

Edmonton

Housing Requirement Study

Prepared by CFHA
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1.0 BACKGROUND

The purpose of this Housing Requirement Study update is to measure the current need for housing for CF families posted to CFB Edmonton, quantifying the oversupply and or shortfall of Crown housing units. The methodology adheres to the Treasury Board accommodation policy that states “Accommodation is only provided where no suitable living accommodation is available in the vicinity.”

There are 4,553 Canadian Forces members posted in Edmonton. The location of the market place for the study is defined as the Edmonton Census Metropolitan Area. The Edmonton Garrison of CFB Edmonton is located just north of the boundaries of the City of Edmonton in the Sturgeon Municipal District and is known as Lancaster Park. The other former work site and location for crown housing is Greisbach. Greisbach is located in the north central section of the City of Edmonton approximately 6 kilometres from Lancaster Park. The main arterial road on the east side of Greisbach (97th Ave. or Highway 28), running directly north south, connects the two sites.

2.0 VICINITY

The Vicinity for Edmonton has been defined as the Edmonton Census Metropolitan Area (CMA). A CMA is a large urban area (known as the urban core) together with adjacent urban and rural areas (known as urban and rural fringes) that have a high degree of social and economic integration with the urban core. A CMA has an urban core population of at least 100,000. Generally speaking, adjacent urban and rural areas are included in the CMA boundaries if 50% or more of the labour force residing in that area commutes into the core area for employment.

The housing options or choices tend not to increase substantially outside the boundaries of the CMA and therefore these boundaries are being applied to define the Edmonton vicinity.

The CMA would also cover the DND policy requirements for defining the commuter shed and again the choices outside the CMA would be extremely limited.

The Edmonton CMA map is attached in Appendix A and highlights the two sites.

3.0 CANADIAN FORCES DEMOGRAPHICS

As of January 1999, DHRIM records (Table 1) indicate that 3,311, or 72.8% of the 4,553 CF members posted to Edmonton, are in the ranks of privates, corporals and master corporals. In terms of age, 766 or 92.2% of the 831 privates are under the age of 29. Of the 1,778 corporals, 1,702 or 95.7% are under the age of 39. Whereas, 623 or 88.75% of the 702 master corporals are between the ages of 25 and 39.

Sergeants, warrant officers and captains represent the next largest numbers of specific ranks at 411, 204, 289 respectively. The largest age group of CF members is the 30 to 34 age group with 1186 members followed closely by the 35 to 39 age group with 1,097 members and the 25 to 29 age group with 1,038 members.

TABLE 1 - RANK DISTRIBUTION BY HOUSEHOLD TYPE

RANK	AGE GROUP						Total	%
	under 25	25-29	30-34	35-39	40-44	45-54		
Pte	529	237	45	20			831	18.3
Cpl	54	595	684	369	65	11	1778	39.1
MCpl		80	256	287	67	12	702	15.4
Sgt		4	73	216	89	29	411	9.0
WO			13	69	84	38	204	4.5
MWO				9	35	29	73	1.6
CWO					4	17	21	0.5
Ocdt	8	3	3	1			15	0.3
2Lt	15	10	3				28	0.6
Lt	23	34	9	12	1		79	1.7
Capt		75	88	73	31	22	289	6.3
Maj			12	38	26	22	98	2.2
Lcol				2	10	6	18	0.4
Col					3		3	0.1
Bgen					1		1	0.0
Unknown	1			1			2	0.0
Total	630	1038	1186	1097	416	186	4553	100.0

Source: DHRIM January 1999

Table 2 shows the number and rank by household formation. Of the 4,553 CF households, 1966 or 43.2% are composed of two-parent families. Singles represent 1,416, or 31.1%, couples with no children represent 979, or 21.5%, and lone-parent families represent 183 or 4.0% of CF households.

Two-parent families represent the largest household form in all ranks except for privates, officer cadets, second lieutenants and lieutenants. These four ranks also represent a significant proportion of the under 25 and 25 to 29 age groups.

Together, two-parent families and lone-parent families represent almost half all CF households posted to Edmonton at 2149 CF households or 47.2%. Of these 2,149 CF households, 1,365 are within the ranks of privates, corporals and master corporals.

TABLE 2 - RANK DISTRIBUTION BY HOUSEHOLD TYPE

RANK	FAMILY TYPE					Total
	Single	Couple no children	Two-parent family	Lone- parent family	Unknown	
Pte	602	146	71	12		831
Cpl	479	441	766	88	4	1778
MCpl	117	155	394	34	2	702
Sgt	46	72	273	18	2	411
WO	12	19	162	11		204
MWO	2	9	57	5		73
CWO		1	19	1		21
Ocdt	8	5	2			15
2Lt	21	5	2			28
Lt	50	16	13			79
Capt	70	90	119	9	1	289
Maj	7	16	72	3		98
Lcol	2	3	12	1		18
Col			3			3
Bgen				1		1
Unknown		1	1			2
Total	1416	979	1966	183	9	4553

Source: DHRIM. January 1999

Table 3 below compares the posted strength to the establishment. The establishment figures are lower by 4% with 167 less CF members than the posted strength. Interestingly, the privates, corporals and master corporals represent 72% of CF members for both the posted strength and the establishment. The establishment figures almost reverse the numbers and percentages of privates and corporals currently indicated in the posting strength.

For the remaining ranks, the numbers and percentages for both posted strength and establishment are very similar.

TABLE 3 - RANK DISTRIBUTION OF POSTED STRENGTH/ESTABLISHMENT

RANK	Posted Strength		Establishment	
	Number	Percentage	Number	Percentage
Pte	831	18.25	1820	41.50
Cpl	1778	39.05	609	13.89
MCpl	702	15.42	735	16.76
Sgt	411	9.03	441	10.05
WO	204	4.48	227	5.18
MWO	73	1.60	76	1.73
CWO	21	0.46	23	0.52
Ocdt	15	0.33	0	0.00
2Lt	28	0.61	0	0.00
Lt	79	1.74	70	1.60
Capt	289	6.35	268	6.11
Maj	98	2.15	93	2.12
Lcol	18	0.40	20	0.46
Col	3	0.07	3	0.07
Bgen	1	0.02	1	0.02
Unknown	2	0.04	0	0.00
Total	4553	100.00	4386	100.00

Source: DHRIM January 1999 / QOL July 1999

4.0 INVENTORY AND OCCUPANCY PROFILE OF MARRIED QUARTERS

Of the 4553 CF members posted to Edmonton, 1030 or 22.6% currently live in married quarters. The 1030 is composed of 982 CF families and 48 CF Singles. There are 7 civilian households, 1 DND household and 12 reservist households for a total of 1050 occupied units including the 1030 CF households (Table 4).

TABLE 4 - EDMONTON MARRIED QUARTER OCCUPANCY BY EMPLOYER GROUP

Area	# of Bedrooms	Total Properties	CF Family (Reg, Res.C & B(A))	CF Single (Reg, Res. C & B (A))	Civilian (Non-Government)	DND Government Employee	Reservist (A,B) Single or Family	Total Occupied Properties
Griesbach	2	99	72	7	1		4	84
	3	505	364	28	4	1	7	404
	4	153	103	4	2			109
	Subtotal:	757	539	39	7	1	11	597
Lancaster Park	2	84	77	4				81
	3	285	256	4			1	261
	4	135	110	1				111
	Subtotal:	504	443	9	0	0	1	453
	Sum:	1261	982	48	7	1	12	1050

Source: CFHA Hamis Data (October 2000)

There are 1,261 total properties of which 1,050 are occupied (as described above), 125 units are vacant and 86 units are beyond economic repair.

