

# **2013 HOUSING MARKET ANALYSIS**

**12 APRIL 2013 - FINAL REPORT**



## **USAG ROCK ISLAND ARSENAL, ILLINOIS**

**HEADQUARTERS, DEPARTMENT OF THE ARMY**  
*Assistant Chief of Staff for Installation Management*

*Prepared by ROBERT D. NIEHAUS, INC.*



**USAG ROCK ISLAND ARSENAL, ILLINOIS  
2013 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

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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 Rock Island Arsenal 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 (U.S. Department of Defense, 2010). The principal assumptions and results of the analysis are shown in Table ES-1.

**Table ES-1. Military Housing Requirements and Key Assumptions, USAG Rock Island Arsenal, 2013-2018**

| <b>Assumptions/Results</b>   |             |             |             |             |             |             |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| 1. Methodology Consistent with OSD Guidance for All Services   |             |             |             |             |             |             |
| 2. Personnel Based on 31 October 2012 ASIP Report (SAMAS as of 3 Jan 2012)   |             |             |             |             |             |             |
| 3. Market Area is Based on a 20-Mile Commute   |             |             |             |             |             |             |
| 4. Rental Mobile Homes are Inadequate for Military Members   |             |             |             |             |             |             |
| 5. 2013 Basic Allowance for Housing (BAH) and Fiscal Year 2013 Community Rental Costs [4]                          |             |             |             |             |             |             |
| 6. One Bedroom Per Family Member for Accompanied, BAH Standard for Unaccompanied                                   |             |             |             |             |             |             |
| 7. Floor Requirement for Unaccompanied Personnel is E1-E5 Personnel  |             |             |             |             |             |             |
| 8. Straight-Line Transition from Current Occupancy of Military Family Housing in 2013 to Floor Requirement in 2018 |             |             |             |             |             |             |
|  | <b>2013</b> | <b>2014</b> | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> |
| <b>Total Permanent-Party Personnel [1]</b>   | 447         | 544         | 544         | 544         | 544         | 544         |
| <b>Total Military Families</b>   | 291         | 358         | 358         | 358         | 358         | 358         |
| Post Occupancy in 2013; Floor Requirement in 2018  | 94          | 80          | 66          | 52          | 38          | 25          |
| Community Housing Demand   | 197         | 278         | 292         | 306         | 320         | 333         |
| Military Family Homeowners   | 87          | 102         | 102         | 102         | 102         | 102         |
| Military Family Renters  | 110         | 176         | 190         | 204         | 218         | 231         |
| Community Housing Shortfall  | 36          | 71          | 64          | 63          | 64          | 64          |
| Initial Housing Requirement  | 130         | 151         | 130         | 115         | 102         | 89          |
| 10 Percent Military Community Adjustment [2]   | -           | -           | -           | -           | -           | 3           |
| <b>TOTAL MILITARY FAMILY HOUSING REQUIREMENT</b>   | 130         | 151         | 130         | 115         | 102         | <b>92</b>   |
| Military Family Housing Inventory [3]  | 102         | 92          | 82          | 72          | 62          | 52          |
| Deficit/(Surplus) of Military Family Housing   | 28          | 59          | 48          | 43          | 40          | 40          |
| <b>Total Unaccompanied Personnel</b>   | 133         | 158         | 158         | 158         | 158         | 158         |
| In On-Post Housing (E5 and below)  | 13          | 19          | 19          | 19          | 19          | 19          |
| Community Housing Demand   | 120         | 139         | 139         | 139         | 139         | 139         |
| Unaccompanied Personnel Homeowners   | 32          | 35          | 35          | 35          | 35          | 35          |
| Unaccompanied Personnel Renters  | 88          | 104         | 104         | 104         | 104         | 104         |
| Community Housing Shortfall  | 32          | 35          | 31          | 29          | 24          | 18          |
| Total Unaccompanied Housing Requirement  | 45          | 54          | 50          | 48          | 43          | 37          |

Notes: [1] Total Permanent Party Personnel include voluntarily-separated personnel and military spouses in dual military couples, which are not shown separately in this table. See Chapter 4, Tables 4-1 and 4-3, for details.

[2] The ten percent military community adjustment reflects any increases when the initial housing requirement is less than ten percent of total families on a grade by grade basis and is only applied in 2018 (see section 1.2.A).

[3] Military Family Housing Inventory in 2013 includes 52 government-owned units and 50 government-leased units. Only government-owned units are identified as inventory in 2018, for the purposes of calculating a deficit/surplus. The interim years reflect a straight-line transition between 102 units in 2013 and 52 units in 2018.

[4] Data for 2013 reflects FY2013 values (1 Oct 2012 through 30 Sep 2013). Data for 2018 reflects FY2018 (1 Oct 2017 through 30 Sep 2018).

Sources: Headquarters, Department of the Army, 2012; USAG Rock Island Arsenal Housing Office, 2012; and estimates prepared for this study.

For 2018, the accompanied personnel government-provided housing requirement totals 92 units. The unaccompanied housing requirement totals 37 units in 2018.

Chapter 1 of this report describes the OSD-approved methodology in detail. In summary, the projected requirement for government-provided housing consists of three components – the floor requirement, the community housing shortfall, and if needed, a military community adjustment factor.

The floor housing requirement for accompanied personnel is based on four components as projected for the fifth year of the analysis (2018). These requirements are not additive but are calculated as the greatest of the four criteria for each grade. The four components are:

- Military Family Housing Community – ten percent of families in each grade
- Key and Essential Personnel – all key and essential, or Priority 1, personnel.
- Historic Housing – government-controlled housing units listed on or eligible for the national historic register.
- Quality of Life – accompanied personnel earning less than 50 percent of area median family income.

The floor requirement in this analysis has been initially calculated assuming there is no military family housing community component. If the initial estimate of the total requirement for government-provided military family housing for any individual pay grade is less than ten percent of total families in that grade, the requirement in that grade is increased to equal ten percent of families by adding a military community adjustment factor. The initial requirement was raised in this analysis to equal ten percent of families in the W3, W5, and O2 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 to be unable to find suitable housing in the community. Summaries of the projected floor, community housing shortfall, and total government-provided 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 Military Family Housing Requirement, USAG Rock Island Arsenal, 2018**

| 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   | 6                 | -                  | 6                 | 5              | -               | 6                 | -                        | 6                           | 1                             | 6                                  |
| O6           | 21                | -                  | 6                 | 1              | -               | 6                 | 1                        | 7                           | 2                             | 7                                  |
| O5           | 42                | -                  | 1                 | -              | -               | 1                 | 6                        | 7                           | 4                             | 7                                  |
| O4           | 65                | -                  | 5                 | -              | -               | 5                 | 13                       | 18                          | 7                             | 18                                 |
| O3           | 38                | -                  | 2                 | -              | -               | 2                 | 5                        | 7                           | 4                             | 7                                  |
| O2           | 4                 | -                  | -                 | -              | -               | -                 | -                        | -                           | 1                             | 1                                  |
| O1           | -                 | -                  | -                 | -              | -               | -                 | -                        | -                           | -                             | -                                  |
| Officers     | 176               | -                  | 20                | 6              | -               | 20                | 25                       | 45                          | 19                            | 46                                 |
| W5           | 3                 | -                  | -                 | -              | -               | -                 | -                        | -                           | 1                             | 1                                  |
| W4           | 7                 | -                  | -                 | -              | -               | -                 | 2                        | 2                           | 1                             | 2                                  |
| W3           | 5                 | -                  | -                 | -              | -               | -                 | -                        | -                           | 1                             | 1                                  |
| W2           | 6                 | -                  | -                 | -              | -               | -                 | 1                        | 1                           | 1                             | 1                                  |
| W1           | -                 | -                  | -                 | -              | -               | -                 | -                        | -                           | -                             | -                                  |
| Warrants     | 21                | -                  | -                 | -              | -               | -                 | 3                        | 3                           | 4                             | 5                                  |
| E9           | 13                | -                  | 3                 | 3              | -               | 3                 | 1                        | 4                           | 1                             | 4                                  |
| E8           | 26                | -                  | -                 | -              | -               | -                 | 4                        | 4                           | 3                             | 4                                  |
| E7           | 63                | -                  | 2                 | -              | -               | 2                 | 13                       | 15                          | 6                             | 15                                 |
| E6           | 34                | -                  | -                 | -              | -               | -                 | 7                        | 7                           | 3                             | 7                                  |
| E5           | 18                | -                  | -                 | -              | -               | -                 | 6                        | 6                           | 2                             | 6                                  |
| E4           | 7                 | -                  | -                 | -              | -               | -                 | 5                        | 5                           | 1                             | 5                                  |
| E3           | -                 | -                  | -                 | -              | -               | -                 | -                        | -                           | -                             | -                                  |
| E2           | -                 | -                  | -                 | -              | -               | -                 | -                        | -                           | -                             | -                                  |
| E1           | -                 | -                  | -                 | -              | -               | -                 | -                        | -                           | -                             | -                                  |
| Enlisted     | 161               | -                  | 5                 | 3              | -               | 5                 | 36                       | 41                          | 16                            | 41                                 |
| <b>Total</b> | <b>358</b>        | <b>-</b>           | <b>25</b>         | <b>9</b>       | <b>-</b>        | <b>25</b>         | <b>64</b>                | <b>89</b>                   | <b>39</b>                     | <b>92</b>                          |

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

Source: Estimates prepared for this study.

**Table ES-3. Floor Requirement, Private Sector Shortfall, and Total Unaccompanied Personnel Housing Requirement, USAG Rock Island Arsenal, 2018**

| <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               | 10                                   | -                        | 3                               | 3   |
| O5               | 17                                   | -                        | 1                               | 1   |
| O4               | 28                                   | -                        | 3                               | 3   |
| O3               | 25                                   | -                        | 5                               | 5   |
| O2               | -                                    | -                        | -                               | -   |
| O1               | -                                    | -                        | -                               | -   |
| <b>Officers</b>  | <b>80</b>                            | <b>-</b>                 | <b>12</b>                       | <b>12</b>                                 |
| W5               | 1                                    | -                        | -                               | -   |
| W4               | 1                                    | -                        | -                               | -   |
| W3               | 2                                    | -                        | -                               | -   |
| W2               | -                                    | -                        | -                               | -   |
| W1               | 1                                    | -                        | -                               | -   |
| <b>Warrants</b>  | <b>5</b>                             | <b>-</b>                 | <b>-</b>                        | <b>-</b>                                  |
| E9               | 7                                    | -                        | 1                               | 1   |
| E8               | 5                                    | -                        | -                               | -   |
| E7               | 24                                   | -                        | 2                               | 2   |
| E6               | 18                                   | -                        | 3                               | 3   |
| E5               | 13                                   | 13                       | -                               | 13  |
| E4               | 6                                    | 6                        | -                               | 6   |
| E3               | -                                    | -                        | -                               | -   |
| E2               | -                                    | -                        | -                               | -   |
| E1               | -                                    | -                        | -                               | -   |
| <b>Enlisted</b>  | <b>73</b>                            | <b>19</b>                | <b>6</b>                        | <b>25</b>                                 |
| <b>Total</b>     | <b>158</b>                           | <b>19</b>                | <b>18</b>                       | <b>37</b>                                 |

Source: Estimates prepared for this study.



