacon, Terry, 2006; Dominguez, Virginia, 2006; Forisha, Guy, 2006; Lilly, Bill, 2006; Olague, Liz, 2006; Underwood, Jo Ann, 2006; Valenzuela, Nena, 2006; Zuluaga, Fernando, 2006). Crime rate data were compiled for the city of El Paso. These data generally confirmed the patterns of neighborhood safety and quality indicated in the interviews (Federal Bureau of Investigation, 2006). In addition, windshield surveys were conducted during the week of December 4-8 to assess the quality of housing within the market area at the census tract level.

This analysis uses an estimate of 22.0 percent of the non-mobile home rental inventory as unsuitable by DoD criteria, reflecting an evaluation of interview data, windshield survey data, and available published data for market area communities.

Rental mobile homes represent about 3.9 percent of the rental housing stock and by definition are unsuitable for military members. This analysis therefore uses an estimate of 25.0 percent of the entire rental inventory as unsuitable by DoD criteria, while the remaining 75.0 percent is adequate in quality for military families. This figure represents a weighted average of the condition assessment for the non-mobile home rental housing stock and the mobile home portion (100 percent of the 3.9 percent of the rental housing stock that are mobile homes plus 22.0 percent of the remaining 96.1 percent that are non-mobile home rentals). This percentage was scaled across all market-area units such that the largest shares of poor-quality units were in the lowest cost ranges.

Interviews with property managers indicated that annual turnover rates for rental properties in the market area depend upon the type of unit, location, cost, and amenities of the property. This study uses an average annual turnover rate of 50.7 percent, representing a weighted average of responses from market area property managers.

**Sales Market**

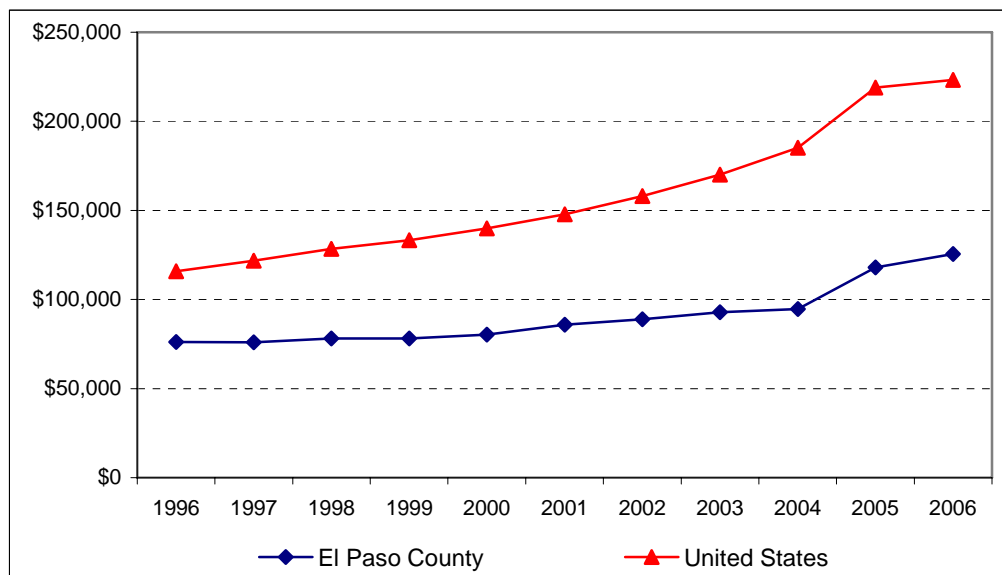
**General Market Conditions**

An estimated 152,514 housing units in the market area in 2006 are occupied by their owners. Thus, owner-occupied housing represents 65.7 percent of the occupied housing stock. The vacancy rate in the for-sale market is estimated to be 1.4 percent (see Tables 3-1 and 3-3).

**Sales Prices**

The median sales price of an existing single-family home through the third quarter of 2006 in El Paso County was \$125,533. By comparison, the median sales price of a single-family home through the third quarter of 2006 in the United States was \$223,300 (National Association of Realtors, 2007). Figure 3-3 plots the trend in local and national median sales prices since 1996. Annual increases in home prices from 2000 to 2006 have averaged 7.8 percent in El Paso County, compared to 8.1 percent for the U.S. as a whole.

**Figure 3-3. Median Sales Price of a Single Family Home, El Paso County and the United States, 1996-2006**



Note: Median sales price data for 2006 in based on data through the third quarter of 2006  
 Source: National Association of Realtors, 2007.

**Rental Market**

**General Market Conditions**

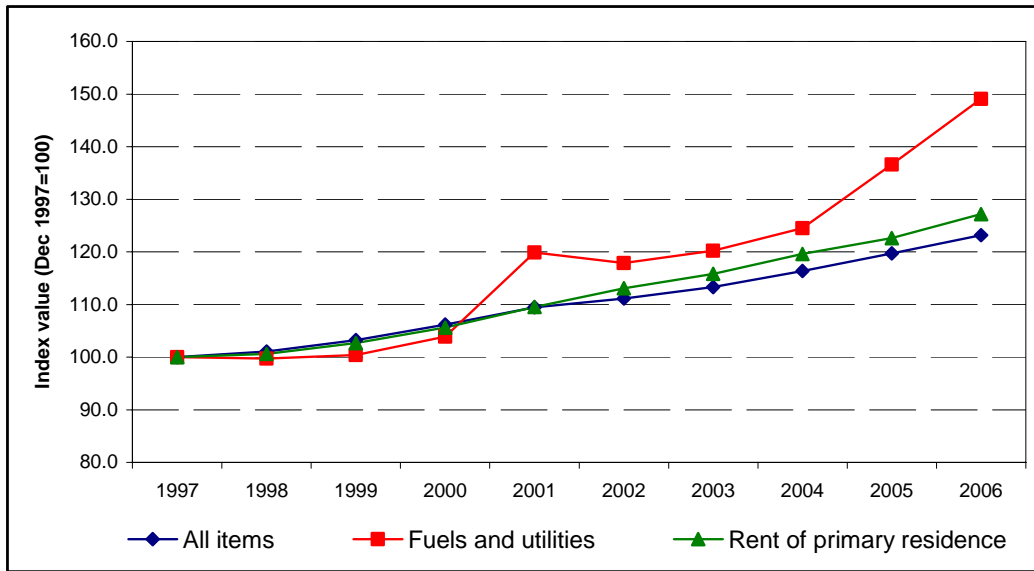
An estimated 79,717 housing units in the market area in 2006 are renter-occupied, which represents 34.3 percent of the occupied housing stock. The vacancy rate for units for rent is estimated to be 6.0 percent (see Tables 3-1 and 3-3).

**Recent Rent Trends**

Rent levels in the West for small to medium sized cities, as measured by the Consumer Price Index (CPI) program of the U.S. Bureau of Labor Statistics (2007), have increased at an average annual rate of 2.7 percent between 1997 and 2006. During this time, the smallest region-wide average rent increase

was 0.6 percent (from 1997 to 1998) while the largest increase was 3.7 percent (from 2000 to 2001). Figure 3-4 charts this recent trend.

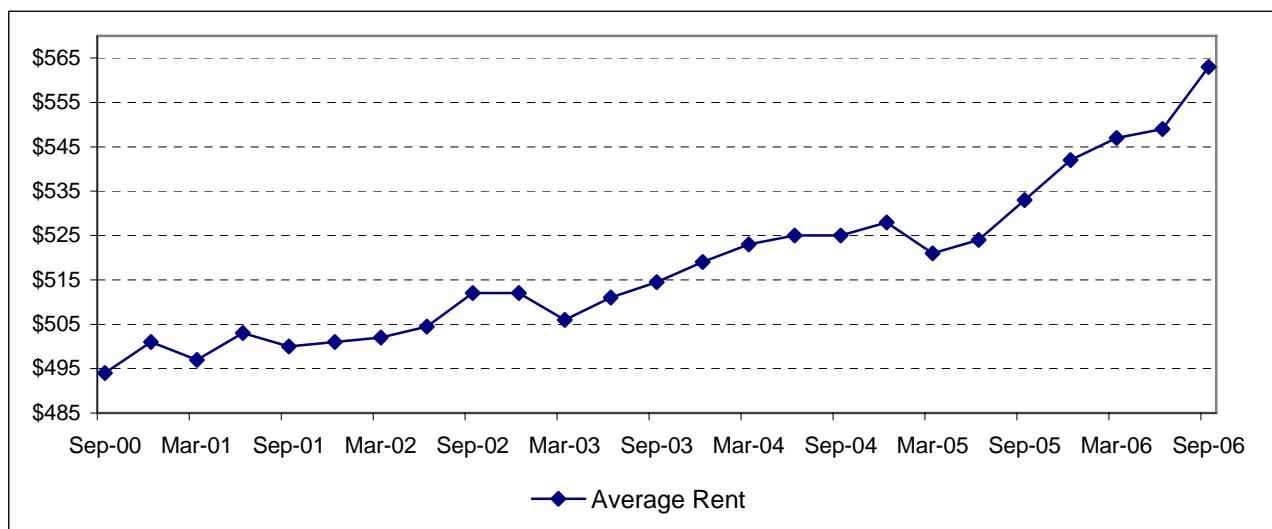
**Figure 3-4. Recent Trends in Consumer Price Index Components, West Size Class B/C 1997-2006**



Source: U.S. Bureau of Labor Statistics, 2007.

Figure 3-5 charts the recent trend in apartment rents for El Paso County (El Paso Apartment Association, 2006). Apartment rents increased 5.6 percent between 2005 and 2006. The average increase for all types of rentals was 6.0 percent, based on the rental database for the El Paso area compiled for this study.

**Figure 3-5. Recent Trends in Rental Prices for El Paso County Apartments, 2000-2006**



Source: El Paso Apartment Association, 2006.

### ***Current Rents***

This study compiled a rental database for the market area based on the classified listings of apartments and houses for rent from the *El Paso Times*, listings from area real estate agents and property managers, internet website listings, and units listed on the El Paso Multiple Listing Service website. This study calculated the distribution of rents using a database of 6,242 rental units within the market area. Utility costs were estimated from interviews with area property managers and data provided by the Housing Authority of the City of El Paso (2006). Renter's insurance costs were estimated from quotes obtained from an area insurance provider (Allstate Insurance, 2007). The market area has a wide range of rental opportunities, which can be summarized as follows:

- Based on a sample of 2,405 rental units, ranging in rent from \$280 per month to \$715 per month, the median rent for one-bedroom units is \$525 per month. Utility costs are estimated to average \$117 per month. Renter's insurance costs are estimated to be \$19 per month. Median rent plus utilities plus renter's insurance is thus \$661 per month for a one-bedroom rental.
- Based on a sample of 2,563 rental units, ranging in rent from \$335 per month to \$1,500 per month, the median rent for two-bedroom units is \$670 per month. Utility costs are estimated to be \$141 per month. Renter's insurance costs are estimated to be \$29 per month. Median rent plus utilities plus renter's insurance is thus \$840 per month for a two-bedroom rental.
- Based on a sample of 1,136 rental units, ranging in rent from \$475 per month to \$3,700 per month, the median rent for three-bedroom units is \$805 per month. Utility costs are estimated to average \$198 per month. Renter's insurance costs are estimated to be \$33 per month. Median rent plus utilities plus renter's insurance consequently is \$1,036 per month for a three-bedroom rental.
- Based on a sample of 139 rental observations, ranging in rent from \$600 per month to \$2,950 per month, the median rent for units with four or more bedrooms is \$1,000 per month. Utility costs are estimated to average \$244 per month. Renter's insurance costs were estimated to be \$36 per month, so median rent plus utilities plus renter's insurance is \$1,280 per month for a rental unit with at least four bedrooms.

**Occupied and Vacant Rental Units by Cost and Number of Bedrooms**

Based on the distribution of rental costs identified above, Table 3-7 presents the distribution of the renter-occupied housing stock among cost band segments, by number of bedrooms, within the market area for 2006. Table 3-8 presents the comparable distribution of the vacant for rent units. The rental cost bands shown in the tables were chosen based on the pattern of rental costs in the market area as well as the MAHC amounts of military personnel at Fort Bliss.

**Table 3-7. Renter-Occupied Housing Units, Fort Bliss Housing Market Area, 2006**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	8	392	2,736	3,136
\$1501 - \$1600	-	-	8	112	887	1,007
\$1401 - \$1500	-	-	8	410	665	1,083
\$1301 - \$1400	-	-	8	392	517	917
\$1201 - \$1300	-	-	16	914	2,103	3,033
\$1101 - \$1200	-	-	113	2,893	1,173	4,179
\$1001 - \$1100	-	-	453	8,173	708	9,334
\$901 - \$1000	-	-	3,874	6,008	844	10,726
\$801 - \$900	107	379	8,748	1,956	918	12,108
\$701 - \$800	1,683	5,953	6,446	488	-	14,570
\$700 & Below	3,574	12,816	3,131	103	-	19,624
<b>Total</b>	<b>5,364</b>	<b>19,148</b>	<b>22,813</b>	<b>21,841</b>	<b>10,551</b>	<b>79,717</b>

Source: Estimates prepared for this study.

**Table 3-8. Vacant For Rent Housing Units, Fort Bliss Housing Market Area, 2006**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	1	23	54	78
\$1501 - \$1600	-	-	1	7	17	25
\$1401 - \$1500	-	-	1	24	13	38
\$1301 - \$1400	-	-	1	23	10	34
\$1201 - \$1300	-	-	1	54	71	126
\$1101 - \$1200	-	-	8	169	34	211
\$1001 - \$1100	-	-	32	479	21	532
\$901 - \$1000	-	-	273	352	16	641
\$801 - \$900	8	27	620	131	18	804
\$701 - \$800	129	435	457	54	-	1,075
\$700 & Below	280	942	288	14	-	1,524
<b>Total</b>	<b>417</b>	<b>1,404</b>	<b>1,683</b>	<b>1,330</b>	<b>254</b>	<b>5,088</b>

Source: Estimates prepared for this study.