Of the 982 CF families occupying married quarters, 789 or 80.4% are members at the rank of private, corporal or master corporal. Similarly, of the 48 CF singles occupying married quarters, 39 or 81.3% are of these same ranks (see Table 5). Three-bedroom units are the predominant size for both CF families and CF singles at 620 and 32 respectively.

TABLE 5 - EDMONTON CF MARRIED QUARTER OCCUPANCY BY RANK & BEDROOM SIZE FOR FAMILIES & SINGLES

CF FAMILY HOUSEHOLDS

Rank	Number of Bedrooms			TOTALS
	2	3	4	
Pte	44	101	15	160
Cpl	70	315	108	493
MCpl	16	82	38	136
Sgt	3	48	20	71
WO	3	17	7	27
MWO	2	5	7	14
CWO		4		4
Lt	4	4	2	10
2Lt		4		4
Capt	6	27	5	38
Maj	1	6	8	15
LCol		2	2	4
Col		1		1
BGen			1	1
Unknown		4		4
Total	149	620	213	982

CF SINGLE HOUSEHOLDS

Rank	Number of Bedrooms			TOTALS
	2	3	4	
Pte	2	11	2	15
Cpl	4	14	1	19
MCpl	2	3		5
Sgt			2	2
WO	1	1		2
MWO		1		1
Capt	2	2		4
Total	11	32	5	48

Source: CFHA Hamis Data (October 2000)

5.0 COMPARATIVE DEMOGRAPHIC AND SOCIO-ECONOMIC PROFILE OF CF MEMBERS

5.1 TENURE PATTERNS

A comparison of tenure splits by age cohorts between households with CF residents and households without reveals somewhat different tenure patterns between the two groups. The 1996 Census data indicates that of the 1,525 CF households in the Edmonton CMA less than half were homeowners (43.75% of CF households; see Table 6 below). By contrast, most non-CF households lived in dwellings that were owned rather than rented (64.2% of non-CF households). The incidence of rental tenure among CF households in the Edmonton CMA (56.6% were renter households) was also higher than the national average for CF households (45.5% of CF households throughout Canada were renter households).

TABLE 6 - TENURE BY AGE OF PRIMARY HOUSEHOLD MAINTAINER FOR CF AND NON-CF HOUSEHOLDS,* EDMONTON CMA

Age Category	Non-CF Households				CF Households			
	Owned	% Owned	Rented	% Rented	Owned	% Owned	Rented	% Rented
15-24 years	2145	12.47	15055	87.5	10	11.11	80	88.89
25-29 years	9385	34	18225	66.02	60	20.69	230	79.31
30-34 years	21085	55.94	16610	44.07	160	41.56	220	57.14
35-39 years	29685	67.74	14140	32.26	155	49.21	160	50.79
40-44 years	28610	72.6	10800	27.4	65	41.94	85	54.84
45-49 years	25640	75.07	8515	24.93	100	64.52	55	35.48
50-54 years	19830	78.49	5435	21.51	85	85	15	15
55-59 years	15840	78.34	4380	21.66	10	50	0	0
60-64 years	14000	78.32	3875	21.68	10	66.67	0	0
65 years +	35805	69.92	15400	30.08	0	0	10	100
Total	202025	64.25	112430	35.75	665	43.75	860	56.58

* CF Households include any household in which a CF member was resident.

Source: Census 1996

The lower incidence of ownership tenure among CF households in the Edmonton CMA as compared to non-CF households is similar throughout Canada. In general, however, the incidence of homeownership among the two groups increases with the age of the household maintainer. The incidence of homeownership among non-CF households increases with age, but the increase begins to level off after the age of 40. For CF households in the Edmonton CMA, the incidence of homeownership does not increase as dramatically in the earlier age groups as among non-CF households, but does increase to levels above the CMA average in age groups above age 45, and to levels above that of the non-CF population after age 50. This pattern would tend to indicate that the decision to purchase occurs somewhat later among CF households than among non-CF households.

This pattern among CF households in Edmonton is reasonably consistent throughout Canada and derives at least in part from the greater degree of job-related mobility among

CF households. CF personnel move frequently and have less capacity, particularly in the early household formation years, to build equity through home purchase. CF members' spouses or partners may have less stable employment histories because of household mobility, and resources for home purchase may be constrained by the reduced prospects of a second income. Furthermore, when the length of posting in any particular market is finite, the member must judge the extent of market volatility and may be disinclined to purchase if market factors are not favourable in the short term. The member does not, in such instances, have the advantage of being able to "wait out the market."

In calculating the housing requirements of CF personnel, it is assumed that the proportion of members who own or rent by age as derived from the 1996 Census remains constant. Although the numbers of people posted to Edmonton at the time of the Census was much lower than the current level of posting, it is assumed that the proportions of homeowners and renters by age will not have changed dramatically because most of the factors affecting tenure have not changed dramatically. It should be noted, however that the percentage of CF members posted to Edmonton under the age of 25 appears to have increased while the percentage over the age of 45 appears to have decreased. This decline since 1996 in the average age of members posted to Edmonton would indicate that the overall incidence of ownership may also have declined. It should also be noted that the percentage of members in Edmonton under the age of 30 is roughly 36% and this is 10% higher than the Canadian average for the forces.

For the purposes of this study, we are assuming that tenure split by age remains constant. This is consistent with national data on tenure patterns that indicate the percentage of Canadians who own their own homes has remained fairly stable since 1971 although it did drop slightly in 1981. In assuming that tenure splits remain constant, we are attempting to ensure that the tenure choices of CF members are respected (see Table 7 on the next page).

5.2 PERCENTAGE OF INCOME SPENT ON SHELTER

Owner and renter households with maintainer incomes above \$20,000 do not appear to have affordability problems in the Edmonton CMA. This is true for both CF and non-CF households. On average, households in all of the selected income categories spend less than the 25% of income established as a benchmark for affordability problems.

**TABLE 7- PERCENTAGE OF INCOME SPENT ON SHELTER BY HOUSEHOLD
MAINTAINER INCOME FOR CF AND NON-CF HOUSEHOLDS,
EDMONTON CMA**

Income Category	CF Households			Non-CF Households		
	Total	Owned	Rented	Total	Owned	Rented
\$20,000 - \$24,999	16.36	23.51	8.32	22.09	21.13	23.37
\$25,000 - \$29,999	16.81	17.52	14.92	19.85	19.56	20.35
\$30,000 - \$34,999	16.07	22.18	13.30	18.46	18.69	17.96
\$35,000 - \$39,999	17.39	22.02	14.70	17.06	17.22	16.59
\$40,000 - \$44,999	13.82	17.15	12.36	16.42	16.70	15.34
\$45,000 - \$49,999	15.07	20.21	12.39	15.56	15.76	14.49
\$50,000 - \$54,999	16.48	18.81	8.06	14.68	14.90	13.18
\$55,000 - \$64,999	17.63	20.35	11.56	13.57	13.73	12.17
\$65,000 - \$74,999	17.70	20.62	10.06	12.12	12.28	10.45
\$75,000 and over	14.63	17.01	8.34	9.19	9.25	8.23

* CF Households include any household in which a CF member was resident.