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

**Table ES-4. Total Military Family Housing Requirement by Grade and Bedroom Entitlement, USAG Rock Island Arsenal, 2018**

| 2018<br>Pay Grade | Number of Bedrooms |           |           | Total     |
|-------------------|--------------------|-----------|-----------|-----------|
|                   | Two                | Three     | Four+     |           |
| O7 & Above        | -                  | -         | 6         | 6         |
| O6                | -                  | -         | 7         | 7         |
| O5                | -                  | 6         | 1         | 7         |
| O4                | -                  | 16        | 2         | 18        |
| O3                | 2                  | 4         | 1         | 7         |
| O2                | -                  | 1         | -         | 1         |
| O1                | -                  | -         | -         | -         |
| <b>Officers</b>   | <b>2</b>           | <b>27</b> | <b>17</b> | <b>46</b> |
| W5                | -                  | 1         | -         | 1         |
| W4                | -                  | 2         | -         | 2         |
| W3                | -                  | 1         | -         | 1         |
| W2                | -                  | -         | 1         | 1         |
| W1                | -                  | -         | -         | -         |
| <b>Warrants</b>   | <b>-</b>           | <b>4</b>  | <b>1</b>  | <b>5</b>  |
| E9                | -                  | 2         | 2         | 4         |
| E8                | -                  | 3         | 1         | 4         |
| E7                | -                  | 11        | 4         | 15        |
| E6                | 2                  | 1         | 4         | 7         |
| E5                | 1                  | 1         | 4         | 6         |
| E4                | 2                  | -         | 3         | 5         |
| E3                | -                  | -         | -         | -         |
| E2                | -                  | -         | -         | -         |
| E1                | -                  | -         | -         | -         |
| <b>Enlisted</b>   | <b>5</b>           | <b>18</b> | <b>18</b> | <b>41</b> |
| <b>Total</b>      | <b>7</b>           | <b>49</b> | <b>36</b> | <b>92</b> |

Source: Estimates prepared for this study.

**Table ES-5. Total Unaccompanied Housing Requirement by Grade and Bedroom Entitlement, USAG Rock Island Arsenal, 2018**

| 2018<br>Pay Grade | Number of Bedrooms |           |          | Total     |
|-------------------|--------------------|-----------|----------|-----------|
|                   | One                | Two       | Three    |           |
| O7 & Above        | -                  | -         | -        | -         |
| O6                | -                  | -         | 3        | 3         |
| O5                | -                  | -         | 1        | 1         |
| O4                | -                  | -         | 3        | 3         |
| O3                | -                  | 5         | -        | 5         |
| O2                | -                  | -         | -        | -         |
| O1                | -                  | -         | -        | -         |
| Officers          | -                  | 5         | 7        | 12        |
| W5                | -                  | -         | -        | -         |
| W4                | -                  | -         | -        | -         |
| W3                | -                  | -         | -        | -         |
| W2                | -                  | -         | -        | -         |
| W1                | -                  | -         | -        | -         |
| Warrants          | -                  | -         | -        | -         |
| E9                | -                  | 1         | -        | 1         |
| E8                | -                  | -         | -        | -         |
| E7                | -                  | 2         | -        | 2         |
| E6                | -                  | 3         | -        | 3         |
| E5                | 13                 | -         | -        | 13        |
| E4                | 6                  | -         | -        | 6         |
| E3                | -                  | -         | -        | -         |
| E2                | -                  | -         | -        | -         |
| E1                | -                  | -         | -        | -         |
| Enlisted          | 19                 | 6         | -        | 25        |
| <b>Total</b>      | <b>19</b>          | <b>11</b> | <b>7</b> | <b>37</b> |

Source: Estimates prepared for this study.

The following points compare the results of this study to those of the 2010 Housing Requirements Analysis (HRA) prepared for USAG Rock Island Arsenal (Robert D. Niehaus, Inc., 2011):

- The projected 2018 requirement is 92 family housing units, 11 more than the projected 2015 requirement of 81 units.
- The 2018 projection of total active-duty permanent party military personnel is 544, which is 109 less than the 653 personnel projected in the 2010 HRA.
- The projected number of military families in 2018 is 358, or 171 less than the projected 2015 family total of 529. Accompaniment rates for this study were derived for each pay grade from data obtained from the Defense Manpower Data Center Active Duty Personnel Family File (2012).
- Rental housing affordability improved between 2010 and 2012 calendar years. Based on data collected for the 2006 Rock Island Arsenal HRA and escalated to 2010 (Robert D. Niehaus, Inc., 2011), the total weighted-average rental cost of housing in the market area (includes rent, utilities,

and renter's insurance) increased 11.3 percent between 2010 and 2012, while weighted-average MAHC increased 26.2 percent. Total median rental costs for two-, three and four-bedroom units increased 11.8 percent, 14.2 percent, and 9.2 percent, respectively, between 2010 and 2012.

- The projected number of accompanied homeowners in this analysis is 102 (28.5 percent of families), which is 194 fewer than the 296 homeowners projected in the 2010 HRA (56.0 percent of families). Homeownership rates in this analysis were derived from a 2012 survey of current personnel conducted by the USAG Rock Island Arsenal Housing Office (2012).

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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 Rock Island Arsenal, 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 requirements 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 U.S. 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 U.S. 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: the current year (2013) and the projected year (2018). Data for 2013 reflects FY2013 values (1 October 2012 through 30 September 2013). Data for 2018 reflects FY2018 (1 October 2017 through 30 September 2018). 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. This study considers the housing needs and assets of Rock Island Arsenal personnel separately from the requirements of other military installations or units in or near the market area. The housing needs of such personnel are treated in the same way as regional civilian needs, that is, as part of the baseline community housing demand.

### 1.2 METHODOLOGY

The analysis is consistent with current OSD guidance for the preparation of HMAs (U.S. Department of Defense, 2003, 2010). 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 community rental housing and the projected military rental housing demand. However, the community housing balance is not the sole determinant of the total government-provided military housing requirement. For accompanied personnel, current OSD guidance allows for a projected minimum government-provided housing requirement, or the floor requirement, as the greatest of four criteria for each pay grade:

- **Military Housing Community** – Ten percent of military families in each grade, with a minimum of one military family housing unit for any pay grade with at least one family. The floor requirement is initially calculated assuming there is no military housing community requirement component (i.e. this component is zero). If the total requirement for government-provided military family housing for any individual pay grade is less than ten percent of total families in that grade, the requirement in that grade is then increased to equal ten percent of families in that grade.
- **Key and Essential Personnel** – All key and essential, or Priority 1, personnel.
- **Historic Housing** – Government-controlled 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, government-provided military family housing is considered to be occupied at recent actual levels.

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

**D.** For accompanied personnel, total potential community housing demand is defined for 2013 as those families in excess of the current occupants of government-provided housing, and for 2018 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, 2010). 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 for military personnel (see below) 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 bedrooms. 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 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 currently living in government-provided military family housing who are in excess of the projected floor requirement. The government-provided family housing inventory is hypothetically adjusted to the floor housing requirement in five years. The number of military families occupying government-provided housing changes each year until by the fifth year of the analysis only the floor housing is occupied. All those personnel simulated to be part of the transition are assumed to be renters in the projected years – they are transitioning from “renting” government-provided housing to competing for rental housing in the community.

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

- Market competition only occurs for rental housing that becomes 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-provided 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 government-provided housing to the private sector, and civilian households new to the housing market.

**J.** Unaccompanied personnel who are not required to live on post compete in the private sector as well.

**K.** Military families and unaccompanied personnel who own their homes are considered suitably housed under current policy.

**L.** The shortfall or surplus in the private-sector housing market is determined in the projected year as the difference between the military’s share of adequate-quality 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.

**M.** Finally, the HMA determines the military 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 ten percent of the total families in each pay grade, a military community adjustment factor is added so that the total requirement equals at least ten percent of families in each pay grade, with a minimum of one unit for any grade with one or more families.

### 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. Rock Island Arsenal is assumed to remain open and functioning through the year 2018. 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 (2013) and projected (2018) permanent party personnel were obtained from the 31 October 2012 ASIP report (3 January 2012 SAMAS).
2. The breakdown of total personnel into accompanied and unaccompanied housing requirements was based on data for currently assigned personnel provided by the Defense Manpower Data Center (2012). Voluntarily separated personnel (geographic bachelors) were projected using national averages by grade from the 1997 Variable Housing Allowance (VHA) Survey (U.S. Air Force, 1998) as planning factors.
3. The primary market area is defined as an approximate 20-mile commute along the area road network to and from the principal work areas on the installation.
4. Housing is considered to be affordable if rent plus utilities plus renter's insurance does not exceed Maximum Acceptable Housing Cost (MAHC). MAHC equals the military Basic Allowance for Housing (BAH) in 2013 and 2018. Military personnel are assumed to pay approximately 85 percent to 100 percent of MAHC for rent, utilities, and renter's insurance.
5. Accompanied personnel were estimated to have requirements for two-, three-, or four+-bedroom units based on the number of family members and pay grade of the military member. Family size data were obtained from the DMDC (2012). 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 minimum 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.
6. A community rental housing unit is classified as adequate and is considered adequate in this analysis if it meets the following standards (U.S. Department of Defense, 2010; Headquarters, Department of the Army, 2008):
  - (a) the dwelling is well maintained and structurally sound. It does not pose a health, safety, or fire hazard;
  - (b) the dwelling is a complete unit with private entrance, bathroom, and kitchen for sole use of its occupants. The kitchen, a bathroom, the living room and the bedrooms can be entered

- without passing through bedrooms. The kitchen has a stove and refrigerator connections, and space for food preparation. At least one bathroom has a shower or bathtub, lavatory, and a flushable toilet;
- (c) the dwelling has air conditioning or similar cooling system and a permanently installed, adequately vented, heating system, if required due to climate conditions;
  - (d) the dwelling has adequate electrical service;
  - (e) the dwelling has washer and dryer connections, or accessible laundry facilities are on the premises;
  - (f) the dwelling has hot and cold running potable water. In some foreign areas, construction standards for community housing do not provide for potable running water. In such places, hot and cold running water shall be provided and a continuous supply of potable water shall be made available;
  - (g) the dwelling has sufficient sanitary and sewage disposal facilities;
  - (h) is not a mobile home;
  - (i) is not in an area with unacceptably high risks of crime; and
  - (j) is not in an area, subdivision, or housing complex designated by a local commander as not acceptable for reasons of health and safety.
7. As directed by OSD policy, all military homeowners are considered adequately housed. The rates of military homeownership among accompanied and unaccompanied personnel are based on data provided by the USAG Rock Island Arsenal Housing Office (2012). The number of military homeowners was adjusted over the forecast period for anticipated changes in homeownership affordability between 2013 and 2018. 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 2000 and 2010 censuses, current information on population and housing levels provided by local planning organizations, and trends extrapolated from these sources.
  9. The rental vacancy rate in the market area was estimated using 2000 and 2010 census structural relationships, information from interviews with property managers, housing development and population growth trends, and the latest data from the American Community Survey (U.S. Bureau of the Census, 2013).

## 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, and its population and local economic structure.

**Chapter 3** presents a detailed analysis of the market area's housing stock. This analysis is provided for both current (2013) and projected (2018) years, and 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 government-provided 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 Rock Island Arsenal, Illinois and describes its general population and economic characteristics.

### 2.1 MARKET AREA DEFINITION

Figure 2-1 maps the housing market area for Rock Island Arsenal and also illustrates the Military Housing Area (IL089) used for determining BAH rates for the post.