**Distribution of Unsuitable Market Area Rental Units**

As discussed above, an estimated 25.0 percent of the overall rental housing stock is considered unsuitable because of quality and/or safety concerns. This percentage was scaled among cost band segments assuming a higher incidence of poor quality housing is found in the less expensive units while

rental units at the higher end of the market have a lower incidence of poor quality housing. Table 3-9 presents the percentage distribution of unsuitable units across bedroom types and cost band segments for market area rental units. All studio units, by definition, are considered inadequate for occupancy by military personnel. These percentages were scaled among the cost band segments so that the number of unsuitable rental units (with at least one bedroom) was 25.0 percent of all rental units with at least one bedroom (see quality of housing discussion above).

**Table 3-9. Percentage of Rental Housing Unsuitable, by Rental Cost and Number of Bedrooms, Fort Bliss Housing Market Area, 2006**

Rental Cost	Number of Bedrooms				
	Studios	One	Two	Three	Four+
Above \$1600	100.0%	0.0%	0.0%	0.0%	10.0%
\$1501 - \$1600	100.0%	0.0%	0.0%	0.8%	12.9%
\$1401 - \$1500	100.0%	0.0%	0.0%	1.8%	15.0%
\$1301 - \$1400	100.0%	0.0%	0.0%	5.1%	19.9%
\$1201 - \$1300	100.0%	0.0%	5.9%	18.1%	32.0%
\$1101 - \$1200	100.0%	0.0%	14.0%	20.0%	34.5%
\$1001 - \$1100	100.0%	1.0%	15.1%	22.1%	35.8%
\$901 - \$1000	100.0%	5.0%	18.5%	26.0%	36.0%
\$801 - \$900	100.0%	15.0%	20.0%	35.7%	37.5%
\$701 - \$800	100.0%	18.2%	23.0%	81.0%	90.0%
\$700 & Below	100.0%	25.1%	77.4%	100.0%	100.0%

Source: Estimates prepared for this study.

The number of unsuitable rental housing units in the market area in 2006 is thus estimated to be 25,752 units (Table 3-10).

**Table 3-10. Unsuitable Rental Housing Supply (Renter-Occupied and Vacant for Rent), Fort Bliss Housing Market Area, 2006**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	-	-	279	279
\$1501 - \$1600	-	-	-	1	117	118
\$1401 - \$1500	-	-	-	8	102	110
\$1301 - \$1400	-	-	-	21	105	126
\$1201 - \$1300	-	-	1	175	696	872
\$1101 - \$1200	-	-	17	613	416	1,046
\$1001 - \$1100	-	-	73	1,912	261	2,246
\$901 - \$1000	-	-	768	1,654	310	2,732
\$801 - \$900	115	61	1,874	746	351	3,147
\$701 - \$800	1,812	1,162	1,588	439	-	5,001
\$700 & Below	3,854	3,457	2,647	117	-	10,075
<b>Total</b>	<b>5,781</b>	<b>4,680</b>	<b>6,968</b>	<b>5,686</b>	<b>2,637</b>	<b>25,752</b>

Source: Estimates prepared for this study.

**Suitable Natural Vacancies**

Not all vacant units for rent are available for occupancy by military members. Under current guidance for preparing housing studies for military installations, vacant units for rent are only included in the suitable rental housing supply to the extent the number of vacant units exceeds a natural, equilibrium, or “market-clearing” level of vacancies. There is a natural vacancy rate below which there is upward pressure on rental prices at a rate greater than the general rate of price inflation. Natural vacancies are not considered part of the available supply for market area households. In this analysis no excess vacancies are projected for the market area, as the current and projected rental vacancy rates are assumed to be at or below the estimated natural vacancy rate in the market area. Thus, in 2006 no vacant units are included in the available suitable rental housing supply. Table 3-11 presents the number of suitable natural vacant rental units in the market area for 2006.

**Table 3-11. Suitable Natural Vacancies, Fort Bliss Housing Market Area, 2006**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	1	23	49	73
\$1501 - \$1600	-	-	1	7	15	23
\$1401 - \$1500	-	-	1	24	11	36
\$1301 - \$1400	-	-	1	22	8	31
\$1201 - \$1300	-	-	1	44	28	73
\$1101 - \$1200	-	-	7	135	15	157
\$1001 - \$1100	-	-	27	373	9	409
\$901 - \$1000	-	-	222	260	10	492
\$801 - \$900	-	23	496	74	11	604
\$701 - \$800	-	356	352	6	-	714
\$700 & Below	-	701	51	-	-	752
<b>Total</b>	<b>-</b>	<b>1,080</b>	<b>1,160</b>	<b>968</b>	<b>156</b>	<b>3,364</b>

Source: Estimates prepared for this study.

**Suitable Rental Supply**

The suitable rental housing supply is the total occupied supply (Table 3-7) plus the total vacant supply (Table 3-8), less the unsuitable rental housing supply (Table 3-10) less the suitable natural vacant units (Table 3-11). The distribution of the suitable rental housing supply for the Fort Bliss market area by cost band and bedrooms is presented in Table 3-12. The suitable rental housing supply is thus 55,689 units in 2006 (Table 3-12).

**Table 3-12. Suitable Rental Housing Supply, Fort Bliss Housing Market Area, 2006**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	8	392	2,462	2,862
\$1501 - \$1600	-	-	8	111	772	891
\$1401 - \$1500	-	-	8	402	565	975
\$1301 - \$1400	-	-	8	372	414	794
\$1201 - \$1300	-	-	15	749	1,450	2,214
\$1101 - \$1200	-	-	97	2,314	776	3,187
\$1001 - \$1100	-	-	385	6,367	459	7,211
\$901 - \$1000	-	-	3,157	4,446	540	8,143
\$801 - \$900	-	322	6,998	1,267	574	9,161
\$701 - \$800	-	4,870	4,963	97	-	9,930
\$700 & Below	-	9,600	721	-	-	10,321
<b>Total</b>	<b>-</b>	<b>14,792</b>	<b>16,368</b>	<b>16,517</b>	<b>8,012</b>	<b>55,689</b>

Source: Estimates prepared for this study.

**Rental Market Outlook**

New residential housing development in the market area is forecast to increase the housing stock by 1.9 percent per year, consistent with projected population growth. Household sizes are projected to continue to decline, employment is expected to continue to grow, and interest rates are projected to increase slightly. As a result, the vacancy rate in the rental real estate market is projected to decline to 5.8 percent by 2011.

By 2011 there will be an estimated 85,736 renter-occupied units and 5,308 vacant units for rent. Table 3-13 presents the distribution among cost bands and bedroom types of the occupied rental housing supply projected for 2011. These projections include the simulated transition of military personnel from on-post housing to private-sector housing between 2006 and 2011 (see chapter 4).

**Table 3-13. Renter-Occupied Housing Units, With Military Transition, Fort Bliss Housing Market Area, 2011**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	9	422	2,946	3,377
\$1501 - \$1600	-	-	9	121	956	1,086
\$1401 - \$1500	-	-	9	442	717	1,168
\$1301 - \$1400	-	-	9	422	557	988
\$1201 - \$1300	-	-	17	985	2,258	3,260
\$1101 - \$1200	-	-	122	3,115	1,260	4,497
\$1001 - \$1100	-	-	487	8,803	761	10,051
\$901 - \$1000	-	-	4,172	6,472	910	11,554
\$801 - \$900	116	407	9,423	2,097	989	13,032
\$701 - \$800	1,812	6,413	6,944	511	-	15,680
\$700 & Below	3,849	13,798	3,290	106	-	21,043
<b>Total</b>	<b>5,777</b>	<b>20,618</b>	<b>24,491</b>	<b>23,496</b>	<b>11,354</b>	<b>85,736</b>

Source: Estimates prepared for this study.



Table 3-14 presents the comparable distribution of the vacant for rent housing stock.

**Table 3-14. Vacant For Rent Housing Units, With Military Transition, Fort Bliss Housing Market Area, 2011**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	1	24	57	82
\$1501 - \$1600	-	-	1	7	18	26
\$1401 - \$1500	-	-	1	25	13	39
\$1301 - \$1400	-	-	1	24	10	35
\$1201 - \$1300	-	-	1	56	75	132
\$1101 - \$1200	-	-	8	177	35	220
\$1001 - \$1100	-	-	33	500	22	555
\$901 - \$1000	-	-	285	367	17	669
\$801 - \$900	9	28	647	137	19	840
\$701 - \$800	134	454	477	56	-	1,121
\$700 & Below	291	983	301	14	-	1,589
<b>Total</b>	<b>434</b>	<b>1,465</b>	<b>1,756</b>	<b>1,387</b>	<b>266</b>	<b>5,308</b>

Source: Estimates prepared for this study.

The projected unsuitable rental housing supply is calculated in the same manner as for the current year and is presented in Table 3-15.

**Table 3-15. Unsuitable Rental Housing Supply (Renter-Occupied and Vacant for Rent), With Military Transition, Fort Bliss Housing Market Area, 2011**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	-	-	301	301
\$1501 - \$1600	-	-	-	1	126	127
\$1401 - \$1500	-	-	-	10	110	120
\$1301 - \$1400	-	-	-	22	113	135
\$1201 - \$1300	-	-	1	187	743	931
\$1101 - \$1200	-	-	18	658	444	1,120
\$1001 - \$1100	-	-	78	2,056	279	2,413
\$901 - \$1000	-	-	825	1,778	334	2,937
\$801 - \$900	125	65	2,014	793	378	3,375
\$701 - \$800	1,946	1,250	1,707	456	-	5,359
\$700 & Below	4,140	3,708	2,761	120	-	10,729
<b>Total</b>	<b>6,211</b>	<b>5,023</b>	<b>7,404</b>	<b>6,081</b>	<b>2,828</b>	<b>27,547</b>

Source: Estimates prepared for this study.

Table 3-16 presents the projected suitable natural vacancies and Table 3-17 presents the projected suitable rental housing supply for the Fort Bliss housing market area.

**Table 3-16. Suitable Natural Vacancies, With Military Transition, Fort Bliss Housing Market Area, 2011**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	1	24	51	76
\$1501 - \$1600	-	-	1	7	16	24
\$1401 - \$1500	-	-	1	24	11	36
\$1301 - \$1400	-	-	1	23	8	32
\$1201 - \$1300	-	-	1	46	29	76
\$1101 - \$1200	-	-	7	142	15	164
\$1001 - \$1100	-	-	28	389	9	426
\$901 - \$1000	-	-	232	272	11	515
\$801 - \$900	-	24	518	77	12	631
\$701 - \$800	-	371	367	6	-	744
\$700 & Below	-	732	53	-	-	785
<b>Total</b>	<b>-</b>	<b>1,127</b>	<b>1,210</b>	<b>1,010</b>	<b>162</b>	<b>3,509</b>

Source: Estimates prepared for this study.

**Table 3-17. Suitable Rental Housing Supply, With Military Transition, Fort Bliss Housing Market Area, 2011**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	9	422	2,651	3,082
\$1501 - \$1600	-	-	9	120	832	961
\$1401 - \$1500	-	-	9	433	609	1,051
\$1301 - \$1400	-	-	9	401	446	856
\$1201 - \$1300	-	-	16	808	1,561	2,385
\$1101 - \$1200	-	-	105	2,492	836	3,433
\$1001 - \$1100	-	-	414	6,858	495	7,767
\$901 - \$1000	-	-	3,400	4,789	582	8,771
\$801 - \$900	-	346	7,538	1,364	618	9,866
\$701 - \$800	-	5,246	5,347	105	-	10,698
\$700 & Below	-	10,341	777	-	-	11,118
<b>Total</b>	<b>-</b>	<b>15,933</b>	<b>17,633</b>	<b>17,792</b>	<b>8,630</b>	<b>59,988</b>

Source: Estimates prepared for this study.

### 3.2 PUBLIC-ASSISTED HOUSING

Some Fort Bliss uniformed personnel may qualify for assistance and may choose to occupy public-assisted housing units in the market area. The federal government and the state of Texas encourage and provide funding for local efforts to increase the availability of safe and affordable housing.

#### Programs Available

Public-assisted housing near Fort Bliss is available through programs administered by the City of El Paso Community and Human Development Department, the Housing Authority of the City of El Paso, and the Housing Authority of the County of El Paso (National Association of Housing and Redevelopment Officials, 2004).

Using funds from the U.S. Department of Housing and Urban Development (HUD) and other sources, these agencies provide rental assistance to low-income families to enable them to rent acceptable and safe housing. Waiting lists for public housing assistance, however, tend to be long and wait times often exceed a military member's tour of duty.

### Eligibility Requirements

Households are generally eligible for housing assistance if their incomes fall below 50 percent of the median household income in the area. Some service personnel in the lowest grades without other sources of household income may qualify. Because of the long waiting lists, however, it is very unlikely that any significant number of service personnel would actually receive housing assistance during the course of their duty tours. Table 3-18 presents the income limits for eligibility for local housing programs in El Paso County.

**Table 3-18. Annual Family Income Limits for HUD Housing Assistance Eligibility, El Paso County, 2006**

Family Size	Very Low Income	Low Income
1	\$15,800	\$25,300
2	\$18,100	\$28,900
3	\$20,350	\$32,550
4	\$22,600	\$36,150
5	\$24,400	\$39,050
6	\$26,200	\$41,950
7	\$28,000	\$44,850
8	\$29,850	\$47,700

Source: U.S. Department of Housing and Urban Development, 2006.

Table 3-19 displays fair market rents for federally assisted housing in these areas.

**Table 3-19. Monthly Fair Market Rent Schedules for HUD Housing Assistance Programs, El Paso County, 2006**

Bedrooms	Monthly Rent
0	\$410
1	\$475
2	\$596
3	\$823
4	\$1,011

Source: U.S. Department of Housing and Urban Development, 2006.