Source: Census 1996

In the Edmonton CMA, CF households with maintainer incomes below \$35,000 tended, in general, to spend a smaller percentage of their income on shelter than did non-CF households. Those in income categories above \$55,000 tended to spend a greater percentage on shelter than did the non-CF households. Differences in tenure strongly affect this picture.

CF owner households at all income levels spend a larger percentage of maintainer income on shelter costs than do their non-CF counterparts. Among non-CF owner households the percentage of income spent on shelter declines as income increases. This is not the case among CF households, where there is no consistent pattern associated with income. CF renter households, on the other hand spend a smaller percentage of maintainer income on shelter costs at most levels than do those non-CF renter households in the same income cohorts.

These differences in percentage of maintainer income spent on shelter are arguably the result of at least two different factors. CF renter households at lower income levels have had access to more affordable housing in the form of MQs and this may account for the greater differences observed in the percent of income spent on shelter among CF and non-CF renter households at lower income levels. These differences will have diminished since the 1996 Census as policies designed to bring MQ rents up to market levels have been implemented. For CF owner households, the higher degree of job-related mobility and the consequent lag in timing of homeownership means that most will have a shorter length of time in their home and are thus likely to be at an earlier stage in the term of their mortgage than are non-CF households in the same income cohorts.

5.3 MARKET NORMS

In determining the size and type of unit required, it is assumed that CF members should be able to live in housing that is similar to that of comparable families in the same market area. Comparable families are those which have similar socio-economic characteristics, the income and age of the household head (or maintainer) is similar, and household composition or type is broadly similar.

5.3.1 Size of Units

In Edmonton, the common or typical size of units occupied by various types of households can be derived from Census data that records the number of bedrooms occupied by each household in different income categories. Table 8 shows the average number of persons per bedroom by household type and income category for the full population of the Edmonton CMA. The lower the person per bedroom ratio, the larger is the size of a dwelling unit. Thus, for example, 1 person occupying a two-bedroom unit would be expressed as a ratio of 1 / 2 or 0.50, while 1 person in a unit with 3 bedrooms would be expressed as a ratio of 1 / 3 or 0.33.

TABLE 8 - NUMBER OF PERSONS PER BEDROOM BY INCOME AND HOUSEHOLD TYPE, EDMONTON CMA, 1996

Income of Household Maintainer	Household Type				
	Single	Couple	Two-parent	Lone-parent	All Households
Less than \$20,000	0.67	0.84	1.29	1.08	1.01
\$20,000 - \$24,999	0.56	0.77	1.22	1.01	0.94
\$25,000 - \$29,999	0.56	0.76	1.20	0.97	0.94
\$30,000 - \$34,999	0.53	0.73	1.20	0.92	0.94
\$35,000 - \$39,999	0.50	0.73	1.16	0.87	0.93
\$40,000 - \$44,999	0.46	0.71	1.16	0.87	0.94
\$45,000 - \$49,999	0.43	0.69	1.14	0.83	0.93
\$50,000 - \$54,999	0.43	0.66	1.13	0.83	0.94
\$55,000 - \$64,999	0.42	0.66	1.12	0.79	0.94
\$65,000 - \$74,999	0.38	0.66	1.11	0.80	0.94
\$75,000 and over	0.40	0.64	1.06	0.77	0.90
Total - All Households	0.57	0.75	1.17	0.98	0.96

Source: Census 1996

In every instance, the size of unit occupied by a household appears to be sensitive to income although the differences between one income category and the next are slight. Person per bedroom (PPB) ratios decline consistently (i.e. unit size as measured by number of bedrooms increases) as income increases, but this decline is not large. Households composed of one single person living alone have an average person per bedroom count of 0.57 suggesting that a mix of one and two-bedroom units is the norm for singles (1 / 0.57 = 1.76 bedrooms per household). At lower income levels the mix of one and two-bedroom units appears to be most typical. For singles above the \$35,000 income mark, the person

per bedroom count is below 0.50 and this suggests that a mix of two and three-bedroom units becomes more common as income increases ($1 / 0.5 = 2$ bedrooms per household; $1 / 0.4 = 2.5$ bedrooms per household).

For couples without children, the average person per bedroom count of 0.75 suggests that a mix of two and three-bedroom units (i.e. $2 / 0.75 = 2.6$ bedrooms per household) is most typical. In households where maintainer income is above \$40,000, three-bedroom units would appear to be more common ($2 / 0.71 = 2.8$ BR/household; $2 / 0.64 = 3.125$ BR/household). For two-parent families and lone-parent families, person per bedroom counts and the increase in size associated with income increases are very similar. For example, a three-bedroom unit would be the common pattern for two-parent families or lone-parent families with two children (i.e. two-parent household average - $4 / 1.17 = 3.4$ BR household; lone-parent household average - $3 / 0.98 = 3.06$ BR household). Thus families with children tend to occupy units where the parent or parents occupy a bedroom and each child has a separate bedroom. An additional bedroom becomes more common as household maintainer income increases.

In specifying the unit size requirements of CF households currently occupying MQs, the PPB ratios for Edmonton provide a minimum demand threshold for each of the separate household types. At minimum thresholds, singles will require a one-bedroom unit; couples will require a two-bedroom unit; families with children will require a bedroom for each child and one bedroom for the parent or parents. These unit sizes will increase as income increases so that above the \$35,000 income mark some singles may require a two-bedroom unit; couples above the \$40,000 mark may seek a three-bedroom unit; two-parent families above the \$75,000 mark and lone-parent families above the \$55,000 mark may require an additional bedroom. The minimum thresholds derived from the Census mirror the current occupancy guidelines used by CFHA and thus the current occupancy pattern can be used to examine availability in the market with the proviso that income levels above the specified marks may lead households to seek larger units within the market.

5.3.2 Dwelling Type

For each household type and income cohort, the most common dwelling type in the general population is used as a benchmark for the type of housing required. The most common structural types occupied by the four household types are examined to determine what would be suitable for the corresponding cohorts of CF households.

In the Edmonton CMA the most common structural form is the single-detached house (59.6% of all households inhabit this structural form; see Table 9 on the next page). The majority of couple and two-parent households inhabit this form at all income levels. The incidence rises as maintainer income increases, but even at income levels below \$20,000 the majority of couple and two-parent households inhabit this form.

TABLE 9- DWELLING TYPE BY HOUSEHOLD TYPE AND HOUSEHOLD MAINTAINER INCOME GROUP, EDMONTON CMA

(% of Household Type Occupying Dwelling Type)