**Figure 2-1. Housing Market Area, USAG Rock Island Arsenal, Illinois**



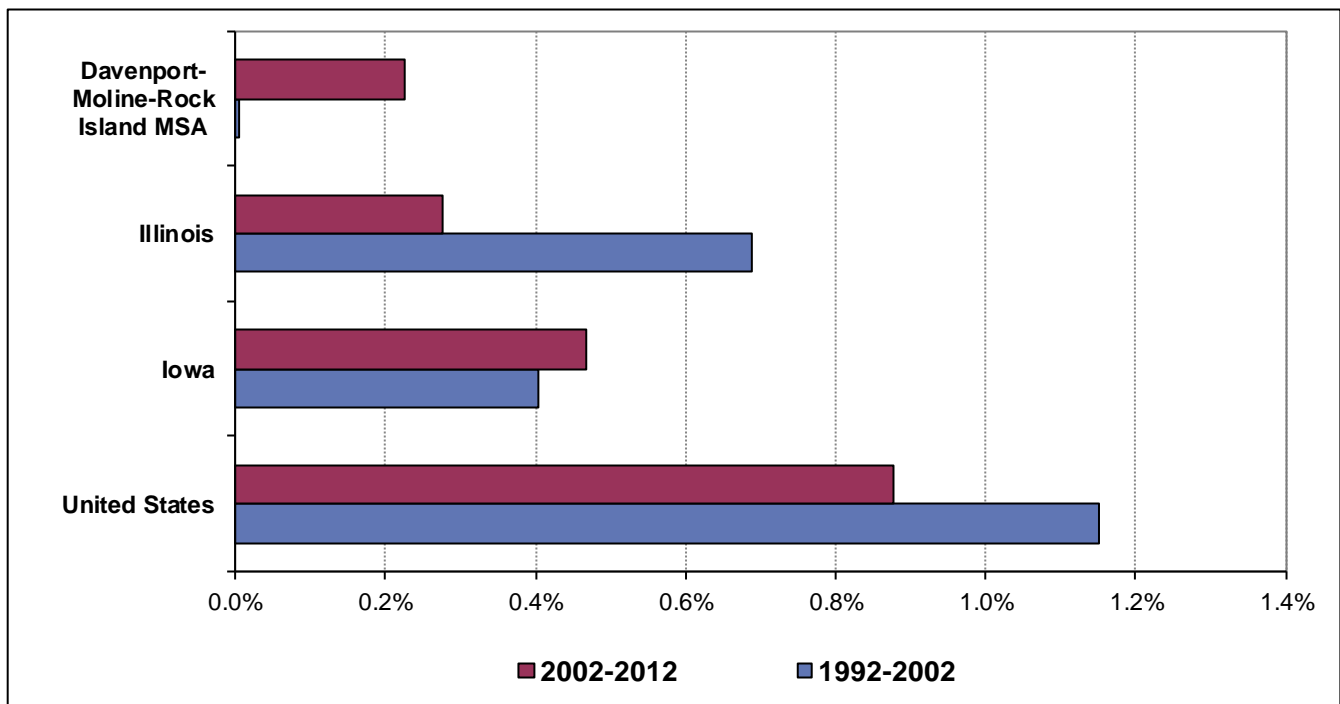
The standard Army definition of a market area is that region within a 20-mile commute to or from an installation’s principal work areas by private auto under normal driving conditions. The USAG Rock Island Arsenal housing market area extends into two states (Illinois and Iowa) and includes portions of five counties. The cities of Moline and Rock Island, Illinois and the cities of Davenport and Bettendorf, Iowa, and are the principal support communities for the post (Figure 2-1).

## 2.2 POPULATION

The market area boundary was overlaid on census tract maps of area counties to determine which census tracts are within the boundary. Data for these census tracts were then extracted from 2000 and 2010 census files to compile a comprehensive database of population and housing characteristics within the market area as of April 2000 and April 2010. The market area population is approximately 321,816 persons in 2013, having increased at an annual average rate of 0.2 percent since 2000 (U.S. Bureau of the Census 2011 and 2013). The forecasted rate of population growth in the area is 0.3 percent per year, for a projected market area population of 326,646 persons in 2018 (Bi-State Regional Commission, 2011; and estimates prepared for this study).

Population growth rates in the Davenport-Moline-Rock Island Metropolitan Statistical Area (MSA) have been lower than the Illinois, Iowa, and national average growth rates over the 1992 to 2002 and 2002 to 2012 periods (Figure 2-1). However, the MSA grew faster over the last decade (2002-2012) than during the previous decade (1992-2002). Between 2002 and 2012, the MSA population grew by 0.2 percent annually, while population in Illinois, Iowa, and the U.S. grew 0.3 percent, 0.5 percent, and 0.9 percent per year, respectively.

**Figure 2-1. Population Growth, Davenport-Moline-Rock Island MSA, State of Illinois, State of Iowa, and the United States, 1992–2002 and 2002–2012**



Sources: U.S. Bureau of Economic Analysis, 2012; Bi-State Regional Commission, 2011; and estimates prepared for this study.

## 2.3 ECONOMIC CONDITIONS

Table 2-1 displays key economic indicators for the period 2000 to 2011 for the Davenport-Moline-Rock Island MSA, the state of Illinois, the state of Iowa, and the United States. Total jobs in the MSA (including civilian, military, wage and salary, and self-employed persons in all sectors) stood at 226,828 in 2011, the most recent year for which this comprehensive measure is available. The MSA added jobs in 2011, after losing jobs over the previous decade (2000-2010), consistent with trends at the Illinois state level. Total jobs in the MSA dropped very slightly between 2000 and 2005, fell -0.7 percent per year between 2005 and 2010, and grew by 1.3 percent between 2010 and 2011.

**Table 2-1. Economic Indicators, Davenport-Moline-Rock Island MSA, State of Illinois, State of Iowa, and the United States, 2000, 2005, 2010, and 2011**

| Jurisdiction/Indicator                  | 2000        | 2005        | 2010        | 2011        |
|---|-------------|-------------|-------------|-------------|
| <b>Davenport-Moline-Rock Island MSA</b> |             |             |             |             |
| Total Jobs[1]                           | 231,889     | 231,713     | 223,949     | 226,828     |
| Average Annual Change (%) [2]           |             | 0.0%        | -0.7%       | 1.3%        |
| Earnings per Job[3]                     | \$44,088    | \$47,995    | \$52,031    | \$53,106    |
| Average Annual Change (%)               |             | 1.7%        | 1.6%        | 2.1%        |
| Per Capita Income[3]                    | \$35,794    | \$38,109    | \$41,598    | \$42,933    |
| Average Annual Change (%)               |             | 1.3%        | 1.8%        | 3.2%        |
| <b>Illinois</b>                         |             |             |             |             |
| Total Jobs                              | 7,354,515   | 7,335,894   | 7,261,670   | 7,349,087   |
| Average Annual Change (%)               |             | -0.1%       | -0.2%       | 1.2%        |
| Earnings per Job                        | \$55,926    | \$58,689    | \$58,354    | \$58,966    |
| Average Annual Change (%)               |             | 1.0%        | -0.1%       | 1.0%        |
| Per Capita Income                       | \$42,446    | \$43,187    | \$43,679    | \$44,493    |
| Average Annual Change (%)               |             | 0.3%        | 0.2%        | 1.9%        |
| <b>Iowa</b>                             |             |             |             |             |
| Total Jobs                              | 1,920,708   | 1,937,357   | 1,951,632   | 1,970,508   |
| Average Annual Change (%)               |             | 0.2%        | 0.1%        | 1.0%        |
| Earnings per Job                        | \$40,244    | \$43,871    | \$45,360    | \$48,072    |
| Average Annual Change (%)               |             | 1.7%        | 0.7%        | 6.0%        |
| Per Capita Income                       | \$35,477    | \$37,150    | \$39,373    | \$41,882    |
| Average Annual Change (%)               |             | 0.9%        | 1.2%        | 6.4%        |
| <b>United States</b>                    |             |             |             |             |
| Total Jobs                              | 165,370,800 | 172,551,400 | 173,626,700 | 175,834,700 |
| Average Annual Change (%)               |             | 0.9%        | 0.1%        | 1.3%        |
| Earnings per Job                        | \$51,897    | \$54,285    | \$54,225    | \$54,717    |
| Average Annual Change (%)               |             | 0.9%        | 0.0%        | 0.9%        |
| Per Capita Income                       | \$39,421    | \$40,897    | \$41,357    | \$42,294    |
| Average Annual Change (%)               |             | 0.7%        | 0.2%        | 2.3%        |

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

[2] Average Annual Change in the 2005 column is for 2000-2005; in the 2010 column, for 2005-2010; and in the 2011 column, for 2010-2011.

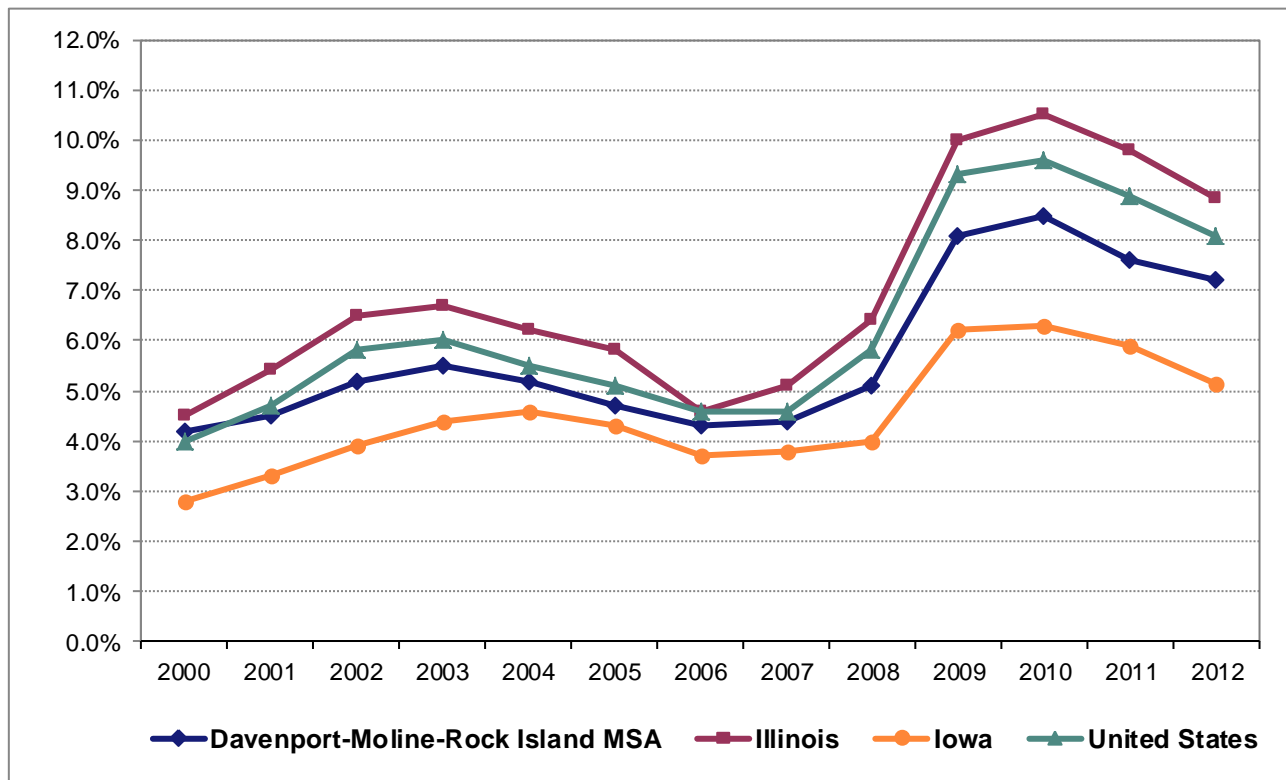
[3] Average Earnings per Job and Per Capita Income were converted to constant 2012 dollars using the implicit price deflator for personal consumption expenditures.