### Availability to Uniformed Services Personnel

Eligibility for most units is based on very-low-income standards. These limits effectively disqualify nearly all military personnel from available public housing. Service personnel have incomes (including housing allowances) too high to qualify for very-low-income housing. Those uniformed personnel in the lowest pay grades who may be able to qualify based on the number of their dependents generally wait one to three years. Since their tours of duty are generally two to four years, personnel may transfer out

of the area or be promoted to pay grades that eliminate their eligibility before a public-assisted unit becomes available.

Future availability of public-assisted housing in the market area depends on the continuation of funding for such programs. Continued availability to service personnel also depends on future changes to HUD-specified income limits as compared to changes in service pay and allowances. No long-term forecasts of funding levels are available and future changes in funding cannot be anticipated.

## **4. MILITARY HOUSING DEMAND**

This chapter is divided into five sections covering: total military housing demand, on-post housing occupancy, analysis of the floor requirements at Fort Bliss, analysis of the off-post community rental housing demand by military households, and the affordability and adequacy of community housing.

### **4.1 MILITARY PERSONNEL AND THEIR HOUSING REQUIREMENTS**

This HMA reports both the accompanied and unaccompanied housing requirement for military personnel stationed at Fort Bliss. Current (2006) and projected (2011) permanent party personnel were obtained from the 4 January 2007 ASIP report (10 Oct 06 SAMAS; Headquarters, Department of the Army, 2007).

The total personnel values include all current authorized active duty military personnel identified as Compo 1 (Army) units as well as Compo Z units such as Air Force, Navy, Marine Corps, and Coast Guard personnel authorized for Fort Bliss. Not included are Compo Z units associated with Federalized (Mobilized) ARNG and USAR units. Total personnel include independent-duty service members within the market area, such as recruiters, ROTC instructors, and others.

The distribution of personnel by grade was provided by the Fort Bliss Housing Office for the 2005 HMA (Robert D. Niehaus, Inc., 2006). The accompanied/unaccompanied breakdown was calculated separately for historical post personnel, and personnel new to the post since 2005. Accompaniment rates for personnel assigned to Fort Bliss in 2005 were provided by the Fort Bliss Housing Office and used in the 2005 HMA (Robert D. Niehaus, Inc., 2006). This data was applied to 10,278 personnel (i.e., the number of personnel at Fort Bliss in 2005) in the current and projected years of this analysis. The standard accompaniment rate for UA groups, 56 percent, was applied to the remaining personnel— 3,587 in the current year and 19,540 in the projected year. The UA group accompaniment rate data was provided by Headquarters, Department of the Army (2007)..

#### **Current Requirements**

Active duty permanent party military personnel at Fort Bliss total 13,865 personnel in 2006. The total personnel figure includes 3,822 unaccompanied members, 420 military couples, 554 voluntarily separated personnel, and 9,069 military families (Table 4-1).

**Table 4-1. Military Personnel by Accompaniment Status and Bedroom Entitlements, Fort Bliss, 2006**

Pay Grade	Number of Bedrooms			Military Families	Military Couples	Voluntary Separations	Unaccompanied	Permanent Party Personnel
	Two	Three	Four+					
O7 & Above	-	-	5	5	-	-	-	5
O6	-	-	50	50	-	2	17	69
O5	-	111	60	171	3	8	54	236
O4	-	211	96	307	6	12	99	424
O3	223	115	83	421	13	12	127	573
O2	106	28	30	164	10	5	45	224
O1	86	18	9	113	1	3	36	153
<b>Officers</b>	<b>415</b>	<b>483</b>	<b>333</b>	<b>1,231</b>	<b>33</b>	<b>42</b>	<b>378</b>	<b>1,684</b>
W5	-	1	-	1	-	-	-	1
W4	-	23	5	28	1	1	8	38
W3	22	27	22	71	5	2	14	92
W2	22	34	46	102	5	2	26	135
W1	17	22	13	52	2	1	13	68
<b>Warrants</b>	<b>61</b>	<b>107</b>	<b>86</b>	<b>254</b>	<b>13</b>	<b>6</b>	<b>61</b>	<b>334</b>
E9	-	135	52	187	21	15	21	244
E8	-	484	249	733	60	51	219	1,063
E7	-	494	325	819	38	59	111	1,027
E6	481	462	509	1,452	79	110	106	1,747
E5	867	485	368	1,720	83	131	358	2,292
E4	1,270	475	264	2,009	78	115	1,097	3,299
E3	304	85	37	426	12	17	615	1,070
E2	116	38	13	167	1	6	397	571
E1	49	15	7	71	2	2	459	534
<b>Enlisted</b>	<b>3,087</b>	<b>2,673</b>	<b>1,824</b>	<b>7,584</b>	<b>374</b>	<b>506</b>	<b>3,383</b>	<b>11,847</b>
<b>Total</b>	<b>3,563</b>	<b>3,263</b>	<b>2,243</b>	<b>9,069</b>	<b>420</b>	<b>554</b>	<b>3,822</b>	<b>13,865</b>

Source: Headquarters, Department of the Army, 2007; Robert D. Niehaus, Inc., 2006; Fort Bliss Adjutant General's Office, 2006; and estimates prepared for this study.

Bedroom entitlements for families assigned to Fort Bliss in the current year were calculated using family size data provided by the Fort Bliss Adjutant General's Office (2007). Based on current guidance to assign one bedroom per family member (other than spouse), 3,563 families (39.3 percent of families) are entitled to two-bedroom units, 3,263 families (36.0 percent of families) are entitled to three-bedroom units, and 2,243 families (24.7 percent of families) are entitled to units with at least four bedrooms (see Table 4-1).

Table 4-2 presents unaccompanied personnel by grade and bedroom entitlement for 2006.

**Table 4-2. Unaccompanied Personnel by Grade and Bedroom Entitlements, Fort Bliss, 2006**

2006 Pay Grade	Number of Bedrooms			Total
	One	Two	Three	
O7 & Above	-	-	-	-
O6	-	-	17	17
O5	-	-	54	54
O4	-	-	99	99
O3	-	127	-	127
O2	-	45	-	45
O1	-	36	-	36
Officers	-	208	170	378
W5	-	-	-	-
W4	-	-	8	8
W3	-	14	-	14
W2	-	26	-	26
W1	-	13	-	13
Warrants	-	53	8	61
E9	-	21	-	21
E8	-	219	-	219
E7	-	111	-	111
E6	-	106	-	106
E5	358	-	-	358
E4	1,097	-	-	1,097
E3	615	-	-	615
E2	397	-	-	397
E1	459	-	-	459
Enlisted	2,926	457	-	3,383
<b>Total</b>	<b>2,926</b>	<b>718</b>	<b>178</b>	<b>3,822</b>

Source: Estimates prepared for this study.

### Projected Requirements

By 2011, the total number of Fort Bliss personnel is projected to increase to 29,818 permanent party personnel (Table 4-3). The total number of families requiring housing is forecast to increase to 17,975 families, and the number of unaccompanied personnel requiring housing would increase to 10,058 military members. The distribution of these requirements among bedroom types is presented in Table 4-3 for families and in Table 4-4 for unaccompanied personnel.

Bedroom entitlements for Fort Bliss families in the projected year were calculated using family size data from the Defense Manpower Data Center Database (DMDC) provided by Headquarters, Department of the Army (2007). The DMDC database is assumed to be more representative of future Fort Bliss families, after the additional troops arrive, than is data for current Fort Bliss families. For example, based on demographic data provided by Fort Hood and Fort Sill, military families transferring from Fort Hood and Fort Sill have fewer four bedroom entitlements, on average, than the military families currently assigned to Fort Bliss.

Based on current guidance to assign one bedroom per family member (other than spouse), 7,361 families (41.0 percent of families) are entitled to two-bedroom units, 6,571 families (36.6 percent of families) are entitled to three-bedroom units, and 4,040 families (22.5 percent of families) are entitled to units with at least four bedrooms (see Table 4-1).

**Table 4-3. Military Personnel by Accompaniment Status and Bedroom Entitlements, Fort Bliss, 2011**

Pay Grade	Number of Bedrooms			Military Families	Military Couples	Voluntary Separations	Unaccompanied	Permanent Party Personnel
	Two	Three	Four+					
O7 & Above	-	-	8	8	-	-	-	8
O6	-	-	78	78	-	3	33	114
O5	-	168	97	265	5	12	110	392
O4	-	332	147	479	9	17	199	704
O3	385	154	117	656	19	17	259	951
O2	181	42	34	257	15	7	93	372
O1	150	19	5	174	2	4	73	253
<b>Officers</b>	<b>716</b>	<b>715</b>	<b>486</b>	<b>1,917</b>	<b>50</b>	<b>60</b>	<b>767</b>	<b>2,794</b>
W5	-	2	1	3	-	-	-	3
W4	-	39	16	55	2	2	21	80
W3	43	50	45	138	9	4	45	196
W2	72	55	72	199	8	4	75	286
W1	34	43	25	102	4	2	38	146
<b>Warrants</b>	<b>149</b>	<b>189</b>	<b>159</b>	<b>497</b>	<b>23</b>	<b>12</b>	<b>179</b>	<b>711</b>
E9	-	307	81	388	39	27	89	543
E8	-	1,043	466	1,509	112	95	646	2,362
E7	-	1,206	473	1,679	71	111	420	2,281
E6	1,028	1,060	895	2,983	147	205	545	3,880
E5	1,767	963	800	3,530	155	244	1,160	5,089
E4	2,707	833	576	4,116	145	214	2,850	7,325
E3	640	157	73	870	23	31	1,453	2,377
E2	254	66	21	341	2	11	915	1,269
E1	100	35	10	145	4	4	1,034	1,187
<b>Enlisted</b>	<b>6,496</b>	<b>5,670</b>	<b>3,395</b>	<b>15,561</b>	<b>698</b>	<b>942</b>	<b>9,112</b>	<b>26,313</b>
<b>Total</b>	<b>7,361</b>	<b>6,574</b>	<b>4,040</b>	<b>17,975</b>	<b>771</b>	<b>1,014</b>	<b>10,058</b>	<b>29,818</b>

Source: Headquarters, Department of the Army, 2007; Robert D. Niehaus, Inc., 2006; Fort Bliss Adjutant General's Office, 2006; and estimates prepared for this study.



**Table 4-4. Unaccompanied Personnel by Grade and Bedroom Entitlements, Fort Bliss, 2011**

2011 Pay Grade	Number of Bedrooms			Total
	One	Two	Three	
O7 & Above	-	-	-	-
O6	-	-	33	33
O5	-	-	110	110
O4	-	-	199	199
O3	-	259	-	259
O2	-	93	-	93
O1	-	73	-	73
Officers	-	425	342	767
W5	-	-	-	-
W4	-	-	21	21
W3	-	45	-	45
W2	-	75	-	75
W1	-	38	-	38
Warrants	-	158	21	179
E9	-	89	-	89
E8	-	646	-	646
E7	-	420	-	420
E6	-	545	-	545
E5	1,160	-	-	1,160
E4	2,850	-	-	2,850
E3	1,453	-	-	1,453
E2	915	-	-	915
E1	1,034	-	-	1,034
Enlisted	7,412	1,700	-	9,112
<b>Total</b>	<b>7,412</b>	<b>2,283</b>	<b>363</b>	<b>10,058</b>

Source: Estimates prepared for this study.

## 4.2 CURRENT ON-POST HOUSING OCCUPANCY

For analysis of current year conditions, on-post military family housing is considered occupied at recent actual levels. Table 4-5 presents the current occupancy of military family housing at Fort Bliss and is based on the bedroom entitlements of the personnel. Because the mix among bedroom types is based on the military members' bedroom entitlements, the bedroom totals may not correspond to the actual distribution of bedroom types in the on-post inventory. The Fort Bliss Housing Office (2006) reports that 2,427 accompanied military personnel reside in on-post military family housing at the present time.

For unaccompanied personnel, all E1-E5 personnel are assumed to be housed in on-post unaccompanied quarters. Table 4-6 presents the current floor housing requirement for unaccompanied personnel.

**Table 4-5. On-Post Military Family Housing  
Occupancy by Grade and by Bedroom  
Entitlement, Fort Bliss, 2006**

Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+	
O7 & Above	-	-	5	5
O6	-	-	44	44
O5	-	4	24	28
O4	-	9	38	47
O3	-	91	17	108
O2	-	22	6	28
O1	-	14	2	16
<b>Officers</b>	-	140	136	276
W5	-	-	-	-
W4	-	1	1	2
W3	1	2	2	5
W2	1	2	3	6
W1	1	1	1	3
<b>Warrants</b>	3	6	7	16
E9	-	20	6	26
E8	-	72	28	100
E7	-	73	36	109
E6	242	233	256	731
E5	418	233	177	828
E4	131	108	18	257
E3	31	19	3	53
E2	12	9	1	22
E1	5	4	-	9
<b>Enlisted</b>	839	771	525	2,135
<b>Total</b>	<b>842</b>	<b>917</b>	<b>668</b>	<b>2,427</b>

Note: Occupancy is based on the bedroom entitlements of the personnel. Thus, the bedroom totals may not correspond to the actual distribution of bedroom types in the on-post inventory.

Source: Fort Bliss Housing Office, 2006.

**Table 4-6. Unaccompanied Floor Housing  
Requirement, Fort Bliss, 2006**

Pay Grade	Number of Bedrooms			Total
	One	Two	Three	
O7 & Above	-	-	-	-
O6	-	-	-	-
O5	-	-	-	-
O4	-	-	-	-
O3	-	-	-	-
O2	-	-	-	-
O1	-	-	-	-
<b>Officers</b>	-	-	-	-
W5	-	-	-	-
W4	-	-	-	-
W3	-	-	-	-
W2	-	-	-	-
W1	-	-	-	-
<b>Warrants</b>	-	-	-	-
E9	-	-	-	-
E8	-	-	-	-
E7	-	-	-	-
E6	-	-	-	-
E5	358	-	-	358
E4	1,097	-	-	1,097
E3	615	-	-	615
E2	397	-	-	397
E1	459	-	-	459
<b>Enlisted</b>	2,926	-	-	2,926
<b>Total</b>	<b>2,926</b>	-	-	<b>2,926</b>

Source: Estimates prepared for this study.