Income Group	Dwelling Type	Single	Couple	Two-parent	Lone-parent	Total
Total - All Income Groups	Single-detached	30.24%	67.66%	80.46%	45.05%	59.61%
	Semi-detached/Row	9.08%	10.22%	11.30%	27.95%	12.35%
	Apt.Bldg., < 5 storeys	38.47%	13.25%	5.37%	20.36%	18.04%
	Apt.Bldg., 5 storeys +	17.20%	5.37%	0.58%	2.24%	6.38%
	Other	5.00%	3.51%	2.29%	4.39%	3.62%
	<i>Total</i>		<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>
Less than \$20,000	Single-detached	24.60%	56.86%	62.68%	34.31%	42.45%
	Semi-detached/Row	6.55%	9.79%	18.97%	30.11%	13.84%
	Apt.Bldg., < 5 storeys	44.11%	21.35%	13.43%	27.90%	29.21%
	Apt.Bldg., 5 storeys +	18.83%	7.12%	1.17%	2.52%	9.40%
	Other	5.92%	4.85%	3.73%	5.17%	5.10%
	<i>Total</i>		<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>
\$20,000 - \$29,999	Single-detached	27.61%	64.81%	71.98%	42.88%	53.90%
	Semi-detached/Row	9.06%	12.07%	16.61%	31.62%	15.12%
	Apt.Bldg., < 5 storeys	42.20%	14.03%	8.05%	19.15%	20.68%
	Apt.Bldg., 5 storeys +	16.02%	5.10%	0.63%	1.85%	6.23%
	Other	5.03%	3.99%	2.76%	4.51%	4.05%
	<i>Total</i>		<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>
\$30,000 - \$39,999	Single-detached	32.71%	69.84%	79.86%	54.84%	63.99%
	Semi-detached/Row	11.28%	10.81%	12.37%	27.47%	13.32%
	Apt.Bldg., < 5 storeys	36.43%	11.48%	4.23%	12.63%	14.23%
	Apt.Bldg., 5 storeys +	15.28%	4.27%	0.62%	1.47%	4.98%
	Other	4.20%	3.56%	2.97%	3.26%	3.49%
	<i>Total</i>		<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>
\$40,000 - \$49,999	Single-detached	41.54%	76.07%	85.89%	63.34%	73.01%
	Semi-detached/Row	14.73%	9.92%	9.43%	24.68%	11.90%
	Apt.Bldg., < 5 storeys	25.23%	7.30%	2.08%	8.35%	8.42%
	Apt.Bldg., 5 storeys +	14.58%	4.61%	0.40%	1.63%	4.21%
	Other	3.85%	2.04%	2.14%	2.36%	2.44%
	<i>Total</i>		<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>
\$50,000 - \$64,999	Single-detached	46.74%	81.32%	93.29%	74.80%	82.66%
	Semi-detached/Row	13.44%	9.45%	4.55%	14.09%	7.45%
	Apt.Bldg., < 5 storeys	20.26%	4.12%	0.93%	5.42%	4.81%
	Apt.Bldg., 5 storeys +	16.50%	3.34%	0.21%	1.90%	3.46%
	Other	3.16%	1.70%	0.98%	3.52%	1.61%
	<i>Total</i>		<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>
\$65,000 and over	Single-detached	52.53%	83.12%	96.02%	79.70%	87.28%
	Semi-detached/Row	13.26%	7.40%	2.72%	7.61%	5.31%
	Apt.Bldg., < 5 storeys	16.40%	3.05%	0.49%	3.55%	3.06%
	Apt.Bldg., 5 storeys +	15.53%	5.06%	0.26%	5.58%	3.35%
	Other	1.92%	1.13%	0.52%	3.05%	0.96%
	<i>Total</i>		<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>

Source: Census 1996

The majority of lone-parent families at income levels above \$30,000 also occupy single-detached houses. While this form is not as common for lone-parent families as it is for couples and two-parent families, a larger percentage of lone-parent families choose semi-detached or row house dwellings than those in the other household type categories. Thus, the need for ground orientation among lone-parent families is satisfied through an alternate form. At least 60% of lone-parent families in all income categories are housed in a unit that provides ground orientation.

Singles at income levels below \$40,000 are most likely to be housed in either low-rise (less than five storey) or high-rise (five or more storey) apartment buildings. The percent occupying high rise apartment buildings remains reasonably constant across all income groups (close to the 17.2% average), while the percent occupying low-rise apartments declines and occupancy of ground-oriented units increases with increases in income levels. At income levels above the \$40,000 mark, the majority of singles occupy ground-oriented structures.

6.0 TRANSLATION OF HOUSEHOLD CHARACTERISTICS INTO DWELLING UNIT CHARACTERISTICS

For the purpose of establishing the availability of units in the private market that would satisfy the needs of CF households we have made the following assumptions and created Tables 10 & 11:

- Those CF personnel currently living in the private market are suitably housed in terms of structural type and unit size. In any market where there was a waiting list for MQs, members were surveyed to determine if they had problems of suitability or adequacy. Since there is no waiting list for MQs in Edmonton, we are assuming that CF members living in the private market are adequately and suitably housed.
- Of the 4553 members posted to Edmonton, 3523, or 77%, live in the private market. We assume that the tenure split between owner and renter households has remained reasonably constant at 44% CF owner and 56% CF renter households. (The incidence of ownership may, in fact, have declined as a greater proportion of those currently posted are under the age of 25 and the incidence of ownership among this age cohort is well below average levels for both CF and non-CF households.) Since MQ households have chosen rental tenure and compose only a portion of the total CF renter households, we assume that those households currently occupying MQs would require units with rental tenure.
- We assume that CF families occupying MQs need units that are comparable in size to those occupied by non-CF households with similar income and family composition. Using the minimum threshold benchmark figures from the 1996 Census: couples will require a two-bedroom unit; families with children will require a bedroom for each child and one bedroom for the parent or parents. As these benchmarks are the same as those CFHA uses as family occupancy guidelines, we use the current occupancy pattern to establish CF families requirements and test for availability.
- Singles are housed by CFHA only in cases where there are vacancies in the portfolio. They are not subject to the same occupancy guidelines and frequently opt to share with

others. Their requirements must be assessed on the basis of Census benchmarks, which indicate that a roughly equal mix of one and two-bedroom units is the market norm for singles. The needs of CF singles currently occupying MQs are specified separately from those of CF families.

- We assume that CF households occupying MQs need units in dwelling types that are comparable to those occupied by non-CF households with similar income and family composition.
- In matching size with unit type, we use figures from the Census that indicate the proportion of units of varying size that are available in different unit types and have adjusted our figures to reflect what is available in the market. For example, Census 1996 figures indicate that very few three or four-bedroom units are found in apartment buildings of five or more storeys. Thus, although some proportion of families in Edmonton live in high-rise apartment buildings, we assume that none of the CF families requiring three or four-bedroom units can be suitably housed in such structures.

TABLE 10 - CF EDMONTON MQ FAMILY OCCUPANT REQUIREMENTS BY TYPE AND NUMBER OF BEDROOMS

Structural Type	2BR	3BR	4BR	Total
Single-detached	74	499	210	783
Semi-detached/Row	15	88	6	109
Apt.Bldg., < 5 storeys	36	11		47
Apt.Bldg., 5 storeys +	18			18
Other (Duplex Apt., Mobile homes,etc.)	5	16		21
Total	148	614	216	978

TABLE 11 - CF EDMONTON MQ SINGLE OCCUPANT REQUIREMENTS BY TYPE AND NUMBER OF BEDROOMS

Structural Type	1BR	2BR	Total
Single-detached	0	14	14
Semi-detached/Row	0	6	6
Apt.Bldg., < 5 storeys	18	2	20
Apt.Bldg., 5 storeys +	7	0	7
Other	1	0	1
Total	26	22	48

7.0 HOUSING SUPPLY

7.1 INVENTORY OF MARKET HOUSING

Table 12 below shows the inventory of dwelling units by type in the Edmonton market area.