Sources: U.S. Bureau of Economic Analysis, 2012.

Per capita income in the Davenport-Moline-Rock Island MSA is higher than in Iowa and the U.S overall, but lower than in the state of Illinois. In 2011, per capita income in the Davenport-Moline-Rock Island MSA was \$42,933 (in constant 2012 dollars; U.S. Bureau of Economic Analysis, 2012), compared to \$44,493 in Illinois, \$41,882 in Iowa, and \$42,294 in the United States. Per capita income in the Davenport-Moline-Rock Island MSA increased at an average annual rate of 1.3 percent from 2000-2005, 1.8 percent from 2005 to 2010, and 3.2 percent in 2011. Between 2000 and 2011 average earnings per job in the Davenport-Moline-Rock Island MSA increased faster relative to both states and the nation. As of 2011, average earnings per job in the MSA stood at \$53,106, compared to \$58,966 in Illinois, \$48,072 in Iowa, and \$54,717 in the United States.

Figure 2-2 charts the trend in local, state, and national civilian unemployment rates over the past twelve years. Unemployment rates in the Davenport-Moline-Rock Island MSA have been consistently lower than average unemployment rates for Illinois and the U.S., but higher than Iowa’s very-low unemployment rates. Between 2000 and 2008 unemployment rates in the Davenport-Moline-Rock Island MSA ranged between 4.2 percent and 5.5 percent. In 2009 unemployment rates jumped sharply at the local, state, and national levels, before peaking in 2010. In the Davenport-Moline-Rock Island MSA the unemployment rate has declined from the peak of 8.5 percent in 2010 to 7.2 percent in 2012. The current rate is lower than the comparable rates for the U.S. (8.1 percent) and Illinois (8.9 percent), but higher than Iowa’s unemployment rate (5.2 percent). The latest forecasts from the U.S. Federal Reserve indicate the national unemployment rate will continue to trend downward over the next few years, to between 5.7 and 6.9 percent by 2015 (Federal Open Market Committee, 2012).

**Figure 2-2. Trends in Unemployment Rates, Davenport-Moline-Rock Island MSA, State of Illinois, State of Iowa, and the United States, 2000–2012**

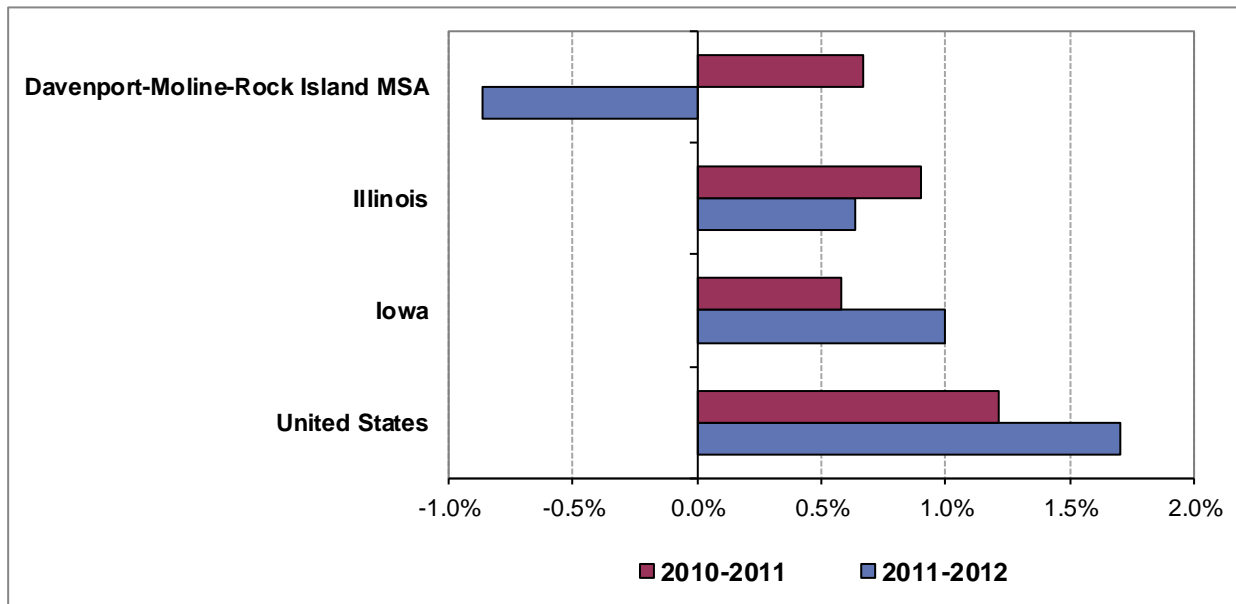


Sources: U.S. Bureau of Labor Statistics, 2013.



Figure 2-3 illustrates the change in total non-farm jobs during the past year (2011–2012) in comparison to the change measured in the previous year (2010–2011). The Davenport-Moline-Rock Island MSA experienced job gains from 2010-2011 followed by job losses from 2011 to 2012. In contrast, non-farm jobs increased in both years at the state and national levels (Illinois, Iowa, and the United States). Total non-farm jobs in the Davenport-Moline-Rock Island MSA increased 0.7 percent between 2010 and 2011, and decreased -0.9 percent between 2011 and 2012.

**Figure 2-3. Change in Total Nonfarm Jobs, Davenport-Moline-Rock Island MSA, State of Illinois, State of Iowa, and the United States, 2010–2012**



Sources: U.S. Bureau of Labor Statistics, 2013.

Table 2-2 displays employment by major economic sector for the Davenport-Moline-Rock Island MSA, the state of Illinois, the state of Iowa, and the United States. Government and government enterprises accounted for 12.8 percent of total employment in the Davenport-Moline-Rock Island MSA in 2011, compared to 12.1 percent in the state of Illinois, 13.6 percent in Iowa, and 13.8 percent in the United States as a whole (Table 2-2). The majority of the government jobs in the Davenport-Moline-Rock Island MSA are in state and local government, which accounted for 9.0 percent of total employment. The area’s other principal economic sectors are retail trade (11.6 percent), healthcare and social assistance (11.5 percent), manufacturing (10.6 percent), and accommodation and food services (6.3 percent).

**Table 2-2. Employment by Major Economic Sector, Davenport-Moline-Rock Island MSA, State of Illinois, State of Iowa, and the United States, 2011**

| <b>Indicator</b>                             | <b>Davenport-Moline-<br/>Rock Island MSA</b> | <b>Illinois</b> | <b>Iowa</b> | <b>United States</b> |
|--|--|-----------------|-------------|----------------------|
| Government and government enterprises        | 12.8%  | 12.1%           | 13.6%       | 13.8%                |
| Federal, civilian                            | 3.2%   | 1.2%            | 0.9%        | 1.7%                 |
| Military                                     | 0.7%   | 0.6%            | 0.7%        | 1.2%                 |
| State and local                              | 9.0%   | 10.3%           | 12.0%       | 11.0%                |
| Retail Trade                                 | 11.6%  | 9.6%            | 11.0%       | 10.1%                |
| Health care and social assistance            | 11.5%  | 11.4%           | 10.7%       | 11.0%                |
| Manufacturing                                | 10.6%  | 8.1%            | 10.8%       | 7.0%                 |
| Accommodation and food services              | 7.1%   | 6.5%            | 6.1%        | 7.0%                 |
| Administrative and waste services            | 6.4%   | 6.9%            | 4.7%        | 6.2%                 |
| Other services, except public administration | 5.5%   | 5.7%            | 4.9%        | 5.7%                 |
| Construction                                 | 5.2%   | 4.2%            | 5.2%        | 5.0%                 |
| Finance and insurance                        | 4.9%   | 6.6%            | 6.5%        | 5.4%                 |
| Wholesale trade                              | 4.3%   | 4.2%            | 3.7%        | 3.5%                 |
| Professional and technical services          | 4.1%   | 7.0%            | 3.6%        | 6.8%                 |
| All other sectors                            | 16.0%  | 17.7%           | 19.3%       | 18.4%                |

Source: U.S. Bureau of Economic Analysis, 2012.

The top five employers in the Quad Cities are Rock Island Arsenal (8,500), Deere & Company (7,300), Genesis Health Systems (4,900), Trinity Regional Health System (2,900), and Tyson Fresh Meats (2,400) (Quad Cities Chamber of Commerce, 2012).

### 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. Data for 2013 reflects FY2013 values (1 October 2012 through 30 September 2013). Data for 2018 reflects FY2018 (1 October 2017 through 30 September 2018).

#### 3.1 PRIVATE SECTOR HOUSING

Private-sector owners control most of the market 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 uniformed service 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 321,816 persons, having increased at an average annual rate of 0.3 percent since 2010 (Table 3-1). The household population (persons in occupied housing units) is an estimated 314,115 persons in 2013. Average household size decreased from 2.44 persons per household in 2000 to 2.39 persons per household in 2010, and is currently estimated to be 2.39 in 2013 (U.S. Bureau of the Census, 2011 and 2013). The number of occupied housing units has increased from 124,653 units in 2000 to an estimated 131,429 units in 2013. There are currently an estimated 39,411 renter-occupied housing units in the market area, representing 30.0 percent of the occupied housing stock in 2013 (Table 3-1).

**Table 3-1. Recent Trends and Baseline Projections of Housing Demand, USAG Rock Island Arsenal Housing Market Area, 2000, 2010, 2013, and 2018**

| Housing Market Indicator  | 2000    | 2010    | 2013    | 2018    |
|---------------------------|---------|---------|---------|---------|
| Total Population          | 312,414 | 319,436 | 321,816 | 326,646 |
| Average Annual Change (%) | N.A.    | 0.2%    | 0.3%    | 0.3%    |
| Household Population      | 304,523 | 311,792 | 314,115 | 318,830 |
| Average Annual Change (%) | N.A.    | 0.2%    | 0.3%    | 0.3%    |
| Average Household Size    | 2.44    | 2.39    | 2.39    | 2.38    |
| Occupied Housing Units    | 124,653 | 130,587 | 131,429 | 133,962 |
| Average Annual Change (%) | N.A.    | 0.5%    | 0.2%    | 0.4%    |
| Owner-Occupied Units      | 87,752  | 91,377  | 92,018  | 93,852  |
| Percent of Baseline Total | 70.4%   | 70.0%   | 70.0%   | 70.1%   |
| Renter-Occupied Units     | 36,901  | 39,210  | 39,411  | 40,110  |
| Percent of Baseline Total | 29.6%   | 30.0%   | 30.0%   | 29.9%   |

Note: Average annual change in 2010 column is for 2000-2010; 2013 column is for 2010-2013, and 2018 column is for 2013-2018.

Sources: U.S. Bureau of the Census, 2001, 2011, 2013; , Bi-State Regional Commission, 2011; and estimates prepared for this study.