### 4.3 FLOOR ANALYSIS

Chapter 1 of this HMA defines the four components of the floor requirement for accompanied personnel and the on-post housing requirement for unaccompanied personnel. The following sections present the individual components of the floor requirements analysis by grade and bedroom entitlements for 2011.

#### Accompanied Personnel

##### *Accompanied On-Post Community Requirements*

The ten percent on-post community housing requirement is 1,801 family housing units, assuming there is an on-post unit for each grade in which there is at least one family (Table 4-7). However, for this analysis the on-post community housing requirement is initially set to zero (see Chapter 1).

##### *Key and Essential Requirements*

There are 820 key and essential personnel at Fort Bliss, including students who are required to live on the installation (Table 4-8).

**Table 4-7. On-Post Military Community Housing Requirement, Fort Bliss, 2011**

Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+	
O7 & Above	-	-	1	1
O6	-	-	8	8
O5	-	17	10	27
O4	-	33	15	48
O3	39	15	12	66
O2	18	5	3	26
O1	15	1	1	17
<b>Officers</b>	<b>72</b>	<b>71</b>	<b>50</b>	<b>193</b>
W5	-	1	-	1
W4	-	4	2	6
W3	4	5	5	14
W2	7	6	7	20
W1	3	4	3	10
<b>Warrants</b>	<b>14</b>	<b>20</b>	<b>17</b>	<b>51</b>
E9	-	31	8	39
E8	-	104	47	151
E7	-	121	47	168
E6	102	106	90	298
E5	177	96	80	353
E4	271	83	58	412
E3	64	16	7	87
E2	25	7	2	34
E1	10	4	1	15
<b>Enlisted</b>	<b>649</b>	<b>568</b>	<b>340</b>	<b>1,557</b>
<b>Total</b>	<b>735</b>	<b>659</b>	<b>407</b>	<b>1,801</b>

Source: Estimates prepared for this study.

**Table 4-8. Key and Essential Personnel, Fort Bliss, 2011**

Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+	
O7 & Above	-	-	8	8
O6	-	-	47	47
O5	-	14	22	36
O4	-	1	-	1
O3	83	51	49	183
O2	-	-	-	-
O1	-	-	-	-
<b>Officers</b>	<b>83</b>	<b>66</b>	<b>126</b>	<b>275</b>
W5	-	-	-	-
W4	-	-	-	-
W3	-	-	-	-
W2	-	-	-	-
W1	-	-	-	-
<b>Warrants</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
E9	-	48	24	72
E8	-	319	154	473
E7	-	-	-	-
E6	-	-	-	-
E5	-	-	-	-
E4	-	-	-	-
E3	-	-	-	-
E2	-	-	-	-
E1	-	-	-	-
<b>Enlisted</b>	<b>-</b>	<b>367</b>	<b>178</b>	<b>545</b>
<b>Total</b>	<b>83</b>	<b>433</b>	<b>304</b>	<b>820</b>

Source: Fort Bliss Housing Office, 2006.

**Historic Housing Requirements**

There are 206 historic housing units on Fort Bliss (Table 4-9).

**Table 4-9. Historic Housing, Fort Bliss, 2011**

Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+	
O7 & Above	-	-	4	4
O6	-	-	28	28
O5	-	16	16	32
O4	-	16	16	32
O3	5	-	-	5
O2	-	-	-	-
O1	-	-	-	-
<b>Officers</b>	<b>5</b>	<b>32</b>	<b>64</b>	<b>101</b>
W5	-	-	1	1
W4	-	4	1	5
W3	-	-	-	-
W2	-	-	-	-
W1	-	-	-	-
<b>Warrants</b>	<b>-</b>	<b>4</b>	<b>2</b>	<b>6</b>
E9	-	1	-	1
E8	-	-	-	-
E7	-	-	-	-
E6	-	-	-	-
E5	-	-	-	-
E4	-	-	-	-
E3	98	-	-	98
E2	-	-	-	-
E1	-	-	-	-
<b>Enlisted</b>	<b>98</b>	<b>1</b>	<b>-</b>	<b>99</b>
<b>Total</b>	<b>103</b>	<b>37</b>	<b>66</b>	<b>206</b>

Source: Fort Bliss Housing Office, 2006.

### Quality of Life Requirements

The quality of life requirement is determined by the number of family personnel whose regular military compensation (RMC) falls below 50 percent of the median family income in the Fort Bliss market area. El Paso County has a 2006 median family income of \$39,500 (U.S. Department of Housing and Urban Development, 2006). One-half of this amount is \$19,750.

The RMC for 2006 for each individual pay grade is the sum of the average annual base pay for that grade, housing and subsistence allowances for that grade, and a tax adjustment reflecting the fact that housing and subsistence allowances are not taxed as income. Table 4-10 provides the annual RMC by individual grade for Fort Bliss family personnel for the year 2006. No pay grades collect a regular military compensation below 50 percent of the estimated median family income for the market area. Thus, the quality of life requirement is zero (Table 4-11).

**Table 4-10. Regular Military Compensation (RMC), Fort Bliss, 2006**

Pay Grade	Annual Basic Pay	Annual Local BAH	Annual BAS	Annual Allowances	National Avg Ann Allow	National Avg Tax Adv	National Avg Advantage%	Local Tax Adv	Annual RMC
O7 & Above	\$120,753	\$17,016	\$2,250	\$19,266	\$31,197	\$11,109	35.61%	\$6,860	\$146,879
O6	\$101,813	\$16,812	\$2,250	\$19,062	\$27,158	\$9,051	33.33%	\$6,353	\$127,228
O5	\$82,383	\$16,680	\$2,250	\$18,930	\$25,777	\$8,112	31.47%	\$5,957	\$107,270
O4	\$70,193	\$15,408	\$2,250	\$17,658	\$23,306	\$5,928	25.44%	\$4,492	\$92,342
O3	\$54,016	\$13,584	\$2,250	\$15,834	\$20,207	\$3,675	18.19%	\$2,880	\$72,730
O2	\$42,493	\$11,484	\$2,250	\$13,734	\$17,417	\$3,050	17.51%	\$2,405	\$58,633
O1	\$31,911	\$10,620	\$2,250	\$12,870	\$15,764	\$2,549	16.17%	\$2,081	\$46,862
W5	\$75,126	\$15,084	\$2,250	\$17,334	\$21,444	\$6,197	28.90%	\$5,009	\$97,469
W4	\$65,840	\$14,292	\$2,250	\$16,542	\$19,882	\$4,257	21.41%	\$3,542	\$85,923
W3	\$54,878	\$13,620	\$2,250	\$15,870	\$20,040	\$3,563	17.78%	\$2,821	\$73,570
W2	\$44,737	\$12,612	\$2,250	\$14,862	\$18,609	\$3,265	17.55%	\$2,608	\$62,207
W1	\$37,814	\$11,520	\$2,250	\$13,770	\$15,876	\$2,681	16.88%	\$2,325	\$53,909
E9	\$61,466	\$14,112	\$3,267	\$17,379	\$22,175	\$4,508	20.33%	\$3,533	\$82,378
E8	\$49,413	\$13,104	\$3,267	\$16,371	\$20,723	\$3,658	17.65%	\$2,890	\$68,673
E7	\$41,784	\$12,264	\$3,267	\$15,531	\$19,583	\$3,424	17.49%	\$2,716	\$60,031
E6	\$34,092	\$11,508	\$3,267	\$14,775	\$19,030	\$3,123	16.41%	\$2,424	\$51,291
E5	\$27,322	\$10,512	\$3,267	\$13,779	\$16,961	\$2,466	14.54%	\$2,003	\$43,104
E4	\$22,032	\$9,432	\$3,267	\$12,699	\$15,655	\$2,010	12.84%	\$1,630	\$36,361
E3	\$18,526	\$9,432	\$3,267	\$12,699	\$15,811	\$1,844	11.67%	\$1,481	\$32,706
E2	\$17,129	\$9,432	\$3,267	\$12,699	\$15,274	\$1,698	11.11%	\$1,411	\$31,239
E1	\$15,282	\$9,432	\$3,267	\$12,699	\$15,268	\$1,392	9.12%	\$1,158	\$29,139

Source: U.S Department of Defense, 2006.

**Table 4-11. Quality of Life Requirement, Fort Bliss, 2011**

Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+	
O7 & Above	-	-	-	-
O6	-	-	-	-
O5	-	-	-	-
O4	-	-	-	-
O3	-	-	-	-
O2	-	-	-	-
O1	-	-	-	-
Officers	-	-	-	-
W5	-	-	-	-
W4	-	-	-	-
W3	-	-	-	-
W2	-	-	-	-
W1	-	-	-	-
Warrants	-	-	-	-
E9	-	-	-	-
E8	-	-	-	-
E7	-	-	-	-
E6	-	-	-	-
E5	-	-	-	-
E4	-	-	-	-
E3	-	-	-	-
E2	-	-	-	-
E1	-	-	-	-
Enlisted	-	-	-	-
<b>Total</b>	-	-	-	-

Source: Estimates prepared for this study.

This analysis assumes the floor requirement is initially the greatest of three components, key and essential personnel, historic housing units, and quality of life (targeted economic relief) as there is no military community factor in the floor requirement under the current methodology. Since the quality of life component is zero, the projected floor requirement reflects the key and essential personnel and historic housing components or criteria, and totals 955 units (Table 4-12).

**Table 4-12. Floor Requirement by Criterion, Accompanied Personnel, 2011**

<b>Pay Grade</b>	<b>Military Families</b>	<b>Military Community</b>	<b>Key and Essential</b>	<b>Historic Units</b>	<b>Quality of Life</b>	<b>Floor Requirement</b>
O7 & Above	8	-	8	4	-	8
O6	78	-	47	28	-	47
O5	265	-	36	32	-	36
O4	479	-	1	32	-	32
O3	656	-	183	5	-	183
O2	257	-	-	-	-	-
O1	174	-	-	-	-	-
<b>Officers</b>	<b>1,917</b>	<b>-</b>	<b>275</b>	<b>101</b>	<b>-</b>	<b>306</b>
W5	3	-	-	1	-	1
W4	55	-	-	5	-	5
W3	138	-	-	-	-	-
W2	199	-	-	-	-	-
W1	102	-	-	-	-	-
<b>Warrants</b>	<b>497</b>	<b>-</b>	<b>-</b>	<b>6</b>	<b>-</b>	<b>6</b>
E9	388	-	72	1	-	72
E8	1,509	-	473	-	-	473
E7	1,679	-	-	-	-	-
E6	2,983	-	-	-	-	-
E5	3,530	-	-	-	-	-
E4	4,116	-	-	-	-	-
E3	870	-	-	98	-	98
E2	341	-	-	-	-	-
E1	145	-	-	-	-	-
<b>Enlisted</b>	<b>15,561</b>	<b>-</b>	<b>545</b>	<b>99</b>	<b>-</b>	<b>643</b>
<b>Total</b>	<b>17,975</b>	<b>-</b>	<b>820</b>	<b>206</b>	<b>-</b>	<b>955</b>

Source: Estimates prepared for this study (see text).

The floor requirement by grade and number of bedrooms is presented in Table 4-13.

**Table 4-13. Floor Requirement by Bedrooms, Accompanied Personnel, 2011**

Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+	
O7 & Above	-	-	8	8
O6	-	-	47	47
O5	-	14	22	36
O4	-	16	16	32
O3	83	51	49	183
O2	-	-	-	-
O1	-	-	-	-
<b>Officers</b>	<b>83</b>	<b>81</b>	<b>142</b>	<b>306</b>
W5	-	-	1	1
W4	-	4	1	5
W3	-	-	-	-
W2	-	-	-	-
W1	-	-	-	-
<b>Warrants</b>	<b>-</b>	<b>4</b>	<b>2</b>	<b>6</b>
E9	-	48	24	72
E8	-	319	154	473
E7	-	-	-	-
E6	-	-	-	-
E5	-	-	-	-
E4	-	-	-	-
E3	98	-	-	98
E2	-	-	-	-
E1	-	-	-	-
<b>Enlisted</b>	<b>98</b>	<b>367</b>	<b>178</b>	<b>643</b>
<b>Total</b>	<b>181</b>	<b>452</b>	<b>322</b>	<b>955</b>

Source: Estimates prepared for this study.

OSD policy is to rely on the private sector to house military personnel to the maximum possible extent. Following OSD guidance, this analysis interprets the policy to mean that the difference between current occupancy of on-post housing and the projected floor requirement is the number of families that would seek housing in the private sector over the next five years. Current occupancy of on-post family housing is 2,247 families. The projected floor requirement is 955 units. The difference between these two values (1,472) is the number of accompanied personnel who are assumed to seek private-sector housing between 2006 and 2011. For the purposes of this analysis it is assumed that the development community would respond to the potential increase in off-post renters by building an additional 322 units each year. This market response would be sufficient to accommodate all of the potentially transitioning military families. The extent to which private-sector housing meets Army standards for affordability, quality, and number of bedrooms is analyzed further below.



### Unaccompanied Personnel

For unaccompanied personnel, the floor housing requirement is defined as all unaccompanied E1-E5 personnel. These personnel are assumed to be housed in on-post unaccompanied quarters. Table 4-14 presents the projected floor housing requirement for unaccompanied personnel.

**Table 4-14. Unaccompanied Floor Housing Requirement, Fort Bliss, 2011**

Pay Grade	Number of Bedrooms			Total
	One	Two	Three	
O7 & Above	-	-	-	-
O6	-	-	-	-
O5	-	-	-	-
O4	-	-	-	-
O3	-	-	-	-
O2	-	-	-	-
O1	-	-	-	-
Officers	-	-	-	-
W5	-	-	-	-
W4	-	-	-	-
W3	-	-	-	-
W2	-	-	-	-
W1	-	-	-	-
Warrants	-	-	-	-
E9	-	-	-	-
E8	-	-	-	-
E7	-	-	-	-
E6	-	-	-	-
E5	1,160	-	-	1,160
E4	2,850	-	-	2,850
E3	1,453	-	-	1,453
E2	915	-	-	915
E1	1,034	-	-	1,034
Enlisted	7,412	-	-	7,412
<b>Total</b>	<b>7,412</b>	<b>-</b>	<b>-</b>	<b>7,412</b>

Source: Estimates prepared for this study

#### 4.4 OFF-POST HOUSING DEMAND

For accompanied personnel, total potential community housing demand is defined for 2006 as those accompanied personnel in excess of the current occupants of on-post housing and for 2011 as those personnel in excess of the projected floor requirement. For unaccompanied personnel the potential community housing demands are those personnel in excess of the floor requirement in both years.