TABLE 12- DWELLING UNITS BY TYPE, EDMONTON CMA, 1996

TYPE OF STRUCTURE	No. of Units	%
Single-detached house	193608	60.49
Apartment in a building that has five or more storeys	20340	6.36
Apartment in a building that has fewer than five storeys	55548	17.36
Semi-detached house	10296	3.22
Apartment or flat in a detached duplex	6228	1.95
Row house	28800	9.00
Other single-attached house	468	0.15
Mobile home and other movable dwelling	4752	1.48
TOTAL	320040	100.00

Source: Census 1996

Single-detached houses represent the largest single form of housing at 60.49% of the housing stock followed by apartments at 23.72% and row houses at 9% of the stock. All other forms represent less than 7% of the housing stock.

Table 13 provides a further description of the dwelling stock by condition, based on the 1996 Census data.

TABLE 13- INVENTORY OF DWELLING UNITS BY CONDITION, EDMONTON CMA, 1996

Level of Repair	Owned	% of Total Owned	Rented	% of Total Rented	Total
Regular maintenance	138528	67.12	75960	66.84	214488
Minor repairs	56952	27.59	29304	25.78	86256
Major repairs	10908	5.29	8388	7.38	19296
TOTAL	206388	100.00	113652	100.00	320040

Source: Census 1996

Most units in the Edmonton market area (93.97%) are in need of only regular maintenance or minor repair. Only a small number of units (6.03%) are considered to be in need of major repair. The percentage of units in each category is very similar for both owned and rented units. Table 14 on the next page provides more information on the condition of the housing stock in the Edmonton market. About 60% of the housing stock in the Edmonton CMA is about thirty years old with only 5% greater than 50 years old. These figures

indicate that most of the housing stock in the Edmonton CMA is in an adequate physical condition.

TABLE 14- DWELLING UNITS BY PERIOD OF CONSTRUCTION, EDMONTON CMA: 1996

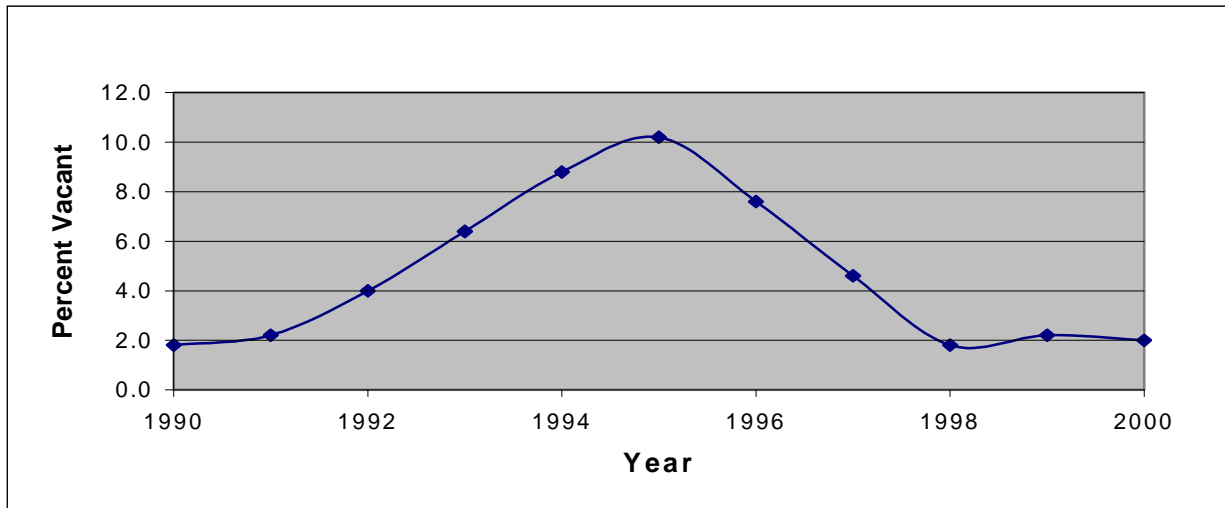
Period of Construction	# of Units	% of Total
1920 or before	4140	1.29
1921-1945	12492	3.90
1946-1960	52560	16.42
1961-1970	56988	17.81
1971-1980	101556	31.73
1981-1985	42768	13.36
1986-1990	21960	6.86
1991-1996	27576	8.62
TOTAL	320040	100.00

Source: Census 1996

7.2 RENTAL MARKET

The vacancy rate in Edmonton continues to be very low. In 1998, the vacancy rate dropped to 2%, its lowest rate since 1992 and after reaching 10% in 1995. In 1999, the vacancy rate rose slightly to 2.2%. CMHC projects the vacancy rate to drop back to its 1998 level of 2% in 2000 (see Graph 1).

FIGURE 1 - EDMONTON 1990-2000 VACANCY RATES



Source: CMHC – Edmonton 1999 Rental Market Report
Note: The data for year 2000 is a forecast.

A vacancy rate of three percent is considered to represent a balanced market in which vacant units account for normal turnover and there is neither an over-supply nor a shortage of units. At vacancy rates of less than three percent, unit availability is restricted. In

assessing availability of market units to meet the needs of CF members occupying crown housing, the number of vacant units that account for vacancies greater than three percent are calculated as the housing stock that is readily available to Canadian Forces personnel.

Demographic analysis of CF households and civilian households indicates that the most suitable form of housing for CF families are units with grade access or ground orientation. CMHC's vacancy rate data for row house units indicates a vacancy rate of 1.66% and 1.38% for two and three-bedroom units respectively. Of importance is also the limited number of vacant units in the universe of these units. There are 51 vacant two-bedroom and 79 vacant three-bedroom row house units. With an average vacancy rate of 1.55%, the total vacant row house universe is composed of 140 units.

For singles who may be suitably housed in one and two-bedroom apartment units the vacancy rate is 2.04 % and 2.28% respectively. The universe of total apartment units and vacant apartment units is much more substantial than the row house universe. Access, however, will remain limited with an average vacancy rate of 2.22% (see Table 15).

TABLE 15 - RENTAL UNIT BREAKDOWN BY TYPE

		<i>Apartment Unit</i>	<i>Row Unit</i>
All Units	Vacant	1,430	140
	Total	64,353	9,045
	%	2.22	1.55
Bachelor	Vacant	150	0
	Total	5,066	53
	%	2.96	0.00
One Bedroom	Vacant	649	10
	Total	31,864	193
	%	2.04	5.18
Two Bedroom	Vacant	550	51
	Total	24,173	3,070
	%	2.28	1.66
Three Bedroom	Vacant	82	79
	Total	3,250	5,728
	%	2.52	1.38

Source: CMHC – Edmonton 1999 Rental Market Report

7.3 HOMEOWNERSHIP MARKET

7.3.1 Resale Market

In 1999, there were a total 13,594 resale home transactions completed in Edmonton. In 2000, it is anticipated that there will be approximately 14,150 resale transactions, an increase of just over 4%.

A small inventory of resale homes has resulted in a 5% increase to \$134,345 in the sale price of a typical single-detached home listed on the MLS. The overall average residential resale price rose by 3.8% to \$118,871.

The residential sales-to-active listing sales ratio (SALR) in Edmonton is between 30% and 35%, firmly in the sellers' market range. A balanced market would see an SALR of between 20% and 30% typically. The SALR in 1997 and 1998 averaged between 15% and 25%.

With the market place favouring the seller, the resale price is expected to increase by 6% in 2000.