The off-post housing stock in the market area is currently estimated to total 141,509 housing units, including both occupied and vacant units (Table 3-2). Single-family houses comprise 74.3 percent of the total, while multi-family units represent 22.9 percent, and mobile homes and other types of housing comprise approximately 2.8 percent of total units. Total housing units expanded at a rate of 0.6 percent per year, on average, between 2000 and 2010 and 0.3 percent annually between 2010 and 2013. Based on historical trends, recent building permit activity, and on-site interviews, total housing units are expected to grow by 0.4 percent per year between 2013 and 2018.

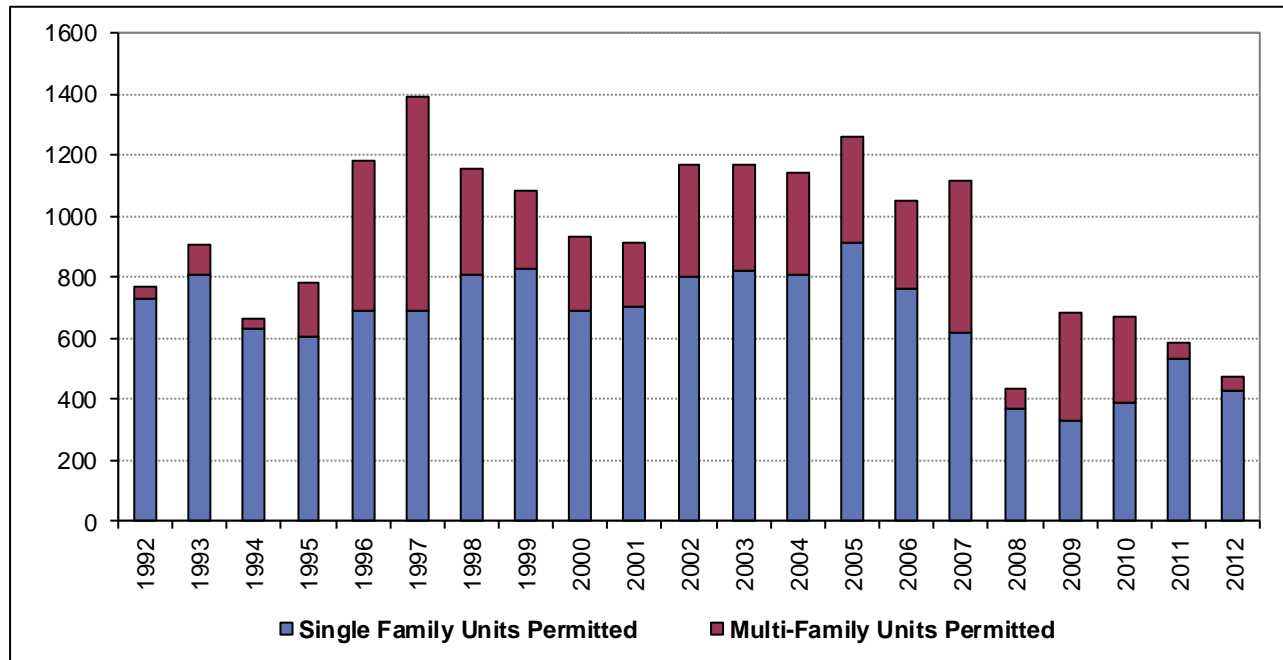
**Table 3-2. Recent Trends and Baseline Projections of Housing Supply, by Type of Structure, USAG Rock Island Arsenal Housing Market Area, 2000, 2010, 2013, and 2018**

| Housing Market Indicator    | 2000    | 2010    | 2013    | 2018    |
|-----------------------------|---------|---------|---------|---------|
| Total Housing Units         | 131,763 | 140,186 | 141,509 | 144,092 |
| Average Annual Change (#)   | N.A.    | 842     | 481     | 517     |
| Average Annual Change (%)   | N.A.    | 0.6%    | 0.3%    | 0.4%    |
| Single Family Units         | 96,215  | 103,886 | 105,124 | 107,462 |
| Average Annual Change (#)   | N.A.    | 767     | 450     | 468     |
| Share of Total Housing (%)  | 73.0%   | 74.1%   | 74.3%   | 74.6%   |
| Multiple Family Units       | 30,809  | 32,174  | 32,422  | 32,949  |
| Average Annual Change (#)   | N.A.    | 137     | 90      | 105     |
| Share of Total Housing (%)  | 23.4%   | 23.0%   | 22.9%   | 22.9%   |
| Manufactured/Trailers/Other | 4,739   | 4,126   | 3,963   | 3,681   |
| Average Annual Change (#)   | N.A.    | (61)    | (59)    | (56)    |
| Share of Total Housing (%)  | 3.6%    | 2.9%    | 2.8%    | 2.6%    |

Sources: U.S. Bureau of the Census, 2001, 2011, 2013; and estimates prepared for this study.

As in most housing markets, residential development in the market area is cyclical. Figure 3-1 illustrates the trend in building permits over the past twenty years. Building permits peaked in 1997 and again in 2005. In 2005, a total of 910 single-family units and 351 multi-family units were permitted. Permit activity dropped to a two-decade low in 2008, when 368 single-family units and 64 multi-family units were permitted. Residential construction rebounded in 2009 and 2010, due to development in the multi-family housing market. Total permits have declined in the past two years, although single family unit construction is up over 2008-2010 levels.

**Figure 3-1. Building Permits for New Residential Units, Market Area Communities, 1992-2012**



Sources: U.S. Department of Housing and Urban Development, 2013; and estimates prepared for this study.

Table 3-3 shows recent trends in vacancy rates in the market area. This analysis estimates the current rental vacancy rate in the market area to be 8.1 percent. This is lower than the 8.3 percent rental vacancy rate observed in the 2010 Census (see Table 3-3). The vacancy rate for homes in the for-sale market is estimated to be 2.0 percent at the present time. The overall total vacancy rate in the market area is currently 7.1 percent. Total vacancies include vacant units for sale, vacant units for rent, and vacant units held for seasonal or recreational use.

The rental vacancy rate in the market area is currently lower than the Illinois and U.S. averages. The U.S. Bureau of the Census estimates the average rental vacancy rate in the fourth quarter of 2012 stood at 9.3 percent in Illinois and 8.7 percent in the United States (U.S. Bureau of the Census, 2013).

**Table 3-3. Recent Trends and Baseline Projections of Vacant Units, USAG Rock Island Arsenal Housing Market Area, 2000, 2010, 2013, and 2018**

| Housing Market Indicator      | 2000  | 2010  | 2013   | 2018   |
|-------------------------------|-------|-------|--------|--------|
| Total Vacant Units            | 7,109 | 9,599 | 10,080 | 10,130 |
| Total Vacancy Rate (%)        | 5.4%  | 6.8%  | 7.1%   | 7.0%   |
| Vacant Units for Sale         | 1,261 | 1,657 | 1,919  | 1,854  |
| For Sale Vacancy Rate (%)     | 1.4%  | 1.8%  | 2.0%   | 1.9%   |
| Vacant Units for Rent         | 2,924 | 3,542 | 3,482  | 3,494  |
| Rental Vacancy Rate (%)       | 7.3%  | 8.3%  | 8.1%   | 8.0%   |
| Other Vacant Units (see note) | 2,924 | 4,400 | 4,679  | 4,782  |
| Vacancy Rate (%)              | 2.2%  | 3.1%  | 3.3%   | 3.3%   |

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, 2001, 2011, 2013; and estimates prepared for this

### ***Future Outlook***

Market area population is forecast to grow 0.3 percent per year over the five year forecast period (Bi-State Regional Commission, 2011). Household sizes are projected to decline slightly, and baseline housing development in the market area is forecast to add approximately 517 units per year to the housing stock, assuming government-provided housing is occupied at its recent actual level (see Table 3-1 and Table 3-2). Vacancy rates for 2018 are projected to fall to 8.0 percent in the rental market and 1.9 percent in the for-sale market (see Table 3-3).

### **Bedroom Composition of Housing**

The market area's renter-occupied housing stock is comprised mostly of one- and two-bedroom units, with a distribution as shown below (U.S. Bureau of the Census, 2013; and estimates prepared for this study):

- Studio units – 3.8 percent;
- One-bedroom units – 30.4 percent;
- Two-bedroom units – 42.7 percent;
- Three-bedroom units – 18.8 percent;
- Four-plus bedroom units– 4.3 percent;

The breakdown of housing units by number of bedrooms (one-, two-, three-, and four-plus bedroom units) is displayed in Table 3-4. The projected breakdown includes an additional 66 units over baseline development (13-14 units per year) that the community would be expected to build in response to Rock Island Arsenal personnel transitioning from government-provided housing to private-sector housing between 2013 and 2018.

**Table 3-4. Units by Number of Bedrooms in Unit with Military Transition, USAG Rock Island Arsenal Housing Market Area, 2000, 2010, 2013, and 2018**

| Housing Market Indicator | 2000   | 2010   | 2013   | 2018   |
|--------------------------|--------|--------|--------|--------|
| One Bedroom Units        | 14,450 | 15,615 | 15,761 | 16,033 |
| Owner-occupied           | 2,091  | 2,175  | 2,190  | 2,233  |
| Renter-occupied          | 11,225 | 11,908 | 11,962 | 12,183 |
| Vacant                   | 1,134  | 1,532  | 1,609  | 1,617  |
| Vacant for Rent          | 467    | 565    | 555    | 559    |
| Two Bedroom Units        | 39,702 | 42,361 | 42,748 | 43,492 |
| Owner-occupied           | 21,343 | 22,143 | 22,279 | 22,688 |
| Renter-occupied          | 15,743 | 16,730 | 16,816 | 17,145 |
| Vacant                   | 2,616  | 3,488  | 3,653  | 3,659  |
| Vacant for Rent          | 1,072  | 1,288  | 1,266  | 1,270  |
| Three Bedroom Units      | 52,379 | 55,413 | 55,927 | 56,987 |
| Owner-occupied           | 43,091 | 44,829 | 45,133 | 46,015 |
| Renter-occupied          | 6,929  | 7,381  | 7,426  | 7,583  |
| Vacant                   | 2,359  | 3,203  | 3,368  | 3,389  |
| Vacant for Rent          | 972    | 1,181  | 1,161  | 1,168  |
| Four-plus Bedroom Units  | 23,581 | 24,996 | 25,252 | 25,796 |
| Owner-occupied           | 21,155 | 22,156 | 22,341 | 22,839 |
| Renter-occupied          | 1,593  | 1,694  | 1,704  | 1,737  |
| Vacant                   | 832    | 1,146  | 1,207  | 1,220  |
| Vacant for Rent          | 344    | 423    | 416    | 419    |

Sources: U.S. Bureau of the Census, 2001, 2011, and 2013; 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 3,963 mobile homes in the market area in 2013, representing approximately 2.8 percent of all market area housing units (Table 3-2). Most of the market area mobile homes are owner-occupied (73.3 percent), while 17.7 percent are renter-occupied and 9.0 percent are vacant (Table 3-5). Rental mobile homes account for 2.0 percent of all rental units (Table 3-5). The vacancy rate in the rental mobile home market is approximately 9.0 percent, which is higher than the rental vacancy rate for all rental units in the market area (Table 3-3 and Table 3-5).