##### Accompanied Personnel

Off-post accompanied “community first” housing demand totals 6,642 families in 2006 and 17,020 families in 2011. The bedroom requirements of these personnel, by grade, are shown in Table 4-15.

**Table 4-15. Community-First Accompanied Housing Requirements, Fort Bliss, 2006 and 2011**

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+			Two	Three	Four+	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	6	6	O6	-	-	31	31
O5	-	107	36	143	O5	-	154	75	229
O4	-	202	58	260	O4	-	316	131	447
O3	223	24	66	313	O3	302	103	68	473
O2	106	6	24	136	O2	181	42	34	257
O1	86	4	7	97	O1	150	19	5	174
<b>Officers</b>	<b>415</b>	<b>343</b>	<b>197</b>	<b>955</b>	<b>Officers</b>	<b>633</b>	<b>634</b>	<b>344</b>	<b>1,611</b>
W5	-	1	-	1	W5	-	2	-	2
W4	-	22	4	26	W4	-	35	15	50
W3	21	25	20	66	W3	43	50	45	138
W2	21	32	43	96	W2	72	55	72	199
W1	16	21	12	49	W1	34	43	25	102
<b>Warrants</b>	<b>58</b>	<b>101</b>	<b>79</b>	<b>238</b>	<b>Warrants</b>	<b>149</b>	<b>185</b>	<b>157</b>	<b>491</b>
E9	-	115	46	161	E9	-	259	57	316
E8	-	412	221	633	E8	-	724	312	1,036
E7	-	421	289	710	E7	-	1,206	473	1,679
E6	239	229	253	721	E6	1,028	1,060	895	2,983
E5	449	252	191	892	E5	1,767	963	800	3,530
E4	1,139	367	246	1,752	E4	2,707	833	576	4,116
E3	273	66	34	373	E3	542	157	73	772
E2	104	29	12	145	E2	254	66	21	341
E1	44	11	7	62	E1	100	35	10	145
<b>Enlisted</b>	<b>2,248</b>	<b>1,902</b>	<b>1,299</b>	<b>5,449</b>	<b>Enlisted</b>	<b>6,398</b>	<b>5,303</b>	<b>3,217</b>	<b>14,918</b>
<b>Total</b>	<b>2,721</b>	<b>2,346</b>	<b>1,575</b>	<b>6,642</b>	<b>Total</b>	<b>7,180</b>	<b>6,122</b>	<b>3,718</b>	<b>17,020</b>

Source: Estimates prepared for this study.

## Change in Homeownership Rates

The current number of military family homeowners is based on the number of homeowners estimated for the 2005 HMA, adjusted for changes in homeownership affordability since 2005. The 2005 HMA for Fort Bliss calculated the number of military family homeowners based on data from the 1997 Variable Housing Allowance (VHA) Survey for the area adjusted for changes in housing affordability since 1997. Numerous factors determine the extent of homeownership at a military installation. Simple comparisons of housing allowances to home prices are not sufficient to explain changes in homeownership. A more precise measurement of affordability is needed. Table 4-16 presents a method for calculating changes in affordability of home ownership for Fort Bliss personnel between 2005 and the present time. This method can then be used to adjust the 2005 homeownership ratios to the present time. If all other factors – availability of jobs for spouses, attractiveness of the area for retirement or multiple tours of duty, expected home price appreciation, extent of favorable tax treatment of homeownership – remained the same between 2005 and the present, the adjustment for the change in affordability could potentially provide an accurate measure of current homeownership.

This adjustment has two components. First, it is necessary to determine how much the affordability of home ownership for military personnel has changed between 2005 and the present. This requires comparison of homeownership costs to housing allowances. Second, it is necessary to estimate how sensitive military homeowners are to any given change in affordability.

The pro forma analysis starts with an estimate of the annual change in home prices between 2005 and the present. The calculations shown in Table 4-16 use the median price of a home in El Paso County (National Association of Realtors, 2007). Home prices have increased at a rate of 6.4 percent over the past year. Assuming a 10 percent down payment, it is possible to calculate the amount of mortgage carried by the purchaser. The trend in home mortgage rates is determined using the annual average yield on new home mortgages as compiled by the Federal Reserve Board (note the increase of 69 basis points between 2005 and the 2006). This increase in borrowing costs makes the average mortgage payment more expensive with any given budget in 2006 compared to 2005.

Assuming a 30-year fixed rate loan, it is possible to calculate monthly costs of principal and interest on the loan. Allowances are then made for property taxes, insurance, and utility costs to determine the total monthly cost of homeownership. Comparing this cost to the weighted average housing allowance (BAH in 2005 and 2006) for personnel with dependents allows for a calculation of an Affordability Gap in dollar terms. As shown in Table 4-16, this gap increased from \$106 in 2005 to \$212 in 2006.

The Affordability Gap measured as a percent of the weighted average housing allowance is also shown. In 2005 Fort Bliss personnel had to pay, on average, about 111 percent of the average housing allowance to cover the cost of owning a home. Since then, the cost of owning a home has risen faster than the weighted average housing. As a result, the cost of owning a home in 2006 was about 122 percent of the average housing allowance. The relative change in the Affordability Gap is a 10 percent increase in this gap between 2005 and 2006 (see the Adjustment Factor shown as the last row in Table 4-16).

**Table 4-16. Military Homeownership Affordability Analysis, Fort Bliss, Texas**

Indicator	Comment/description	2005	2006	2011
Purchase Price	Median sales price of a residential home, projection to 2011 assumes 5.0%/year increase	\$118,000	\$125,533	\$160,216
Down Payment	Assumed to be 10% of Purchase Price; varies with use of VHA financing, other factors	\$11,800	\$12,553	\$16,022
Loan Amount	Purchase Price less Down Payment	\$106,200	\$112,980	\$144,194
Interest Rate	Annual average yield on new home mortgages as compiled by Federal Reserve Board; 2011 projection assumes moderate increase in rates	5.94%	6.63%	7.03%
Monthly Payment	Assumes 30-year fixed rate loan	\$633	\$724	\$962
Property Taxes	Annual amount assumed to be 1.5% of purchase price; shown as \$/month	\$148	\$157	\$200
Insurance	Annual amount assumed to be 0.75% of purchase price; shown as \$/month	\$74	\$78	\$100
Utility Costs	2006 cost is for a 3-BR unit as estimated for this analysis; 2005 is indexed from CPI; 2011 projection assumes 4.5%/year increases	\$181	\$198	\$247
Monthly Cost	Loan payment plus property taxes plus insurance plus utilities	\$1,036	\$1,157	\$1,509
Military Allowances	Weighted average housing allowance for military personnel, \$/month	\$931	\$945	\$1,150
Affordability Gap (\$)	Monthly Cost minus military allowance equals cost to be borne from base pay or other income (spouse, second job, etc.)	\$106	\$212	\$359
Affordability Gap (%)	Monthly Cost as a percent of military allowance	111.33%	122.40%	131.23%
Adjustment Factor	Relative Change in Affordability Gap (%)	100.00%	109.94%	117.87%

Note: Total settlement/escrow costs are not shown.

Sources: Bureau of Labor Statistics, 2007; Council of Economic Advisors, 2007; National Association of Realtors, 2007; Congressional Budget Office, 2007; and estimates prepared for this study.

These factors are all forecast five years in advance to permit their use in this analysis. This requires assumptions about future interest rates, home prices, utility costs, and housing allowance escalation. Interest rates are assumed to increase to 7.0 percent by 2011 following the interest rate trend forecast by the Congressional Budget Office (2007). Home prices are assumed to increase 5.0 percent per year, consistent with the projected rise in interest rates and the historical trend in housing prices. Utility costs are assumed to increase 4.5 percent per year, consistent with the changes in the household utility

component of the Consumer Price Index (CPI) for small to medium sized cities in the West (U.S Bureau of Labor Statistics, 2007). Weighted average housing allowances for Fort Bliss military families increased 1.5 percent from 2005 to 2006 and are projected to increase 4.0 percent per year thereafter (consistent with expected rental cost increases over the 2006 to 2011 period in the local area).

Thus, the Affordability Gap as a percent of the military housing allowance increases over the period 2006 to 2011. In other words, military homeownership is projected to be less affordable in relative terms in 2011 than in 2006.

The purpose of the analysis shown in Table 4-16 is to calculate and forecast changes in affordability between 2005, the present, and the projection year. In addition, it is necessary to estimate how sensitive military home purchases are to these changes in cost. There is very little information available on which to base such an analysis. Therefore a formulaic estimate must be used until adequate data can be obtained. It is possible to calculate the change in homeownership propensities for each grade using the relative change in the affordability gap. Specifically, the share of off-post families that are not homeowners (that is, are renters) can be assumed to decline (or increase) proportionately with the relative affordability gap. Symbolically, this can be expressed as:

$$\text{Current homeownership share} = \frac{1 - (1 - \text{homeownership share in 2005}) \times \text{Relative affordability gap in the current year}}{\text{Relative affordability gap in the current year}}$$

This adjustment factor can then be applied to each grade's homeownership propensity as calculated for the 2005 HMA to estimate current homeowners. Those personnel who own a home before the change in affordability took place are not affected by this calculation. Every year it is assumed approximately 25 percent of the total personnel at Fort Bliss are assigned a permanent change of station. This analysis therefore estimates that 75 percent of the families who own a home in 2005 continue to own a home in 2006 while the other 25 percent sell their homes due to the permanent change of station. The change in homeownership affordability then is applied only to those families who search for housing in the Fort Bliss area in 2006.

Applying the adjustment factor to 2011 data provides a projection of future homeowners given the assumed trends in home prices, housing allowances, and interest rates. Use of this formula is necessarily judgmental, and should be considered a preliminary measure subject to revision based on availability of better data (preferably a local survey of military personnel).

Using the pro forma analysis, in the current year (2006), 29.4 percent of all families are estimated to own a home (2,664 homeowners). Over the 2006 to 2011 period it is expected that housing affordability will decline. As a result, in 2011, using the pro forma analysis it is projected that 19.3 percent of all families will be homeowners (3,465 homeowners; Table 20).

Military homeowners projected for 2011 are not affected by the definition of the floor requirement. All military members living on the installation in 2006 are considered renters. Therefore those personnel simulated to be part of the transition from on-post housing into community housing between 2006 and 2011 are treated as renters – they are transitioning from “renting” on-post housing to renting community housing.

Table 4-17. Accompanied Homeowners, Fort Bliss, 2006 and 2011

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+			Two	Three	Four+	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	6	6	O6	-	-	6	6
O5	-	59	32	91	O5	-	77	45	122
O4	-	141	58	199	O4	-	204	82	286
O3	108	14	51	173	O3	146	15	56	217
O2	36	3	12	51	O2	41	3	9	53
O1	4	1	-	5	O1	-	-	-	-
<b>Officers</b>	<b>148</b>	<b>218</b>	<b>159</b>	<b>525</b>	<b>Officers</b>	<b>187</b>	<b>299</b>	<b>198</b>	<b>684</b>
W5	-	1	-	1	W5	-	2	-	2
W4	-	10	2	12	W4	-	13	5	18
W3	9	11	9	29	W3	14	16	15	45
W2	6	10	13	29	W2	12	10	13	35
W1	2	2	1	5	W1	-	-	-	-
<b>Warrants</b>	<b>17</b>	<b>34</b>	<b>25</b>	<b>76</b>	<b>Warrants</b>	<b>26</b>	<b>41</b>	<b>33</b>	<b>100</b>
E9	-	36	14	50	E9	-	48	13	61
E8	-	165	85	250	E8	-	252	113	365
E7	-	252	166	418	E7	-	527	207	734
E6	182	174	192	548	E6	293	300	254	847
E5	217	122	92	431	E5	244	134	110	488
E4	215	81	45	341	E4	122	38	26	186
E3	12	3	2	17	E3	-	-	-	-
E2	3	1	-	4	E2	-	-	-	-
E1	3	1	-	4	E1	-	-	-	-
<b>Enlisted</b>	<b>632</b>	<b>835</b>	<b>596</b>	<b>2,063</b>	<b>Enlisted</b>	<b>659</b>	<b>1,299</b>	<b>723</b>	<b>2,681</b>
<b>Total</b>	<b>797</b>	<b>1,087</b>	<b>780</b>	<b>2,664</b>	<b>Total</b>	<b>872</b>	<b>1,639</b>	<b>954</b>	<b>3,465</b>

Source: Estimates prepared for this study

The number of accompanied personnel owning homes in the area is subtracted from the total community housing demand (see Table 4-15) to obtain the number of accompanied renters. The number of accompanied renters is thus 3,978 families in 2006 and 13,555 families in 2011 (Table 4-18).