7.3.2 New Home Market

In 1999, there were 3,841 new single family sales, with single starts expecting to top 4,400 units in 2000. The median price in the Edmonton CMA in 1999 was \$168,000. The lowest median price was found in the northeast area at \$150,000 for an average 1,430 square foot home. The highest median price was found in the southwest area at \$202,350 for an average 1,977 square foot home. The anticipated overall price increase in 2000 will mirror the resale market increase of 5% to 6%.

7.3.3 Land Supply

At year-end there were over 6,200 single-family lots available across Edmonton representing approximately an 18 month supply at the current absorption rates.

8.0 AFFORDABILITY

CFHA has completed an analysis to assess affordability of the average market rents for row house units in the Edmonton CMA for CF families by family size and number of bedrooms required.

The tables attached in Appendix B identify that the only ranks that would experience affordability issues in 1999 based on average rents would be privates and officer cadets at 25% of their gross average income levels. It is important to note that typically households with an income similar to privates would pay 20% of their income towards their shelter costs. It is also important to note that these are average rents and that, with the tight rental market, access to the more affordable units may be limited.

On the ownership side, a 1998 QOL study observed that, “CF income levels below about \$50,000 per year generally preclude those members without a second personal or family income from securing a mortgage to buy a house.” Members with incomes above the \$50,000 per annum mark have the potential to purchase homes in Edmonton, as there are opportunities to purchase at a range of house prices. The concern in entering the homeownership market would be the cyclical market conditions associated with the province’s resource-based economy. There would be periods where house values would be escalating or devaluing rapidly and CF members would be concerned with entering the market.

9.0 SUMMARY & FINDINGS

The purpose of this Housing Requirement Study update is to measure the current need for housing for CF families posted to CFB Edmonton quantifying the oversupply and or shortfall of Crown housing units.

The location of the market place for the study is defined as the Edmonton Census Metropolitan Area.

There are 4,553 Canadian Forces members posted in Edmonton. Of the 4,553 CF members, 3,311, or 72.8%, are in the ranks of privates, corporals and master corporals.

Two-parent families represent the largest household form (1,966 or 43.2%) in all ranks except for privates, officer cadets, second lieutenants and lieutenants. These four ranks also represent a significant proportion of the under 25 and 25 to 29 age groups. Singles represent 1,416, or 31.1%, couples with no children represent 979, or 21.5%, and lone-parent families represent 183, or 4.0% of CF households.

Of the 4,553 CF members posted to Edmonton, 1,030 or 22.6% currently live in married quarters. This 1,030 is composed of 982 CF families and 48 CF singles. Of the 982 CF families occupying married quarters, 789, or 80.4%, contain a member with the rank of private, corporal or master corporal.

In general, the incidence of ownership is lower among CF households (43.75% were owner households in 1996) in Edmonton than is the case within the general population (64.25% were owner households in 1996). This differential is particularly marked among younger households. As the age of the household head rises so too do rates of ownership. The incidence of ownership among CF households begins to rise dramatically after age 40 and exceeds the incidence of ownership among the general population after age 45. This pattern would tend to indicate that the decision to purchase occurs somewhat later among CF households than among non-CF households.

Whether owners or renters, affordability does not appear to be a problem among households in Edmonton with incomes above the \$20,000 mark. On average, most households spend less than 25% of maintainer income on shelter costs. CF owner households spend more than their non-CF counterparts and CF renter households spend less than their non-CF counterparts on shelter. For CF owner households the relatively higher percent of income spent on shelter may be related to the lag in timing associated with the decision to purchase. For CF renter households, the relatively lower percent of income spent on shelter may be related to the lower than market rents charged for MQs at the time of the Census. With the implementation of policies designed to bring MQs up to market rents, it is likely that the relative advantage enjoyed by CF households will have diminished.

In assessing availability of units in the market place that can meet the needs of CF members currently living in crown housing, it is assumed that the percentage of CF

households that will seek to rent or own remains roughly similar to the percentage split reached in 1996 at the time of the Census. Thus, the 22.6% of CF members posted to Edmonton who currently rent crown housing would need to find rental units in the Edmonton CMA. The size and type of unit required is assessed according to market norms.

Minimum demand thresholds among all households in the Edmonton CMA were used to determine requirements for CF households. At minimum thresholds, single person households require a one-bedroom unit, couples without children require a two-bedroom unit, and families with children require a bedroom for each child and one bedroom for the parent or parents. In assessing needs for particular structural types of dwellings, the most common dwelling type occupied by the four household types were examined to determine what would be suitable for corresponding cohorts of CF households. The great majority of all family households in Edmonton with maintainers earning more than \$20,000/yr. live in dwellings with ground orientation. The percentage occupying single-detached homes rises with income but the majority of couples and two-parent families occupy such structures at all income levels. Singles, on the other hand, are more likely to occupy apartments (low-rise, high-rise and duplex) at income levels below \$40,000. Above income levels of \$50,000 the majority of singles occupy structures with ground orientation. The percentage occupying high rise buildings remains reasonably constant (between 15% and 18%) regardless of income.

For the purpose of establishing the availability of units in the private market that would satisfy the requirements of CF households occupying crown housing, the market norms derived from the 1996 Census were used. Inferred income based on rank, family structure as recorded by DHRIM and current occupancy patterns were used to derive minimum unit size and dwelling type. The following Tables 16 & 17 summarise the requirement for family and single occupants.

TABLE 16- CF EDMONTON PMQ FAMILY OCCUPANT REQUIREMENTS BY TYPE AND # OF BEDROOMS

Structural Type	2BR	3BR	4BR	Total
Single-detached	74	499	210	783
Semi-detached/Row	15	88	6	109
Apt.Bldg., < 5 storeys	36	11		47
Apt.Bldg., 5 storeys +	18			18
Other (Duplex Apt., Mobile homes,etc.)	5	16		21
Total	148	614	216	978

TABLE 17- CF EDMONTON MQ SINGLE OCCUPANT REQUIREMENTS BY TYPE AND NUMBER OF BEDROOMS

Structural Type	1BR	2BR	Total
Single-detached		14	14
Semi-detached/Row		6	6
Apt.Bldg., < 5 storeys	18	2	20
Apt.Bldg., 5 storeys +	7		7
Other	1		1
Total	26	22	48

The rental vacancy rate in Edmonton remains low at 2% overall and below a balanced market of 3 % which would provide reasonable access to rental housing. Ground-oriented rental housing most suitable for CF families is even less accessible with vacancy rates of 1.66% and 1.38% for two and three-bedroom units respectively. Of importance is also the small universe of these vacant units. Rental housing for singles is slightly more accessible but remains restrictive with vacancy rates of 2.04% and 2.28% for one and two-bedroom apartment units respectively.

Given the current vacancy rates, the CF families and singles occupying crown housing would have significant difficulty in finding suitable rental housing within the private market. In addition to the need identified in table 16, there is an additional requirement for 30 to 50 crown units (3% to 5%) for normalized vacancy.

On the homeownership side, the resale market provides homes at a range of purchase prices. A small inventory has resulted in upward pressures. Sale prices for newly constructed homes have also increased recently and further increases of 5% to 6% are expected for both resale and new construction. The concern with entering the homeownership market in Edmonton would be the cyclical market conditions closely tied to the resource-based economy. At certain times CF members would be reluctant to enter the homeownership market due to the economic conditions.

Rental affordability is currently only a problem for privates and officer cadets. The Post Living Differential (PLD) does not significantly resolve the affordability problem for the privates or officer cadets. At eleven dollars per month, it also does not provide any additional incentive for CF renters to change their tenure patterns.