**Table 3-5. Recent Trends and Baseline Projections of Tenure and Occupancy of Mobile Homes, USAG Rock Island Arsenal Housing Market Area, 2000, 2010, 2013, and 2018**

| Housing Market Indicator           | 2000  | 2010  | 2013  | 2018  |
|------------------------------------|-------|-------|-------|-------|
| Owner-occupied                     |       |       |       |       |
| Number of Units                    | 3,713 | 3,069 | 2,906 | 2,630 |
| Share of All Mobile Homes (%)      | 78.3% | 74.4% | 73.3% | 71.4% |
| Renter-occupied                    |       |       |       |       |
| Number of Units                    | 561   | 669   | 701   | 762   |
| Share of All Mobile Homes (%)      | 11.8% | 16.2% | 17.7% | 20.7% |
| Total Vacant                       |       |       |       |       |
| Number of Units                    | 466   | 388   | 356   | 289   |
| Share of All Mobile Homes (%)      | 9.8%  | 9.4%  | 9.0%  | 7.8%  |
| Vacant for Rent                    |       |       |       |       |
| Number of Units                    | 169   | 153   | 147   | 136   |
| Share of All Mobile Homes (%)      | 3.6%  | 3.6%  | 3.6%  | 3.6%  |
| Total Mobile Homes                 | 4,739 | 4,126 | 3,963 | 3,681 |
| Rental Vacancy Rate                | 23.2% | 18.6% | 17.3% | 15.1% |
| Rental MH Share of All Rentals (%) | 1.8%  | 1.9%  | 2.0%  | 2.1%  |

Sources: U.S. Bureau of the Census, 2001, 2011, and 2013; 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 conform to 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 79 percent of the rental housing stock was constructed prior to 1980 and is therefore more than 30 years old.



**Table 3-6. Housing Stock by Year Unit Constructed, USAG Rock Island Arsenal Housing Market Area**

| Year Housing Unit Constructed | Renter-Occupied Units |         |                    | Total Units |         |                    |
|-------------------------------|-----------------------|---------|--------------------|-------------|---------|--------------------|
|                               | Number                | Percent | Cumulative Percent | Number      | Percent | Cumulative Percent |
| 1939 or earlier               | 8,106                 | 21%     | 21%                | 30,324      | 22%     | 22%                |
| 1940 to 1949                  | 4,912                 | 13%     | 33%                | 15,578      | 11%     | 33%                |
| 1950 to 1959                  | 5,179                 | 13%     | 46%                | 21,178      | 15%     | 48%                |
| 1960 to 1969                  | 5,374                 | 14%     | 60%                | 21,126      | 15%     | 63%                |
| 1970 to 1979                  | 7,217                 | 18%     | 79%                | 21,648      | 15%     | 78%                |
| 1980 to 1989                  | 3,091                 | 8%      | 86%                | 8,970       | 6%      | 85%                |
| 1990 to 1999                  | 2,670                 | 7%      | 93%                | 11,222      | 8%      | 93%                |
| 2000 to 2004                  | 1,729                 | 4%      | 98%                | 6,742       | 5%      | 98%                |
| 2005 to 2010                  | 932                   | 2%      | 100%               | 3,398       | 2%      | 100%               |

Sources: U.S. Bureau of the Census, 2011 and 2013; and estimates prepared for this study.

Local property managers, realtors, and planning officials interviewed for this study were asked to identify the share of the non-mobile home rental housing stock that is unsuitable with respect to quality and safety issues. Their estimates ranged from 10 percent to 40 percent depending on the area (Ray, Julie; Ketelaar, Jerry; Harris, Teresa; Eckhardt, Kristin; Lunsford, Nathan; Browner, Cyndee).

The Rock Island Arsenal Housing Office also examined census tracts for unsuitable rental housing for the purposes of the 2012 BAH data collection and submission process. The Housing Office designated 46 census tracts for exclusion from BAH data collection within the housing market area, primarily for reasons of poor housing conditions, crime, or both. The rental housing units in the excluded census tracts represent approximately 59.8 percent of the total rental housing stock in the market area.

Based on an evaluation of interview data, census tract exclusions, and the age of the housing stock, this analysis uses an estimate of 46.6 percent of the non-mobile home rental housing inventory as unsuitable by DoD criteria.

Rental mobile homes represent about 2.0 percent of the rental housing stock and by definition are unsuitable for military members (Table 3-5). This analysis therefore uses an overall estimate of 47.7 percent of the entire rental inventory as unsuitable by DoD criteria. 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 2.0 percent of the rental housing stock that are mobile homes plus 46.6 percent of the remaining 98.0 percent that are non-mobile home rentals). The remaining 52.3 percent of rental housing is adequate in quality for military families.

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 civilian turnover rate of 47.2 percent, representing a weighted-average of responses from market area property managers who provided turnover information.

## Sales Market

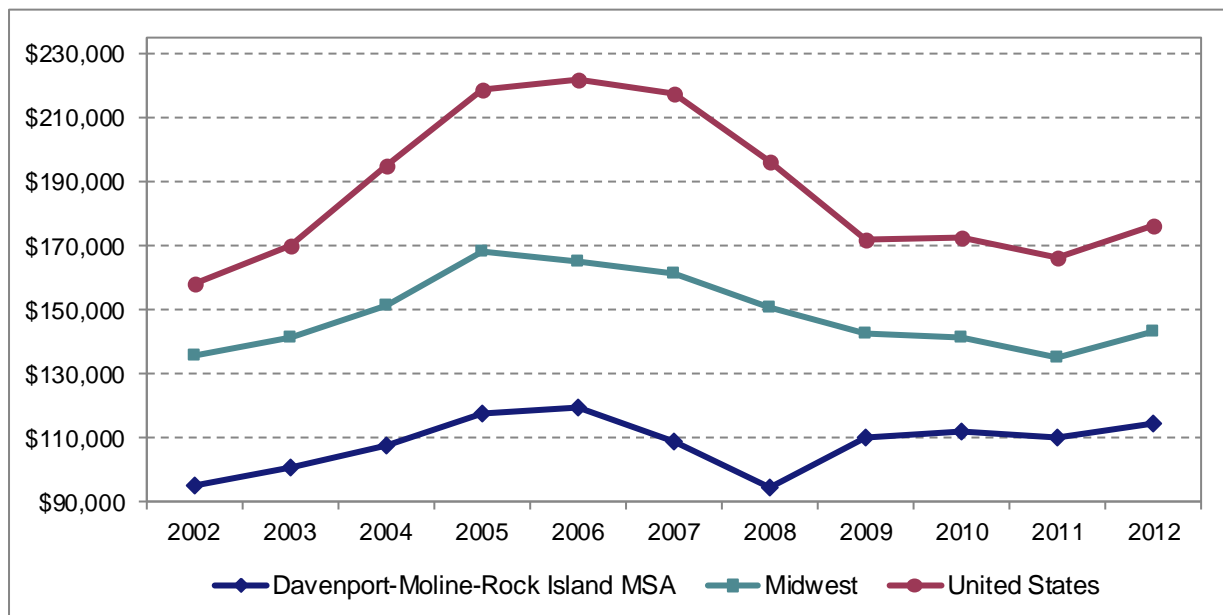
### General Market Conditions

An estimated 92,018 housing units in the market area in 2013 are owner-occupied, representing 70.0 percent of the occupied housing stock. The current vacancy rate for units for sale is an estimated 2.0 percent (see Table 3-1 and Table 3-3).

### Sales Prices

Figure 3-2 charts the trend in the annual median sales price of existing single-family homes for the Davenport-Moline-Rock Island MSA, the Midwest region, and the United States between 2002 and 2012. In the third quarter of 2012, the median sales price in the Davenport-Moline-Rock Island MSA was \$121,500, compared to \$109,900 in Illinois, \$176,100 in Iowa, and \$173,000 in the United States overall (National Association of Realtors, 2013).

**Figure 3-2. Median Sales Price of Existing Single-Family Homes, Davenport-Moline-Rock Island MSA, Midwest Region, and the United States, 2002–2012**



Sources: National Association of Realtors, 2013; and estimates prepared for this study.

## Rental Market

### General Market Conditions

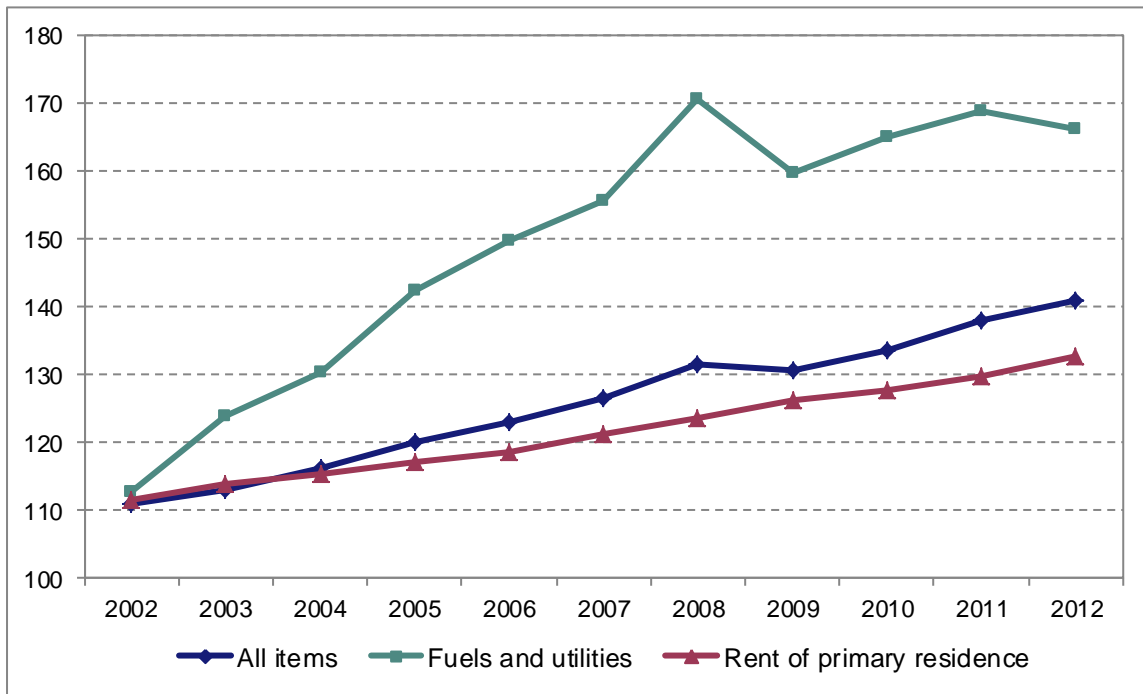
An estimated 39,411 housing units in the market area in 2013 are renter-occupied, which represents 30.0 percent of the occupied housing stock. The current vacancy rate for rental units is estimated to be 8.1 percent (see Table 3-1 and Table 3-3).

### Recent Rent Trends

Long-term trends in rental prices in the market area can be approximated using the “Rent of Primary Residence” index for Midwest Size Class B/C cities, as measured by the Consumer Price Index (CPI) program of the U.S. Bureau of Labor Statistics (2013). Figure 3-3 charts the trend in the CPI for All

Items, Fuels & Utilities, and Rent of Primary Residence over the past decade. The Rent of Primary Residence index increased at an average annual rate of 1.7 percent between 2002 and 2012, more slowly than inflation (All Items), which grew at an average annual rate of 2.4 percent over the same period. Utility costs, however, increased by 4.0 percent per year on average, faster than both rent and general inflation. During the past decade the largest annual region-wide rent increase was 2.2 percent between 2006 and 2007, and the smallest annual increase was 1.5 percent, between 2003 and 2004.