**Table 4-18. Accompanied Renters, Fort Bliss, 2006 and 2011**

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+			Two	Three	Four+	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	-	-	O6	-	-	25	25
O5	-	48	4	52	O5	-	77	30	107
O4	-	61	-	61	O4	-	112	49	161
O3	115	10	15	140	O3	156	88	12	256
O2	70	3	12	85	O2	140	39	25	204
O1	82	3	7	92	O1	150	19	5	174
Officers	267	125	38	430	Officers	446	335	146	927
W5	-	-	-	-	W5	-	-	-	-
W4	-	12	2	14	W4	-	22	10	32
W3	12	14	11	37	W3	29	34	30	93
W2	15	22	30	67	W2	60	45	59	164
W1	14	19	11	44	W1	34	43	25	102
Warrants	41	67	54	162	Warrants	123	144	124	391
E9	-	79	32	111	E9	-	211	44	255
E8	-	247	136	383	E8	-	472	199	671
E7	-	169	123	292	E7	-	679	266	945
E6	57	55	61	173	E6	735	760	641	2,136
E5	232	130	99	461	E5	1,523	829	690	3,042
E4	924	286	201	1,411	E4	2,585	795	550	3,930
E3	261	63	32	356	E3	542	157	73	772
E2	101	28	12	141	E2	254	66	21	341
E1	41	10	7	58	E1	100	35	10	145
Enlisted	1,616	1,067	703	3,386	Enlisted	5,739	4,004	2,494	12,237
<b>Total</b>	<b>1,924</b>	<b>1,259</b>	<b>795</b>	<b>3,978</b>	<b>Total</b>	<b>6,308</b>	<b>4,483</b>	<b>2,764</b>	<b>13,555</b>

Source: Estimates prepared for this study

## Unaccompanied Personnel

Total unaccompanied “community first” housing needs are those unaccompanied personnel in excess of the floor requirement. The total is 896 personnel in 2006 and 2,646 personnel in 2011. The bedroom requirements of these personnel by grade are shown in Table 4-19.

**Table 4-19. Community-First Unaccompanied Housing Requirements, Fort Bliss, 2006 and 2011**

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	One	Two	Three			One	Two	Three	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	17	17	O6	-	-	33	33
O5	-	-	54	54	O5	-	-	110	110
O4	-	-	99	99	O4	-	-	199	199
O3	-	127	-	127	O3	-	259	-	259
O2	-	45	-	45	O2	-	93	-	93
O1	-	36	-	36	O1	-	73	-	73
Officers	-	208	170	378	Officers	-	425	342	767
W5	-	-	-	-	W5	-	-	-	-
W4	-	-	8	8	W4	-	-	21	21
W3	-	14	-	14	W3	-	45	-	45
W2	-	26	-	26	W2	-	75	-	75
W1	-	13	-	13	W1	-	38	-	38
Warrants	-	53	8	61	Warrants	-	158	21	179
E9	-	21	-	21	E9	-	89	-	89
E8	-	219	-	219	E8	-	646	-	646
E7	-	111	-	111	E7	-	420	-	420
E6	-	106	-	106	E6	-	545	-	545
E5	-	-	-	-	E5	-	-	-	-
E4	-	-	-	-	E4	-	-	-	-
E3	-	-	-	-	E3	-	-	-	-
E2	-	-	-	-	E2	-	-	-	-
E1	-	-	-	-	E1	-	-	-	-
Enlisted	-	457	-	457	Enlisted	-	1,700	-	1,700
<b>Total</b>	-	<b>718</b>	<b>178</b>	<b>896</b>	<b>Total</b>	-	<b>2,283</b>	<b>363</b>	<b>2,646</b>

Source: Estimates prepared for this study.



The number of unaccompanied personnel owning homes in the area is subtracted from this total to obtain the number of unaccompanied renters. The estimated number of unaccompanied personnel owning homes in the community is presented in Table 4-20. A total of 340 unaccompanied personnel are estimated to own their homes in the area in 2006. The projected number of unaccompanied military homeowners in 2011 is 846 personnel (see Table 4-20). Current and projected unaccompanied homeowners were calculated based on the homeownership affordability analysis presented above.

**Table 4-20. Unaccompanied Homeowners, 2006 and 2011**

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	One	Two	Three			One	Two	Three	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	14	14	O6	-	-	26	26
O5	-	-	32	32	O5	-	-	61	61
O4	-	-	55	55	O4	-	-	104	104
O3	-	45	-	45	O3	-	79	-	79
O2	-	11	-	11	O2	-	17	-	17
O1	-	8	-	8	O1	-	12	-	12
Officers	-	64	101	165	Officers	-	108	191	299
W5	-	-	-	-	W5	-	-	-	-
W4	-	-	4	4	W4	-	-	11	11
W3	-	5	-	5	W3	-	16	-	16
W2	-	6	-	6	W2	-	14	-	14
W1	-	2	-	2	W1	-	4	-	4
Warrants	-	13	4	17	Warrants	-	34	11	45
E9	-	9	-	9	E9	-	37	-	37
E8	-	74	-	74	E8	-	187	-	187
E7	-	47	-	47	E7	-	161	-	161
E6	-	28	-	28	E6	-	117	-	117
E5	-	-	-	-	E5	-	-	-	-
E4	-	-	-	-	E4	-	-	-	-
E3	-	-	-	-	E3	-	-	-	-
E2	-	-	-	-	E2	-	-	-	-
E1	-	-	-	-	E1	-	-	-	-
Enlisted	-	158	-	158	Enlisted	-	502	-	502
<b>Total</b>	-	<b>235</b>	<b>105</b>	<b>340</b>	<b>Total</b>	-	<b>644</b>	<b>202</b>	<b>846</b>

Source: Estimates prepared for this study.

The number of unaccompanied renters is thus 556 in 2006 and 1,800 in 2011. Table 4-21 displays the grade and bedroom entitlements of these renters.

**Table 4-21. Unaccompanied Renters, Fort Bliss, 2006 and 2011**

2006					2011				
Pay Grade	Number of Bedrooms			Total	Pay Grade	Number of Bedrooms			Total
	One	Two	Three			One	Two	Three	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	3	3	O6	-	-	7	7
O5	-	-	22	22	O5	-	-	49	49
O4	-	-	44	44	O4	-	-	95	95
O3	-	82	-	82	O3	-	180	-	180
O2	-	34	-	34	O2	-	76	-	76
O1	-	28	-	28	O1	-	61	-	61
<b>Officers</b>	-	144	69	213	<b>Officers</b>	-	317	151	468
W5	-	-	-	-	W5	-	-	-	-
W4	-	-	4	4	W4	-	-	10	10
W3	-	9	-	9	W3	-	29	-	29
W2	-	20	-	20	W2	-	61	-	61
W1	-	11	-	11	W1	-	34	-	34
<b>Warrants</b>	-	40	4	44	<b>Warrants</b>	-	124	10	134
E9	-	12	-	12	E9	-	52	-	52
E8	-	145	-	145	E8	-	459	-	459
E7	-	64	-	64	E7	-	259	-	259
E6	-	78	-	78	E6	-	428	-	428
E5	-	-	-	-	E5	-	-	-	-
E4	-	-	-	-	E4	-	-	-	-
E3	-	-	-	-	E3	-	-	-	-
E2	-	-	-	-	E2	-	-	-	-
E1	-	-	-	-	E1	-	-	-	-
<b>Enlisted</b>	-	299	-	299	<b>Enlisted</b>	-	1,198	-	1,198
<b>Total</b>	-	<b>483</b>	<b>73</b>	<b>556</b>	<b>Total</b>	-	<b>1,639</b>	<b>161</b>	<b>1,800</b>

Source: Estimates prepared for this study.

#### 4.5 AFFORDABILITY AND ADEQUACY

Cost is one of four DoD criteria used to determine whether housing is acceptable for accompanied military personnel. Location (i.e., within the market area), adequate condition and facilities (that is, decent, safe, and sanitary housing), and bedroom entitlement are the three other criteria. However, all three non-cost criteria are related closely to cost. If market area housing is not affordable for military families, they are more likely to reside outside the market area, or to live in housing in substandard condition or with inadequate facilities, or in units with fewer bedrooms than their entitlements.

### Military Housing Allowances and Maximum Acceptable Housing Costs

Accompanied military personnel residing in community housing receive a Basic Allowance for Housing (BAH) in addition to base pay. In 2006 MAHC equals BAH. Military personnel are assumed to pay approximately 85 percent to 100 percent of MAHC for rent, utilities, and renters insurance. If a military member finds it necessary to pay more than MAHC to obtain adequate housing, that member is, by definition, in unacceptable housing. In the Fort Bliss area, MAHC for military families ranges from \$786 per month to \$1,418 per month depending on grade (Table 4-22). For unaccompanied personnel MAHC ranges from \$616 to \$1,158 per month (Table 4-22).

**Table 4-22. Maximum Acceptable Housing Cost, With Dependents and Without Dependents, Fort Bliss, 2006**

Pay Grade	With Dependents	Without Dependents
	BAH	BAH
O7 & Above	\$1,418	\$1,158
O6	\$1,401	\$1,135
O5	\$1,390	\$1,071
O4	\$1,284	\$1,029
O3	\$1,132	\$929
O2	\$957	\$845
O1	\$885	\$696
W5	\$1,257	\$1,038
W4	\$1,191	\$975
W3	\$1,135	\$921
W2	\$1,051	\$892
W1	\$960	\$752
E9	\$1,176	\$918
E8	\$1,092	\$892
E7	\$1,022	\$792
E6	\$959	\$708
E5	\$876	\$670
E4	\$786	\$616
E3	\$786	\$616
E2	\$786	\$616
E1	\$786	\$616

Source: U.S. Department of Defense, 2006.

### Accompanied and Unaccompanied Renters by Cost Band

Military renters are assumed to spend between 85 percent and 100 percent of their MAHC for rental housing. Table 4-23 presents the current accompanied rental housing requirement by rental cost band and Table 4-24 presents the projected accompanied rental housing requirement by rental cost band.

**Table 4-23. Accompanied Renters, by Rental Cost, Fort Bliss, 2006**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	-	-	-	-
\$1501 - \$1600	-	-	-	-	-	-
\$1401 - \$1500	-	-	-	-	-	-
\$1301 - \$1400	-	-	-	21	2	23
\$1201 - \$1300	-	-	-	50	2	52
\$1101 - \$1200	-	-	24	81	21	126
\$1001 - \$1100	-	-	81	237	138	456
\$901 - \$1000	-	-	94	269	199	562
\$801 - \$900	-	-	271	158	136	565
\$701 - \$800	-	-	1,095	338	229	1,662
\$700 & Below	-	-	359	105	68	532
<b>Total</b>	<b>-</b>	<b>-</b>	<b>1,924</b>	<b>1,259</b>	<b>795</b>	<b>3,978</b>

Source: Estimates prepared for this study.

**Table 4-24. Accompanied Renters, by Rental Cost, Fort Bliss, 2011**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	-	-	-	-
\$1501 - \$1600	-	-	-	-	-	-
\$1401 - \$1500	-	-	-	-	-	-
\$1301 - \$1400	-	-	-	33	25	58
\$1201 - \$1300	-	-	-	86	48	134
\$1101 - \$1200	-	-	35	191	61	287
\$1001 - \$1100	-	-	128	585	227	940
\$901 - \$1000	-	-	450	1,050	590	2,090
\$801 - \$900	-	-	1,518	1,128	866	3,512
\$701 - \$800	-	-	3,235	1,126	769	5,130
\$700 & Below	-	-	942	284	178	1,404
<b>Total</b>	<b>-</b>	<b>-</b>	<b>6,308</b>	<b>4,483</b>	<b>2,764</b>	<b>13,555</b>

Source: Estimates prepared for this study.

Table 4-25 presents the current unaccompanied rental housing requirement by rental cost band and Table 4-26 presents the projected unaccompanied rental housing requirement by rental cost band.

**Table 4-25. Unaccompanied Renters, by Rental Cost, Fort Bliss, 2006**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	-	-	-	-
\$1501 - \$1600	-	-	-	-	-	-
\$1401 - \$1500	-	-	-	-	-	-
\$1301 - \$1400	-	-	-	-	-	-
\$1201 - \$1300	-	-	-	-	-	-
\$1101 - \$1200	-	-	-	1	-	1
\$1001 - \$1100	-	-	-	20	-	20
\$901 - \$1000	-	-	19	43	-	62
\$801 - \$900	-	-	201	9	-	210
\$701 - \$800	-	-	143	-	-	143
\$700 & Below	-	-	120	-	-	120
<b>Total</b>	<b>-</b>	<b>-</b>	<b>483</b>	<b>73</b>	<b>-</b>	<b>556</b>

Source: Estimates prepared for this study.

**Table 4-26. Unaccompanied Renters, by Rental Cost, Fort Bliss, 2011**

Rental Cost	Number of Bedrooms					Total
	Studios	One	Two	Three	Four+	
Above \$1600	-	-	-	-	-	-
\$1501 - \$1600	-	-	-	-	-	-
\$1401 - \$1500	-	-	-	-	-	-
\$1301 - \$1400	-	-	-	-	-	-
\$1201 - \$1300	-	-	-	-	-	-
\$1101 - \$1200	-	-	-	1	-	1
\$1001 - \$1100	-	-	-	44	-	44
\$901 - \$1000	-	-	48	95	-	143
\$801 - \$900	-	-	574	21	-	595
\$701 - \$800	-	-	484	-	-	484
\$700 & Below	-	-	533	-	-	533
<b>Total</b>	<b>-</b>	<b>-</b>	<b>1,639</b>	<b>161</b>	<b>-</b>	<b>1,800</b>

Source: Estimates prepared for this study.

### Community Shortfall

Military rental housing demand was then compared to rental costs in the market area (rents plus utilities plus renter's insurance), the level of competing demand for rental housing in the market area, the overall amount of rental housing, and the suitable rental housing in the market area to assess the availability, affordability, and adequacy of community rentals under the Army's definition of acceptable housing. Chapter 1 describes the methodology used in this analysis. The following sections present the results of the analysis for both accompanied and unaccompanied personnel.

**Accompanied Personnel**

Table 4-27 presents the estimated number of expected suitable rentals likely to be captured by accompanied renters for 2006 and 2011. A total of 2,197 expected suitable rentals are estimated for 2006 and 8,189 expected suitable rentals are projected for 2011.