Recommendations

1. **IT IS RECOMMENDED** that, in order for DND/CFHA to meet the objective of Accommodation Policy to ensure that all CF families posted to Edmonton have access to suitable housing, a minimum of 978 Crown units for CF families be provided within the Edmonton market area.
2. **IT IS FURTHER RECOMMENDED** that an additional requirement of 30 to 50 (3% to 5%) Crown units be approved for normalized vacancy providing operational flexibility required during march-in and march-out.

APPENDIX A

Map of Edmonton CMA indicating the two work sites.

APPENDIX B

Affordability Tables

Rank Army-Air Force/ Navy	Families With 1 Dependant	Annual Income (\$ Value)	25% of Monthly Income	2 Bedroom Market Rent	Shortfall / Individual W/Out PLD	Shortfall Rank W/Out PLD	Post Living Differential (PLD)	Estimated Net PLD (\$ Value)	Shelter Income With PLD	Shortfall With PLD	Shortfall Rank With PLD	Number of Members With An Affordability Problem	
												Without PLD	With PLD
Pte/AB	156	28608.0	596.0	601.0	5.0	780.0	11.0	7.7	603.7	(2.7)	(421.2)	156	0
Cpl/LS	486	40824.0	850.5	601.0	(249.5)	(121257.0)	11.0	6.6	857.1	(256.1)	(124464.6)	0	0
MCpl/MS	169	42480.0	885.0	601.0	(284.0)	(47996.0)	11.0	6.6	891.6	(290.6)	(49111.4)	0	0
Sgt/PO2	79	46518.0	969.1	601.0	(368.1)	(29081.9)	11.0	6.6	975.7	(374.7)	(29603.3)	0	0
WO/PO1	22	51744.0	1078.0	601.0	(477.0)	(10494.0)	11.0	6.6	1084.6	(483.6)	(10639.2)	0	0
MWO/CPO2	9	57180.0	1191.3	601.0	(590.3)	(5312.3)	11.0	6.6	1197.9	(596.9)	(5371.7)	0	0
CWO/CPO1	2	63516.0	1323.3	601.0	(722.3)	(1444.5)	11.0	6.6	1329.9	(728.9)	(1457.7)	0	0
OCdt/Oc dt	5	13998.0	291.6	601.0	309.4	1546.9	11.0	7.7	299.3	301.7	1508.4	5	5
2Lt/A/SLt(N)	5	38880.0	810.0	601.0	(209.0)	(1045.0)	11.0	6.6	816.6	(215.6)	(1078.0)	0	0
Lt/SLt(N)	16	45234.0	942.4	601.0	(341.4)	(5462.0)	11.0	6.6	949.0	(348.0)	(5567.6)	0	0
Capt/Lt(N)	92	62358.0	1299.1	601.0	(698.1)	(64227.5)	11.0	6.1	1305.2	(704.2)	(64784.1)	0	0
Maj/LCdr	18	77046.0	1605.1	601.0	(1004.1)	(18074.3)	11.0	6.1	1611.2	(1010.2)	(18183.2)	0	0
LCol/Cdr	3	86892.0	1810.3	601.0	(1209.3)	(3627.8)	11.0	6.1	1816.3	(1215.3)	(3645.9)	0	0
Col/Capt(N)	0	82152.0	1711.5	601.0	(1110.5)	0.0	11.0	5.5	1717.0	(1116.0)	0.0	0	0
BGen/Cmdre	0	94002.0	1958.4	601.0	(1357.4)	0.0	11.0	5.5	1963.9	(1362.9)	0.0	0	0
MGen/RA dm	0	114450.0	2384.4	601.0	(1783.4)	0.0	11.0	5.5	2389.9	(1788.9)	0.0	0	0
Unknown	1												
Total	1063					2326.9					1508.4	161	5

Rank Army-Air Force/ Navy	Families With 2 Dependents	Annual Income (\$ Value)	25% of Monthly Income	3 Bedroom Market Rent	Shortfall/ Individual W/Out PLD	Shortfall Rank W/Out PLD	PLD 2 Dependents (\$ Value)	Estimated Net PLD(\$ Value)	Shelter Income With PLD	Shortfall With PLD	Shortfall Rank With PLD	Number of Members With An Affordability Problem	
												Without PLD	With PLD
Pte/AB	41	28608.0	596.0	657.0	61.0	2501.0	11.0	7.7	603.7	53.3	2185.3	41	41
Cpl/LS	355	40824.0	850.5	657.0	(193.5)	(68692.5)	11.0	6.6	857.1	(200.1)	(71035.5)	0	0
MCpl/MS	140	42480.0	885.0	657.0	(228.0)	(31920.0)	11.0	6.6	891.6	(234.6)	(32844.0)	0	0
Sgt/PO2	95	46518.0	969.1	657.0	(312.1)	(29651.9)	11.0	6.6	975.7	(318.7)	(30278.9)	0	0
WO/PO1	47	51744.0	1078.0	657.0	(421.0)	(19787.0)	11.0	6.6	1084.6	(427.6)	(20097.2)	0	0
MWO/CPO2	14	57180.0	1191.3	657.0	(534.3)	(7479.5)	11.0	6.6	1197.9	(540.9)	(7571.9)	0	0
CWO/CPO1	2	63516.0	1323.3	657.0	(666.3)	(1332.5)	11.0	6.6	1329.9	(672.9)	(1345.7)	0	0
OCdt/Oc dt	1	13998.0	291.6	657.0	365.4	365.4	11.0	7.7	299.3	357.7	357.7	1	1
2Lt/A/SLt(N)	1	38880.0	810.0	657.0	(153.0)	(153.0)	11.0	6.6	816.6	(159.6)	(159.6)	0	0
Lt/SLt(N)	2	45234.0	942.4	657.0	(285.4)	(570.8)	11.0	6.6	949.0	(292.0)	(584.0)	0	0
Capt/Lt(N)	46	62358.0	1299.1	657.0	(642.1)	(29537.8)	11.0	6.1	1305.2	(648.2)	(29816.1)	0	0
Maj/LCdr	16	77046.0	1605.1	657.0	(948.1)	(15170.0)	11.0	6.1	1611.2	(954.2)	(15266.8)	0	0
LCol/Cdr	4	86892.0	1810.3	657.0	(1153.3)	(4613.0)	11.0	6.1	1816.3	(1159.3)	(4637.2)	0	0
Col/Capt(N)	0	82152.0	1711.5	657.0	(1054.5)	0.0	11.0	5.5	1717.0	(1060.0)	0.0	0	0
BGen/Cmdre	1	94002.0	1958.4	657.0	(1301.4)	(1301.4)	11.0	5.5	1963.9	(1306.9)	(1306.9)	0	0
MGen/RA dm	0	114450.0	2384.4	657.0	(1727.4)	0.0	11.0	5.5	2389.9	(1732.9)	0.0	0	0
Total	765					2866.4					2543.0	42	42