**Figure 3-3. Recent Trends in Consumer Price Index Components, Midwest-Size Class B/C cities, 2002-2012**



Sources: U.S. Bureau of Labor Statistics, 2013.

### Current Rents

For this study a database of 4,678 non-mobile home rental observations was compiled for the market area based on newspaper classified listings of apartments and houses for rent (*Quad City Times, The Dispatch and Rock Island Argus*), rental listings from area real estate agents and property managers (see Chapters 7 and 8), and listings on internet websites (including craigslist.org and AHRN.com).

Utility costs were estimated for one-, two-, three-, and four-plus-bedroom units using FY 2013 Section 8 Utility Allowances from the cities of Rock Island and Davenport (Davenport, City of, 2012; Rock Island Housing Authority, 2012). Renter’s insurance costs in the market area were based on quotes from area insurance providers (State Farm Insurance, 2012).

The market area has a wide range of rental opportunities, which can be summarized as follows:

- Based on a sample of 1,786 non-mobile home rental units, ranging in rent from \$377 per month to \$1,352 per month, the median rent for one-bedroom units is \$562 per month. Utility costs are estimated to average \$91 per month. Renter's insurance costs are estimated to be \$15 per month. Median rent plus utilities plus renter's insurance is thus \$668 per month for a one-bedroom rental.
- Based on a sample of 2,254 non-mobile home rental units, ranging in rent from \$467 per month to \$1,652 per month, the median rent for two-bedroom units is \$722 per month. Utility costs are estimated to average \$121 per month. Renter's insurance costs are estimated to be \$18 per month. Median rent plus utilities plus renter's insurance is thus \$861 per month for a two-bedroom rental.
- Based on a sample of 589 non-mobile home rental units, ranging in rent from \$577 per month to \$2,252 per month, the median rent for three-bedroom units is \$857 per month. Utility costs are estimated to average \$166 per month. Renter's insurance costs are estimated to be \$21 per month. Median rent plus utilities plus renter's insurance is thus \$1,044 per month for a three-bedroom rental.
- Based on a sample of 49 non-mobile home rental observations, ranging in rent from \$727 per month to \$3,252 per month, the median rent for units with four or more bedrooms is \$1,397 per month. Utility costs are estimated to average \$244 per month. Renter's insurance costs are estimated to be \$24 per month, thus median rent plus utilities plus renter's insurance is \$1,665 per month for a rental unit with four or more bedrooms.

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

Based on the distribution of rental costs described in the previous section (Current Rents), Table 3-7 presents the distribution of the market area renter-occupied housing stock among cost band segments, by number of bedrooms, for 2013. 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 Maximum Allowable Housing Cost (MAHC) of Rock Island Arsenal military personnel, which is currently equal to the Basic Allowance for Housing (BAH).

**Table 3-7. Renter Occupied Housing Units, USAG Rock Island Arsenal Housing Market Area, 2013**

| 2013<br>Rental Cost | Number of Bedrooms |               |               |              |              | Total         |
|---------------------|--------------------|---------------|---------------|--------------|--------------|---------------|
|                     | Studios            | One           | Two           | Three        | Four+        |               |
| Above \$2200        | -                  | -             | -             | 43           | 439          | 482           |
| 2,200               | -                  | -             | -             | 16           | 29           | 45            |
| 2,100               | -                  | -             | 7             | 26           | 5            | 38            |
| 2,000               | -                  | -             | 2             | 24           | 34           | 60            |
| 1,900               | -                  | -             | 2             | 24           | 136          | 162           |
| 1,800               | -                  | -             | 6             | 33           | 136          | 175           |
| 1,700               | -                  | -             | 12            | 97           | 102          | 211           |
| 1,600               | -                  | -             | 17            | 727          | 246          | 990           |
| 1,500               | -                  | 3             | 29            | 193          | 102          | 327           |
| 1,400               | -                  | 4             | 59            | 193          | 33           | 289           |
| 1,300               | 1                  | 7             | 776           | 1,244        | 204          | 2,232         |
| 1,200               | 14                 | 108           | 395           | 471          | 102          | 1,090         |
| 1,100               | 15                 | 119           | 3,404         | 1,029        | 102          | 4,669         |
| 1,000               | 54                 | 428           | 2,225         | 2,447        | 34           | 5,188         |
| \$900 & Below       | 1,419              | 11,293        | 9,882         | 859          | -            | 23,453        |
| <b>Total</b>        | <b>1,503</b>       | <b>11,962</b> | <b>16,816</b> | <b>7,426</b> | <b>1,704</b> | <b>39,411</b> |

Source: Estimates prepared for this study.

**Table 3-8. Vacant for Rent Housing Units, USAG Rock Island Arsenal Housing Market Area, 2013**

| 2013<br>Rental Cost | Number of Bedrooms |            |              |              |            | Total        |
|---------------------|--------------------|------------|--------------|--------------|------------|--------------|
|                     | Studios            | One        | Two          | Three        | Four+      |              |
| Above \$2200        | -                  | -          | -            | 7            | 111        | 118          |
| 2,200               | -                  | -          | -            | 2            | 7          | 9            |
| 2,100               | -                  | -          | -            | 4            | 1          | 5            |
| 2,000               | -                  | -          | -            | 4            | 8          | 12           |
| 1,900               | -                  | -          | -            | 4            | 34         | 38           |
| 1,800               | -                  | -          | -            | 5            | 34         | 39           |
| 1,700               | -                  | -          | 1            | 15           | 25         | 41           |
| 1,600               | -                  | -          | 1            | 115          | 55         | 171          |
| 1,500               | -                  | -          | 2            | 31           | 25         | 58           |
| 1,400               | -                  | -          | 4            | 31           | 8          | 43           |
| 1,300               | -                  | -          | 56           | 196          | 50         | 302          |
| 1,200               | 1                  | 5          | 28           | 74           | 25         | 133          |
| 1,100               | 1                  | 5          | 245          | 160          | 25         | 436          |
| 1,000               | 3                  | 19         | 160          | 379          | 8          | 569          |
| \$900 & Below       | 79                 | 526        | 769          | 134          | -          | 1,508        |
| <b>Total</b>        | <b>84</b>          | <b>555</b> | <b>1,266</b> | <b>1,161</b> | <b>416</b> | <b>3,482</b> |

Source: Estimates prepared for this study.

**Distribution of Unsuitable Market Area Rental Units**

As previously discussed (see Quality of Housing section), an estimated 47.7 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. These percentages were scaled among the cost band segments so the number of unsuitable rental units with at least one bedroom amounted to 47.7 percent of all rental units with at least one bedroom. Rental mobile home units (all unsuitable) were distributed by bedrooms based on census data, and by cost bands based on current rental observations (see sources in Current Rents section). All studio units, by definition, are considered inadequate for occupancy by military personnel. Because no military personnel compete for studio units, however, they do not affect the community housing shortfall.

**Table 3-9. Percentage of Unsuitable Rental Housing, by Rental Cost and Number of Bedrooms, USAG Rock Island Arsenal Housing Market Area, 2013**

| 2013<br>Rental Cost | Number of Bedrooms |       |       |       |       |
|---------------------|--------------------|-------|-------|-------|-------|
|                     | Studios            | One   | Two   | Three | Four+ |
| Above \$2200        | 100.0%             | 0.0%  | 0.0%  | 5.0%  | 8.0%  |
| 2,200               | 100.0%             | 0.0%  | 0.0%  | 8.0%  | 15.0% |
| 2,100               | 100.0%             | 0.0%  | 1.0%  | 11.0% | 20.0% |
| 2,000               | 100.0%             | 0.0%  | 2.0%  | 15.0% | 25.0% |
| 1,900               | 100.0%             | 0.0%  | 3.0%  | 18.0% | 30.0% |
| 1,800               | 100.0%             | 0.0%  | 6.0%  | 21.0% | 43.0% |
| 1,700               | 100.0%             | 0.0%  | 10.0% | 24.0% | 50.0% |
| 1,600               | 100.0%             | 0.0%  | 15.0% | 27.0% | 54.0% |
| 1,500               | 100.0%             | 0.0%  | 18.0% | 30.0% | 70.0% |
| 1,400               | 100.0%             | 0.0%  | 20.0% | 35.0% | 80.0% |
| 1,300               | 100.0%             | 0.0%  | 22.0% | 40.0% | 81.0% |
| 1,200               | 100.0%             | 6.0%  | 30.0% | 45.0% | 90.0% |
| 1,100               | 100.0%             | 15.0% | 35.0% | 50.0% | 94.0% |
| 1,000               | 100.0%             | 35.0% | 50.0% | 55.0% | 96.0% |
| \$900 & Below       | 100.0%             | 49.0% | 55.0% | 74.0% | 98.0% |

Source: Estimates prepared for this study.

The number of unsuitable rental units in the market area in 2013 is thus estimated to total 21,739 units. The distribution of these units by cost band and bedrooms is presented in Table 3-10.

**Table 3-10. Unsuitable Rental Housing Supply (Renter-Occupied and Vacant for Rent), USAG Rock Island Arsenal Housing Market Area, 2013**

| 2013<br>Rental Cost | Number of Bedrooms |              |              |              |              | Total         |
|---------------------|--------------------|--------------|--------------|--------------|--------------|---------------|
|                     | Studios            | One          | Two          | Three        | Four+        |               |
| Above \$2200        | -                  | -            | -            | 2            | 44           | 46            |
| 2,200               | -                  | -            | -            | 1            | 5            | 6             |
| 2,100               | -                  | -            | -            | 3            | 1            | 4             |
| 2,000               | -                  | -            | -            | 5            | 11           | 16            |
| 1,900               | -                  | -            | -            | 5            | 51           | 56            |
| 1,800               | -                  | -            | -            | 8            | 73           | 81            |
| 1,700               | -                  | -            | 1            | 27           | 64           | 92            |
| 1,600               | -                  | -            | 3            | 227          | 185          | 415           |
| 1,500               | -                  | -            | 5            | 67           | 89           | 161           |
| 1,400               | -                  | -            | 13           | 79           | 32           | 124           |
| 1,300               | 1                  | -            | 183          | 576          | 206          | 966           |
| 1,200               | 15                 | 6            | 127          | 245          | 115          | 508           |
| 1,100               | 16                 | 19           | 1,277        | 637          | 120          | 2,069         |
| 1,000               | 57                 | 157          | 1,193        | 1,643        | 41           | 3,091         |
| \$900 & Below       | 1,498              | 5,817        | 6,036        | 753          | -            | 14,104        |
| <b>Total</b>        | <b>1,587</b>       | <b>5,999</b> | <b>8,838</b> | <b>4,278</b> | <b>1,037</b> | <b>21,739</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 that the number of vacant units exceeds a natural, equilibrium, or “market clearing” level of vacancies. Natural vacancies are not considered part of the available supply for market area households. Table 3-11 presents the number of suitable natural vacant rental units in the market area for 2013.