**Table 4-27. Expected Suitable Rentals for Accompanied Renters, Fort Bliss, 2006 and 2011**

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+			Two	Three	Four+	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	-	-	O6	-	-	24	24
O5	-	42	4	46	O5	-	76	28	104
O4	-	50	-	50	O4	-	108	44	152
O3	93	8	9	110	O3	153	80	10	243
O2	60	2	7	69	O2	130	27	13	170
O1	66	1	2	69	O1	127	7	1	135
<b>Officers</b>	<b>219</b>	<b>103</b>	<b>22</b>	<b>344</b>	<b>Officers</b>	<b>410</b>	<b>298</b>	<b>120</b>	<b>828</b>
W5	-	-	-	-	W5	-	-	-	-
W4	-	10	2	12	W4	-	20	8	28
W3	10	11	6	27	W3	29	31	23	83
W2	13	17	17	47	W2	58	39	39	136
W1	12	13	6	31	W1	31	30	13	74
<b>Warrants</b>	<b>35</b>	<b>51</b>	<b>31</b>	<b>117</b>	<b>Warrants</b>	<b>118</b>	<b>120</b>	<b>83</b>	<b>321</b>
E9	-	64	20	84	E9	-	198	37	235
E8	-	192	78	270	E8	-	421	144	565
E7	-	124	69	193	E7	-	543	160	703
E6	49	38	34	121	E6	682	522	330	1,534
E5	182	54	33	269	E5	1,280	308	184	1,772
E4	533	25	-	558	E4	1,603	55	-	1,658
E3	150	6	-	156	E3	336	11	-	347
E2	59	2	-	61	E2	157	5	-	162
E1	23	1	-	24	E1	62	2	-	64
<b>Enlisted</b>	<b>996</b>	<b>506</b>	<b>234</b>	<b>1,736</b>	<b>Enlisted</b>	<b>4,120</b>	<b>2,065</b>	<b>855</b>	<b>7,040</b>
<b>Total</b>	<b>1,250</b>	<b>660</b>	<b>287</b>	<b>2,197</b>	<b>Total</b>	<b>4,648</b>	<b>2,483</b>	<b>1,058</b>	<b>8,189</b>

Source: Estimates prepared for this study.

Total acceptable housing for off-post accompanied personnel is the sum of area homeowners and expected suitable rentals in the area. There are 4,861 total acceptable housing units for accompanied personnel in 2006 and 11,654 acceptable housing units in 2011 (Table 4-28).

**Table 4-28. Total Acceptable Housing for Accompanied Personnel, Fort Bliss, 2006 and 2011**

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+			Two	Three	Four+	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	6	6	O6	-	-	30	30
O5	-	101	36	137	O5	-	153	73	226
O4	-	191	58	249	O4	-	312	126	438
O3	201	22	60	283	O3	299	95	66	460
O2	96	5	19	120	O2	171	30	22	223
O1	70	2	2	74	O1	127	7	1	135
Officers	367	321	181	869	Officers	597	597	318	1,512
W5	-	1	-	1	W5	-	2	-	2
W4	-	20	4	24	W4	-	33	13	46
W3	19	22	15	56	W3	43	47	38	128
W2	19	27	30	76	W2	70	49	52	171
W1	14	15	7	36	W1	31	30	13	74
Warrants	52	85	56	193	Warrants	144	161	116	421
E9	-	100	34	134	E9	-	246	50	296
E8	-	357	163	520	E8	-	673	257	930
E7	-	376	235	611	E7	-	1,070	367	1,437
E6	231	212	226	669	E6	975	822	584	2,381
E5	399	176	125	700	E5	1,524	442	294	2,260
E4	748	106	45	899	E4	1,725	93	26	1,844
E3	162	9	2	173	E3	336	11	-	347
E2	62	3	-	65	E2	157	5	-	162
E1	26	2	-	28	E1	62	2	-	64
Enlisted	1,628	1,341	830	3,799	Enlisted	4,779	3,364	1,578	9,721
<b>Total</b>	<b>2,047</b>	<b>1,747</b>	<b>1,067</b>	<b>4,861</b>	<b>Total</b>	<b>5,520</b>	<b>4,122</b>	<b>2,012</b>	<b>11,654</b>

Source: Estimates prepared for this study.

The community-housing shortfall is thus estimated to be 1,781 units in 2006 and 5,366 units in 2011 (the total off-post community housing requirement less acceptable community housing for accompanied personnel). The grade and bedroom breakdown of these units is presented in Table 4-29.

**Table 4-29. Accompanied Community Housing Shortfall, Fort Bliss, 2006 and 2011**

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+			Two	Three	Four+	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	-	-	O6	-	-	1	1
O5	-	6	-	6	O5	-	1	2	3
O4	-	11	-	11	O4	-	4	5	9
O3	22	2	6	30	O3	3	8	2	13
O2	10	1	5	16	O2	10	12	12	34
O1	16	2	5	23	O1	23	12	4	39
Officers	48	22	16	86	Officers	36	37	26	99
W5	-	-	-	-	W5	-	-	-	-
W4	-	2	-	2	W4	-	2	2	4
W3	2	3	5	10	W3	-	3	7	10
W2	2	5	13	20	W2	2	6	20	28
W1	2	6	5	13	W1	3	13	12	28
Warrants	6	16	23	45	Warrants	5	24	41	70
E9	-	15	12	27	E9	-	13	7	20
E8	-	55	58	113	E8	-	51	55	106
E7	-	45	54	99	E7	-	136	106	242
E6	8	17	27	52	E6	53	238	311	602
E5	50	76	66	192	E5	243	521	506	1,270
E4	391	261	201	853	E4	982	740	550	2,272
E3	111	57	32	200	E3	206	146	73	425
E2	42	26	12	80	E2	97	61	21	179
E1	18	9	7	34	E1	38	33	10	81
Enlisted	620	561	469	1,650	Enlisted	1,619	1,939	1,639	5,197
<b>Total</b>	<b>674</b>	<b>599</b>	<b>508</b>	<b>1,781</b>	<b>Total</b>	<b>1,660</b>	<b>2,000</b>	<b>1,706</b>	<b>5,366</b>

Source: Estimates prepared for this study.



**Unaccompanied Personnel**

Table 4-30 presents the estimated number of expected suitable rentals likely to be captured by unaccompanied renters in 2006 and 2011. A total of 369 expected suitable rentals are estimated for unaccompanied renters in 2006 and 1,208 expected suitable rentals are projected for 2011.

**Table 4-30. Expected Suitable Rentals for Unaccompanied Renters, Fort Bliss, 2006 and 2011**

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	One	Two	Three			One	Two	Three	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	3	3	O6	-	-	7	7
O5	-	-	17	17	O5	-	-	43	43
O4	-	-	33	33	O4	-	-	77	77
O3	-	68	-	68	O3	-	163	-	163
O2	-	26	-	26	O2	-	61	-	61
O1	-	6	-	6	O1	-	16	-	16
Officers	-	100	53	153	Officers	-	240	127	367
W5	-	-	-	-	W5	-	-	-	-
W4	-	-	2	2	W4	-	-	7	7
W3	-	8	-	8	W3	-	26	-	26
W2	-	16	-	16	W2	-	52	-	52
W1	-	5	-	5	W1	-	17	-	17
Warrants	-	29	2	31	Warrants	-	95	7	102
E9	-	10	-	10	E9	-	47	-	47
E8	-	117	-	117	E8	-	394	-	394
E7	-	38	-	38	E7	-	166	-	166
E6	-	20	-	20	E6	-	132	-	132
E5	-	-	-	-	E5	-	-	-	-
E4	-	-	-	-	E4	-	-	-	-
E3	-	-	-	-	E3	-	-	-	-
E2	-	-	-	-	E2	-	-	-	-
E1	-	-	-	-	E1	-	-	-	-
Enlisted	-	185	-	185	Enlisted	-	739	-	739
<b>Total</b>	-	<b>314</b>	<b>55</b>	<b>369</b>	<b>Total</b>	-	<b>1,074</b>	<b>134</b>	<b>1,208</b>

Source: Estimates prepared for this study.

Total acceptable housing for off-post unaccompanied personnel is the sum of area homeowners and expected suitable rentals in the area. The total is 709 units for unaccompanied personnel in 2006 and 2,054 units for unaccompanied personnel in 2011 (Table 4-31).

**Table 4-31. Total Acceptable Housing for Unaccompanied Personnel, Fort Bliss, 2006 and 2011**

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	One	Two	Three			One	Two	Three	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	17	17	O6	-	-	33	33
O5	-	-	49	49	O5	-	-	104	104
O4	-	-	88	88	O4	-	-	181	181
O3	-	113	-	113	O3	-	242	-	242
O2	-	37	-	37	O2	-	78	-	78
O1	-	14	-	14	O1	-	28	-	28
<b>Officers</b>	-	164	154	318	<b>Officers</b>	-	348	318	666
W5	-	-	-	-	W5	-	-	-	-
W4	-	-	6	6	W4	-	-	18	18
W3	-	13	-	13	W3	-	42	-	42
W2	-	22	-	22	W2	-	66	-	66
W1	-	7	-	7	W1	-	21	-	21
<b>Warrants</b>	-	42	6	48	<b>Warrants</b>	-	129	18	147
E9	-	19	-	19	E9	-	84	-	84
E8	-	191	-	191	E8	-	581	-	581
E7	-	85	-	85	E7	-	327	-	327
E6	-	48	-	48	E6	-	249	-	249
E5	-	-	-	-	E5	-	-	-	-
E4	-	-	-	-	E4	-	-	-	-
E3	-	-	-	-	E3	-	-	-	-
E2	-	-	-	-	E2	-	-	-	-
E1	-	-	-	-	E1	-	-	-	-
<b>Enlisted</b>	-	343	-	343	<b>Enlisted</b>	-	1,241	-	1,241
<b>Total</b>	-	<b>549</b>	<b>160</b>	<b>709</b>	<b>Total</b>	-	<b>1,718</b>	<b>336</b>	<b>2,054</b>

Source: Estimates prepared for this study.

The community-housing shortfall for unaccompanied personnel is thus estimated to be 187 units in 2006 and 592 units in 2011 (the total off-post community housing requirement less acceptable community housing for unaccompanied personnel). The grade and bedroom breakdown of these units is presented in Table 4-32.

**Table 4-32. Unaccompanied Community Housing Shortfall, Fort Bliss, 2006 and 2011**

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	One	Two	Three			One	Two	Three	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	-	-	O6	-	-	-	-
O5	-	-	5	5	O5	-	-	6	6
O4	-	-	11	11	O4	-	-	18	18
O3	-	14	-	14	O3	-	17	-	17
O2	-	8	-	8	O2	-	15	-	15
O1	-	22	-	22	O1	-	45	-	45
Officers	-	44	16	60	Officers	-	77	24	101
W5	-	-	-	-	W5	-	-	-	-
W4	-	-	2	2	W4	-	-	3	3
W3	-	1	-	1	W3	-	3	-	3
W2	-	4	-	4	W2	-	9	-	9
W1	-	6	-	6	W1	-	17	-	17
Warrants	-	11	2	13	Warrants	-	29	3	32
E9	-	2	-	2	E9	-	5	-	5
E8	-	28	-	28	E8	-	65	-	65
E7	-	26	-	26	E7	-	93	-	93
E6	-	58	-	58	E6	-	296	-	296
E5	-	-	-	-	E5	-	-	-	-
E4	-	-	-	-	E4	-	-	-	-
E3	-	-	-	-	E3	-	-	-	-
E2	-	-	-	-	E2	-	-	-	-
E1	-	-	-	-	E1	-	-	-	-
Enlisted	-	114	-	114	Enlisted	-	459	-	459
<b>Total</b>	-	<b>169</b>	<b>18</b>	<b>187</b>	<b>Total</b>	-	<b>565</b>	<b>27</b>	<b>592</b>

Source: Estimates prepared for this study.

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## 5. SUPPLY-DEMAND BALANCE

This chapter presents the total current and projected requirement for family housing. Estimates and forecasts of the requirement were calculated based on information presented in each of the previous chapters of this report.

### 5.1 TOTAL REQUIREMENT FOR HOUSING

#### Accompanied Personnel

As previously discussed, if the initial estimate of the total requirement for military family housing for any individual pay grade is not at least 10 percent of total families in that grade, the requirement will be increased to equal 10 percent of families in that grade. The initial requirement was raised to the 10-percent community level in the O4 and W3 pay grades. As a result, the total military family housing requirement in 2011 is projected to be 6,332 units (see Table 5-1). The breakout of the requirement by pay grade and bedroom entitlement is presented in Table 5-2.

**Table 5-1. Total On-Post Military Family Housing Required, Fort Bliss, 2011**

Pay Grade	Military Families	Military Community	Key and Essential	Historic Units	Quality of Life	Floor Requirement	Private Sector Shortfall	Initial Housing Requirement	10-Percent Military Community	Total Military Housing Requirement
O7 & Above	8	-	8	4	-	8	-	8	1	8
O6	78	-	47	28	-	47	1	48	8	48
O5	265	-	36	32	-	36	3	39	27	39
O4	479	-	1	32	-	32	9	41	48	48
O3	656	-	183	5	-	183	13	196	66	196
O2	257	-	-	-	-	-	34	34	26	34
O1	174	-	-	-	-	-	39	39	17	39
Officers	1,917	-	275	101	-	306	99	405	193	412
W5	3	-	-	1	-	1	-	1	1	1
W4	55	-	-	5	-	5	4	9	6	9
W3	138	-	-	-	-	-	10	10	14	14
W2	199	-	-	-	-	-	28	28	20	28
W1	102	-	-	-	-	-	28	28	10	28
Warrants	497	-	-	6	-	6	70	76	51	80
E9	388	-	72	1	-	72	20	92	39	92
E8	1,509	-	473	-	-	473	106	579	151	579
E7	1,679	-	-	-	-	-	242	242	168	242
E6	2,983	-	-	-	-	-	602	602	298	602
E5	3,530	-	-	-	-	-	1,270	1,270	353	1,270
E4	4,116	-	-	-	-	-	2,272	2,272	412	2,272
E3	870	-	-	98	-	98	425	523	87	523
E2	341	-	-	-	-	-	179	179	34	179
E1	145	-	-	-	-	-	81	81	15	81
Enlisted	15,561	-	545	99	-	643	5,197	5,840	1,557	5,840
<b>Total</b>	<b>17,975</b>	<b>-</b>	<b>820</b>	<b>206</b>	<b>-</b>	<b>955</b>	<b>5,366</b>	<b>6,321</b>	<b>1,801</b>	<b>6,332</b>

Note: The total military housing requirement is the greater of the initial housing requirement and the 10 percent community factor for each grade.