Rank Army-Air Force/ Navy	Families With 3 Depend ants	Annual Income (\$ Value)	25% of Monthly Income	3 Bedroom Market Rent	Shortfall/ Individual W/Out PLD	Shortfall Rank W/Out PLD	PLD 3 Depend ants (\$ Value)	Estimat ed Net PLD (\$ Value)	Shelter Income With PLD	Shortfall With PLD	Shortfall Rank With PLD	Number of Members With An Affordability Problem	
												Witho ut PLD	With PLD
Pte/AB	23	28,608.0	596.0	657.0	61.0	1,403.0	11.0	7.7	603.7	53.3	1,225.9	23	23
Cpl/LS	327	40,824.0	850.5	657.0	-193.5	-63,274.5	11.0	6.6	857.1	-200.1	-65,432.7	0	0
MCpl/MS	189	42,480.0	885.0	657.0	-228.0	-43,092.0	11.0	6.6	891.6	-234.6	-44,339.4	0	0
Sgt/PO2	136	46,518.0	969.1	657.0	-312.1	-42,449.0	11.0	6.6	975.7	-318.7	-43,346.6	0	0
WO/PO1	94	51,744.0	1,078.0	657.0	-421.0	-39,574.0	11.0	6.6	1,084.6	-427.6	-40,194.4	0	0
MWO/CPO2	33	57,180.0	1,191.3	657.0	-534.3	-17,630.3	11.0	6.6	1,197.9	-540.9	-17,848.1	0	0
CWO/CPO1	15	63,516.0	1,323.3	657.0	-666.3	-9,993.8	11.0	6.6	1,329.9	-672.9	-10,092.8	0	0
OCdt/Ocdt	1	13,998.0	291.6	657.0	365.4	365.4	11.0	7.7	299.3	357.7	357.7	1	1
2Lt/A/SLt(N)	1	38,880.0	810.0	657.0	-153.0	-153.0	11.0	6.6	816.6	-159.6	-159.6	0	0
Lt/SLt(N)	8	45,234.0	942.4	657.0	-285.4	-2,283.0	11.0	6.6	949.0	-292.0	-2,335.8	0	0
Capt/Lt(N)	59	62,358.0	1,299.1	657.0	-642.1	-37,885.4	11.0	6.1	1,305.2	-648.2	-38,242.3	0	0
Maj/LCdr	39	77,046.0	1,605.1	657.0	-948.1	-36,976.9	11.0	6.1	1,611.2	-954.2	-37,212.8	0	0
LCol/Cdr	4	86,892.0	1,810.3	657.0	-1,153.3	-4,613.0	11.0	6.1	1,816.3	-1,159.3	-4,637.2	0	0
Col/Capt(N)	1	82,152.0	1,711.5	657.0	-1,054.5	-1,054.5	11.0	5.5	1,717.0	-1,060.0	-1,060.0	0	0
BGen/Cmdre	0	94,002.0	1,958.4	657.0	-1,301.4	0.0	11.0	5.5	1,963.9	-1,306.9	0.0	0	0
MGen/RAdm	0	114,450.0	2,384.4	657.0	-1,727.4	0.0	11.0	5.5	2,389.9	-1,732.9	0.0	0	0
Unknown	1												
Total	931					1,768.4					1,583.6	24	24

Rank Army-Air Force/ Navy	Families With 4 Depend ants	Annual Income (\$ Value)	25% of Monthly Income	4 Bedroom Market Rent	Shortfall/ Individual W/Out PLD	Shortfall Rank W/Out PLD	PLD 4 Depend ants (\$ Value)	Estimat ed Net PLD (\$ Value)	Shelter Income With PLD	Shortfall With PLD	Shortfall Rank With PLD	Number of Members With An Affordabil ity Problem	
												Witho ut PLD	With PLD
Pte/AB	9	28608.0	596.0	701.0	105.0	945.0	11.0	7.7	603.7	97.3	875.7	9	9
Cpl/LS	127	40824.0	850.5	701.0	(149.5)	(18986.5)	11.0	6.6	857.1	(156.1)	(19824.7)	0	0
MCpl/MS	85	42480.0	885.0	701.0	(184.0)	(15640.0)	11.0	6.6	891.6	(190.6)	(16201.0)	0	0
Sgt/PO2	53	46518.0	969.1	701.0	(268.1)	(14210.6)	11.0	6.6	975.7	(274.7)	(14560.4)	0	0
WO/PO1	29	51744.0	1078.0	701.0	(377.0)	(10933.0)	11.0	6.6	1084.6	(383.6)	(11124.4)	0	0
MWO/CPO2	15	57180.0	1191.3	701.0	(490.3)	(7353.8)	11.0	6.6	1197.9	(496.9)	(7452.8)	0	0
CWO/CPO1	2	63516.0	1323.3	701.0	(622.3)	(1244.5)	11.0	6.6	1329.9	(628.9)	(1257.7)	0	0
OCdt/Ocdt	0	13998.0	291.6	701.0	409.4	0.0	11.0	7.7	299.3	401.7	0.0	0	0
2Lt/A/SLt(N)	0	38880.0	810.0	701.0	(109.0)	0.0	11.0	6.6	816.6	(115.6)	0.0	0	0
Lt/SLt(N)	3	45234.0	942.4	701.0	(241.4)	(724.1)	11.0	6.6	949.0	(248.0)	(743.9)	0	0
Capt/Lt(N)	21	62358.0	1299.1	701.0	(598.1)	(12560.6)	11.0	6.1	1305.2	(604.2)	(12687.7)	0	0
Maj/LCdr	18	77046.0	1605.1	701.0	(904.1)	(16274.3)	11.0	6.1	1611.2	(910.2)	(16383.2)	0	0
LCol/Cdr	5	86892.0	1810.3	701.0	(1109.3)	(5546.3)	11.0	6.1	1816.3	(1115.3)	(5576.5)	0	0
Col/Capt(N)	2	82152.0	1711.5	701.0	(1010.5)	(2021.0)	11.0	5.5	1717.0	(1016.0)	(2032.0)	0	0
BGen/Cmdre	0	94002.0	1958.4	701.0	(1257.4)	0.0	11.0	5.5	1963.9	(1262.9)	0.0	0	0
MGen/RAdm	0	114450.0	2384.4	701.0	(1683.4)	0.0	11.0	5.5	2389.9	(1688.9)	0.0	0	0
Total	369					945.0					875.7	9	9

Rank Army-Air Force/ Navy	Total Families Posted in Study Area	Annual Income (\$ Value)	Avg Monthly Income	25% of Monthly Income	Net Factor
Pte/AB	229	28,608.00	2,384.00	596.00	70.00
Cpl/LS	1295	40,824.00	3,402.00	850.50	60.00
MCpl/MS	583	42,480.00	3,540.00	885.00	60.00
Sgt/PO2	363	46,518.00	3,876.50	969.13	60.00
WO/PO1	192	51,744.00	4,312.00	1078.00	60.00
MWO/CPO2	71	57,180.00	4,765.00	1191.25	60.00
CWO/CPO1	21	63,516.00	5,293.00	1323.25	60.00
OCdt/Ocdt	7	13,998.00	1,166.50	291.63	70.00
2Lt/A/SLt(N)	7	38,880.00	3,240.00	810.00	60.00
Lt/SLt(N)	29	45,234.00	3,769.50	942.38	60.00
Capt/Lt(N)	218	62,358.00	5,196.50	1299.13	55.00
Maj/LCdr	91	77,046.00	6,420.50	1605.13	55.00
LCol/Cdr	16	86,892.00	7,241.00	1810.25	55.00
Col/Capt(N)	3	82,152.00	6,846.00	1711.50	55.00
BGen/Cmdre	1	94,002.00	7,833.50	1958.38	55.00
MGen/RAdm	0	114,450.00	9,537.50	2384.38	55.00
Unknown	2				
Total	3128				