Source: Estimates prepared for this study.

The total accompanied housing requirement is 4,208 units in 2006, reflecting the sum of the community housing shortfall and current occupants of on-post military family housing (Table 5-2). The total accompanied housing requirement is 6,332 units in 2011, reflecting the sum of the floor requirement and

the community housing shortfall (no adjustments for the 10 percent military community factor were required). In 2011, the accompanied housing requirement comprises 1,841 two-bedroom units, 2,456 three-bedroom units, and 2,035 units with four or more bedrooms.

**Table 5-2. Total Accompanied Housing Requirement, Fort Bliss, 2006 and 2011**

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	Two	Three	Four+			Two	Three	Four+	
O7 & Above	-	-	5	5	O7 & Above	-	-	8	8
O6	-	-	44	44	O6	-	-	48	48
O5	-	10	24	34	O5	-	15	24	39
O4	-	20	38	58	O4	-	23	25	48
O3	22	93	23	138	O3	86	59	51	196
O2	10	23	11	44	O2	10	12	12	34
O1	16	16	7	39	O1	23	12	4	39
Officers	48	162	152	362	Officers	119	121	172	412
W5	-	-	-	-	W5	-	-	1	1
W4	-	3	1	4	W4	-	6	3	9
W3	3	5	7	15	W3	-	4	10	14
W2	3	7	16	26	W2	2	6	20	28
W1	3	7	6	16	W1	3	13	12	28
Warrants	9	22	30	61	Warrants	5	29	46	80
E9	-	35	18	53	E9	-	61	31	92
E8	-	127	86	213	E8	-	370	209	579
E7	-	118	90	208	E7	-	136	106	242
E6	250	250	283	783	E6	53	238	311	602
E5	468	309	243	1,020	E5	243	521	506	1,270
E4	522	369	219	1,110	E4	982	740	550	2,272
E3	142	76	35	253	E3	304	146	73	523
E2	54	35	13	102	E2	97	61	21	179
E1	23	13	7	43	E1	38	33	10	81
Enlisted	1,459	1,332	994	3,785	Enlisted	1,717	2,306	1,817	5,840
<b>Total</b>	<b>1,516</b>	<b>1,516</b>	<b>1,176</b>	<b>4,208</b>	<b>Total</b>	<b>1,841</b>	<b>2,456</b>	<b>2,035</b>	<b>6,332</b>

Source: Estimates prepared for this study.

## Unaccompanied Personnel

The total unaccompanied housing requirement is 3,113 units in 2006 and 8,004 units in 2011, reflecting the sum of the community housing shortfall and the on-post unaccompanied housing requirement (Table 5-2).

**Table 5-3. Total Unaccompanied Housing Requirement, Fort Bliss, 2006 and 2011**

2006 Pay Grade	Number of Bedrooms			Total	2011 Pay Grade	Number of Bedrooms			Total
	One	Two	Three			One	Two	Three	
O7 & Above	-	-	-	-	O7 & Above	-	-	-	-
O6	-	-	-	-	O6	-	-	-	-
O5	-	-	5	5	O5	-	-	6	6
O4	-	-	11	11	O4	-	-	18	18
O3	-	14	-	14	O3	-	17	-	17
O2	-	8	-	8	O2	-	15	-	15
O1	-	22	-	22	O1	-	45	-	45
Officers	-	44	16	60	Officers	-	77	24	101
W5	-	-	-	-	W5	-	-	-	-
W4	-	-	2	2	W4	-	-	3	3
W3	-	1	-	1	W3	-	3	-	3
W2	-	4	-	4	W2	-	9	-	9
W1	-	6	-	6	W1	-	17	-	17
Warrants	-	11	2	13	Warrants	-	29	3	32
E9	-	2	-	2	E9	-	5	-	5
E8	-	28	-	28	E8	-	65	-	65
E7	-	26	-	26	E7	-	93	-	93
E6	-	58	-	58	E6	-	296	-	296
E5	358	-	-	358	E5	1,160	-	-	1,160
E4	1,097	-	-	1,097	E4	2,850	-	-	2,850
E3	615	-	-	615	E3	1,453	-	-	1,453
E2	397	-	-	397	E2	915	-	-	915
E1	459	-	-	459	E1	1,034	-	-	1,034
Enlisted	2,926	114	-	3,040	Enlisted	7,412	459	-	7,871
<b>Total</b>	<b>2,926</b>	<b>169</b>	<b>18</b>	<b>3,113</b>	<b>Total</b>	<b>7,412</b>	<b>565</b>	<b>27</b>	<b>8,004</b>

Source: Estimates prepared for this study.

## 5.2 HOUSING DEFICIT/(SURPLUS)

This report addresses the current and projected requirement for housing at Fort Bliss. Comparison of these requirements to existing and planned future assets to determine the overall housing deficit/surplus is the responsibility of Headquarters, U.S. Department of the Army in the course of planning and budgeting for housing at Fort Bliss.

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## **6. SUMMARY OF FINDINGS**

### **6.1 HOUSING MARKET AREA**

Fort Bliss is located in El Paso County, in west Texas. The housing market area for Fort Bliss includes those communities within a 20-mile commute of the installation's main work areas. The city of El Paso is the principal community in the market area. The off-post population in the market area currently totals 729,193 persons, having increased at an average annual rate of 1.8 percent since 2000. Population is forecast to grow 1.7 percent per year, for a projected market area population of 791,384 persons in 2011.

### **6.2 HOUSING SUPPLY**

The area's housing stock is currently estimated to total 246,661 units. Owner-occupants claim 65.7 percent of occupied homes, while renters occupy the remaining 34.3 percent. The rental vacancy rate is currently estimated to be 6.0 percent, down from 7.9 percent in 2000. The rental vacancy rate is forecast to drop to 5.8 percent by 2011.

The median monthly rental cost (rent, utilities, and renter's insurance) for one-bedroom units in the market area is \$661. The median monthly rental cost for two-bedroom units in the market area is \$840. For three-bedroom units, the median rental cost is \$1,036 per month. The median rental cost for units with four or more bedrooms is \$1,280 per month.

### **6.3 HOUSING DEMAND**

Fort Bliss has a current authorized military personnel strength of 13,865 active-duty permanent-party members. Of this total, there are 9,069 families requiring housing. In 2011, personnel strength is projected to total 29,818 personnel, with 17,975 families. The projected floor requirement is 955 units. In 2011, 3,465 families are projected to own a home locally, and the remaining 13,555 families would be renters.

Currently, Fort Bliss has 3,822 unaccompanied personnel, of which 896 are assumed to seek housing in the private sector. An estimated 340 unaccompanied service members are homeowners, and 556 are renters in 2006. In 2011, there are projected to be 10,058 unaccompanied personnel, of which 2,646 would seek private sector housing. Of these, 846 unaccompanied personnel would be homeowners and 1,800 would be renters.

### **6.4 TOTAL ON-POST HOUSING REQUIREMENTS**

There is a total military family housing requirement of 4,208 units in 2006 and a projected total requirement of 6,332 units in 2011. The projected requirement is for 1,841 two-bedroom units, 2,456 three-bedroom units, and 2,035 units with at least four bedrooms. There is a total unaccompanied housing requirement of 3,113 units in 2006, and a projected total unaccompanied housing requirement of 8,004 units in 2011.

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## 7. ORGANIZATIONS CONTACTED

### Organization

Acacia Park Apartment Homes  
5848 Acacia Circle  
El Paso, TX 79912

Arbor Vista Apartments  
7900 Viscount Blvd  
El Paso, TX 79925

Argonaut Heights  
213 Argonaut  
El Paso, TX 79912

Bartlett Apartments  
330 Bartlett Dr.  
El Paso, TX 79912

Butterfield Trail Apartments  
10330 Gateway North  
El Paso, TX 79924

Canyon Hills Apartments  
9010 Magnetic Street  
El Paso, TX 79904

Cardon Real Estate, L.L.C.  
10105 Montwood.  
El Paso, TX 79925

Century 21 APD Associates  
6601 Montana Ave., Ste. J  
El Paso, TX 79925

Century 21 Clark Bros.  
2150 Trawood, Ste. B-100  
El Paso, TX 79935

Century 21 the Edge  
1201 Airway Blvd.  
El Paso, TX 79925

Chimney Apartments  
200 North Festival  
El Paso, TX 79912

### Representative

Alex Canales  
*Property Manager*  
915/833-7408

Liz Rodriguez  
*Leasing Consultant*  
915/778-9566

Joanne Parcheco  
*Investment Manager*  
915/544-6965

Michelle Bradley  
*Property Manager*  
915/584-6911

Tony Lara  
*Manager*  
915/821-8282

Martha Gomez  
*Manager*  
915/751-8531

Suzanne Cardon  
*Realtor*  
915/593-8484

Linda Madrid  
*Property Manager*  
915/779-5611

Terry Chacon  
*Property Manager*  
915/592-0259

Guy Forisha  
*Property Manager*  
915/772-0553

Bonnie Chess  
*Leasing Agent*  
915/584-4323

City Benchmark Realty  
1852-B Dale Douglas  
El Paso, TX 79936

Desert Tree Apartments  
9300 Montana Ave  
El Paso, TX 79925

DKD Associates  
1160 Airway Blvd, Ste. B-2  
El Paso, TX 79925

El Paso Apartment Association  
1155 Larry Mahan, Ste. H-2  
El Paso, TX 79925

El Paso Association of Realtors  
6400 Gateway Blvd. East  
El Paso, TX 79905

El Paso, City of  
2 Civic Center Plaza  
El Paso, TX 79901

Beverly Rodriguez  
*Broker*  
915/593-7218

Ivory Coneras  
*Manager*  
915/593-7997

Fernando Zuluaga  
*Broker/Property Manager*  
915/772-9177

Jerry Carlson  
*Executive Director*  
915/598-0800

Angela Gramacy  
*MLS Manager*  
915/783-6095

Chuck Kooshian  
*Lead Planner*  
915/541-4632

Luci Ponticelli  
*Economic Development Manager*  
915/541-4679

Michael M. Cortez  
*Senior Research Coordinator*  
915/541-4676

Natalie Nevarez-Straight  
*Planner*  
915/541-4904

William Lilly  
*Deputy Director*  
915/541-4500

Fort Bliss  
1 Pershing Road  
Fort Bliss, TX 79916

Col. Bob Burns  
*Garrison Commander*  
915/568-2833

Clark McChesney  
*Transformation Office Director*  
915/568-5609

David N. Shafii, P.E.  
*Director of Public Works*  
915/568-6200

Craig Killebrew  
*RCI Program Manager*  
915/568-5209

Richard Ibarra  
*RCI Project Manager*  
915/568-5314

Ray Escobar  
*Housing Office Director*  
915/568-2898

Sal Falcon  
*Housing Services Officer*  
915/568-2898

GMH Military Housing  
1741 Marshall Road  
Fort Bliss, TX 79906

Diana Kinlaw  
*Project Director*  
915/566-8891

High Ridge Apartments  
9353 Viscount Blvd  
El Paso, TX 79925

Tish Johnson  
*Leasing Consultant*  
915/598-0842

Home Finders USA  
2267 Trawood Dr., Ste. A-1  
El Paso, TX 79935

Nena Valenzuela  
*Realtor*  
915/593-0331

Housing Authority of El Paso  
5300 East Paisano Drive  
El Paso, TX 79935

Rosalva Hernandez  
*Director of Eligibility*  
915/849-3802

Installation Management Command – West Region  
2450 Stanley Road, Ste. 101  
San Antonio, TX 79905

Ron Whited  
*Residential Community Specialist*  
210/224-2203

Mesa Village Apartments 7227 Mesa Street El Paso, TX 79912	Sonya Jurado-Tornero <i>Property Manager</i> 915/584-6141
Mountain Plaza Apartments 3334 Zion El Paso, TX 79904	Virginia Dominguez <i>Leasing Consultant</i> 915/755-1354
Park Ridge Apartments 6938 Alto Rey El Paso, TX 79912	Roul Lopez <i>Manager</i> 915/774-5404
Patriot Apartments 4600 Fairbanks El Paso, TX 79924	Sergio Martinez <i>Assistant Manager</i> 915/757-6901
Phoenix Apartments 7401 Phoenix Ave El Paso, TX 79915	Christina Hernandez <i>Manager</i> 915/595-5487
Pointe Apartments 5525 North Stanton El Paso, TX 79912	Luis Villasana <i>Leasing Agent</i> 915/581-9706
Rental Consultants of El Paso 1757 George Dieter El Paso, TX 79936	Liz Olague <i>Manager</i> 915/584-5411
Ryan's Crossing Apartments 535 South Mesa Hills Drive El Paso, TX 79912	Charlie Enriquez <i>Manager</i> 915/584-5411
Ryan's Mill Apartments 601 South Mesa Hills El Paso, TX 79912	Jennifer Martinez <i>Staff</i> 915/584-9330
Spring Park Apartments 9535 Acer El Paso, TX 79925	Lorraine Maggaleno <i>Manager</i> 915/594-7411
Sundance Apartments 7133 North Mesa El Paso, TX 79904	Vivianna Lovett <i>Leasing Agent</i> 915/584-8844
Sunrise Apartments 1515 Resler Drive El Paso, TX 79912	Lupe Gamon <i>Manger</i> 915/584-9486

Texas Realty  
6410 Gateway Blvd. East  
El Paso, TX 79905

Jo Ann Underwood  
*Real Estate Agent*  
915/779-3572

Valley Ridge Apartments  
10105 Montwood  
El Paso, TX 79925

Bill Cardon  
*Builder*  
915/593-8484

Vista Homes  
1650 George Dieter  
El Paso, TX 79936

Merissa Martinez  
*Manager*  
915/855-0454

Whispering Pines Apartments  
1530 George Dieter  
El Paso, TX 79936

Jessica Moriel  
*Leasing Consultant*  
915/855-0457

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