**Table 3-11. Suitable Natural Vacancies, USAG Rock Island Arsenal Housing Market Area, 2013**

| 2013<br>Rental Cost | Number of Bedrooms |            |            |            |            | Total        |
|---------------------|--------------------|------------|------------|------------|------------|--------------|
|                     | Studios            | One        | Two        | Three      | Four+      |              |
| Above \$2200        | -                  | -          | -          | 7          | 101        | 108          |
| 2,200               | -                  | -          | -          | 2          | 6          | 8            |
| 2,100               | -                  | -          | -          | 4          | 1          | 5            |
| 2,000               | -                  | -          | -          | 3          | 6          | 9            |
| 1,900               | -                  | -          | -          | 3          | 24         | 27           |
| 1,800               | -                  | -          | -          | 4          | 19         | 23           |
| 1,700               | -                  | -          | 1          | 11         | 12         | 24           |
| 1,600               | -                  | -          | 1          | 83         | 23         | 107          |
| 1,500               | -                  | -          | 2          | 22         | 7          | 31           |
| 1,400               | -                  | -          | 3          | 20         | 2          | 25           |
| 1,300               | -                  | -          | 43         | 116        | 9          | 168          |
| 1,200               | -                  | 5          | 20         | 40         | 2          | 67           |
| 1,100               | -                  | 4          | 157        | 74         | 1          | 236          |
| 1,000               | -                  | 12         | 79         | 159        | -          | 250          |
| \$900 & Below       | -                  | 253        | 305        | 33         | -          | 591          |
| <b>Total</b>        | -                  | <b>274</b> | <b>611</b> | <b>581</b> | <b>213</b> | <b>1,679</b> |

Source: Estimates prepared for this study.

### ***Suitable Rental Supply***

The suitable rental housing supply is the sum of the total occupied supply (Table 3-7) and the total vacant supply (Table 3-8), less the unsuitable rental housing supply (Table 3-10) and the suitable natural vacant units (Table 3-11). The distribution of the suitable rental housing supply for the Rock Island Arsenal market area by cost band and bedrooms is presented in Table 3-12. The suitable rental housing supply is thus 19,475 units in 2013.



**Table 3-12. Suitable Rental Housing Supply (Renter Occupied and Vacant for Rent),  
 USAG Rock Island Arsenal Housing Market Area, 2013**

| 2013<br>Rental Cost | Number of Bedrooms |              |              |              |            | Total         |
|---------------------|--------------------|--------------|--------------|--------------|------------|---------------|
|                     | Studios            | One          | Two          | Three        | Four+      |               |
| Above \$2200        | -                  | -            | -            | 41           | 405        | 446           |
| 2,200               | -                  | -            | -            | 15           | 25         | 40            |
| 2,100               | -                  | -            | 7            | 23           | 4          | 34            |
| 2,000               | -                  | -            | 2            | 20           | 25         | 47            |
| 1,900               | -                  | -            | 2            | 20           | 95         | 117           |
| 1,800               | -                  | -            | 6            | 26           | 78         | 110           |
| 1,700               | -                  | -            | 11           | 74           | 51         | 136           |
| 1,600               | -                  | -            | 14           | 532          | 93         | 639           |
| 1,500               | -                  | 3            | 24           | 135          | 31         | 193           |
| 1,400               | -                  | 4            | 47           | 125          | 7          | 183           |
| 1,300               | -                  | 7            | 606          | 748          | 39         | 1,400         |
| 1,200               | -                  | 102          | 276          | 260          | 10         | 648           |
| 1,100               | -                  | 101          | 2,215        | 478          | 6          | 2,800         |
| 1,000               | -                  | 278          | 1,113        | 1,024        | 1          | 2,416         |
| \$900 & Below       | -                  | 5,749        | 4,310        | 207          | -          | 10,266        |
| <b>Total</b>        | -                  | <b>6,244</b> | <b>8,633</b> | <b>3,728</b> | <b>870</b> | <b>19,475</b> |

Source: Estimates prepared for this study.

### ***Rental Market Outlook***

By 2018, with military transition, the off-post market area is projected to contain 40,179 renter-occupied units and 3,500 vacant units for rent. Table 3-13 presents the distribution among cost bands and bedroom types of the occupied rental housing supply projected for 2018. These projections include the simulated transition of military personnel from government-provided housing to private-sector housing between 2013 and 2018 (see Chapter 4). In this forecast, the distribution of rental units by cost segment is assumed to be the same in 2018 as in 2013. This is consistent with OSD guidance that the Basic Allowance for Housing (BAH) should keep pace with rental costs. This implies that the analysis is in real 2013 purchasing power for military personnel seeking community housing.

**Table 3-13. Renter-Occupied Housing Units, With Military Transition, USAG Rock Island Arsenal Housing Market Area, 2018**

| 2018<br>Rental Cost | Number of Bedrooms |               |               |              |              | Total         |
|---------------------|--------------------|---------------|---------------|--------------|--------------|---------------|
|                     | Studios            | One           | Two           | Three        | Four+        |               |
| Above \$2200        | -                  | -             | -             | 47           | 446          | 493           |
| 2,200               | -                  | -             | -             | 13           | 29           | 42            |
| 2,100               | -                  | -             | 7             | 27           | 5            | 39            |
| 2,000               | -                  | -             | 2             | 25           | 35           | 62            |
| 1,900               | -                  | -             | 2             | 25           | 138          | 165           |
| 1,800               | -                  | -             | 6             | 33           | 138          | 177           |
| 1,700               | -                  | -             | 12            | 98           | 104          | 214           |
| 1,600               | -                  | -             | 17            | 741          | 253          | 1,011         |
| 1,500               | -                  | 3             | 30            | 197          | 104          | 334           |
| 1,400               | -                  | 4             | 60            | 197          | 34           | 295           |
| 1,300               | 1                  | 7             | 790           | 1,267        | 208          | 2,273         |
| 1,200               | 14                 | 110           | 403           | 480          | 104          | 1,111         |
| 1,100               | 15                 | 122           | 3,466         | 1,050        | 104          | 4,757         |
| 1,000               | 55                 | 435           | 2,266         | 2,506        | 35           | 5,297         |
| \$900 & Below       | 1,446              | 11,502        | 10,084        | 877          | -            | 23,909        |
| <b>Total</b>        | <b>1,531</b>       | <b>12,183</b> | <b>17,145</b> | <b>7,583</b> | <b>1,737</b> | <b>40,179</b> |

Source: Estimates prepared for this study.

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

**Table 3-14. Vacant for Rent Housing Units, With Military Transition, USAG Rock Island Arsenal Housing Market Area, 2018**

| 2018<br>Rental Cost | Number of Bedrooms |            |              |              |            | Total        |
|---------------------|--------------------|------------|--------------|--------------|------------|--------------|
|                     | Studios            | One        | Two          | Three        | Four+      |              |
| Above \$2200        | -                  | -          | -            | 7            | 113        | 120          |
| 2,200               | -                  | -          | -            | 2            | 7          | 9            |
| 2,100               | -                  | -          | -            | 4            | 1          | 5            |
| 2,000               | -                  | -          | -            | 4            | 8          | 12           |
| 1,900               | -                  | -          | -            | 4            | 34         | 38           |
| 1,800               | -                  | -          | -            | 5            | 34         | 39           |
| 1,700               | -                  | -          | 1            | 15           | 25         | 41           |
| 1,600               | -                  | -          | 1            | 116          | 55         | 172          |
| 1,500               | -                  | -          | 2            | 31           | 25         | 58           |
| 1,400               | -                  | -          | 4            | 31           | 8          | 43           |
| 1,300               | -                  | -          | 56           | 198          | 51         | 305          |
| 1,200               | 1                  | 5          | 29           | 75           | 25         | 135          |
| 1,100               | 1                  | 5          | 247          | 160          | 25         | 438          |
| 1,000               | 3                  | 19         | 161          | 382          | 8          | 573          |
| \$900 & Below       | 79                 | 530        | 769          | 134          | -          | 1,512        |
| <b>Total</b>        | <b>84</b>          | <b>559</b> | <b>1,270</b> | <b>1,168</b> | <b>419</b> | <b>3,500</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, USAG Rock Island Arsenal Housing Market Area, 2018**

| 2018<br>Rental Cost | Number of Bedrooms |              |              |              |              | Total         |
|---------------------|--------------------|--------------|--------------|--------------|--------------|---------------|
|                     | Studios            | One          | Two          | Three        | Four+        |               |
| Above \$2200        | -                  | -            | -            | 2            | 45           | 47            |
| 2,200               | -                  | -            | -            | 1            | 5            | 6             |
| 2,100               | -                  | -            | -            | 3            | 1            | 4             |
| 2,000               | -                  | -            | -            | 5            | 11           | 16            |
| 1,900               | -                  | -            | -            | 6            | 51           | 57            |
| 1,800               | -                  | -            | -            | 8            | 74           | 82            |
| 1,700               | -                  | -            | 1            | 28           | 65           | 94            |
| 1,600               | -                  | -            | 3            | 231          | 190          | 424           |
| 1,500               | -                  | -            | 5            | 68           | 91           | 164           |
| 1,400               | -                  | -            | 13           | 80           | 33           | 126           |
| 1,300               | 1                  | -            | 186          | 586          | 209          | 982           |
| 1,200               | 15                 | 7            | 130          | 250          | 117          | 519           |
| 1,100               | 16                 | 19           | 1,299        | 648          | 122          | 2,104         |
| 1,000               | 58                 | 159          | 1,214        | 1,686        | 42           | 3,159         |
| \$900 & Below       | 1,525              | 5,923        | 6,157        | 767          | -            | 14,372        |
| <b>Total</b>        | <b>1,615</b>       | <b>6,108</b> | <b>9,008</b> | <b>4,369</b> | <b>1,056</b> | <b>22,156</b> |

Source: Estimates prepared for this study.

Table 3-16 presents the projected suitable natural vacancies. Because the rental vacancy rate is forecast to equal the natural vacancy rate, there are no excess rental vacancies in the projected year.

**Table 3-16. Suitable Natural Vacancies, With Military Transition, USAG Rock Island Arsenal Housing Market Area, 2018**

| 2018<br>Rental Cost | Number of Bedrooms |            |            |            |            | Total        |
|---------------------|--------------------|------------|------------|------------|------------|--------------|
|                     | Studios            | One        | Two        | Three      | Four+      |              |
| Above \$2200        | -                  | -          | -          | 7          | 104        | 111          |
| 2,200               | -                  | -          | -          | 2          | 6          | 8            |
| 2,100               | -                  | -          | -          | 4          | 1          | 5            |
| 2,000               | -                  | -          | -          | 3          | 6          | 9            |
| 1,900               | -                  | -          | -          | 3          | 24         | 27           |
| 1,800               | -                  | -          | -          | 4          | 19         | 23           |
| 1,700               | -                  | -          | 1          | 11         | 12         | 24           |
| 1,600               | -                  | -          | 1          | 85         | 23         | 109          |
| 1,500               | -                  | -          | 2          | 22         | 7          | 31           |
| 1,400               | -                  | -          | 3          | 20         | 2          | 25           |
| 1,300               | -                  | -          | 44         | 119        | 10         | 173          |
| 1,200               | -                  | 5          | 20         | 41         | 2          | 68           |
| 1,100               | -                  | 4          | 161        | 76         | 1          | 242          |
| 1,000               | -                  | 12         | 80         | 163        | -          | 255          |
| \$900 & Below       | -                  | 259        | 312        | 33         | -          | 604          |
| <b>Total</b>        | <b>-</b>           | <b>280</b> | <b>624</b> | <b>593</b> | <b>217</b> | <b>1,714</b> |

Source: Estimates prepared for this study.

Table 3-17 presents the projected suitable rental housing supply for the Rock Island Arsenal housing market area in 2018.

**Table 3-17. Suitable Rental Housing Supply, With Military Transition, USAG Rock Island Arsenal Housing Market Area, 2018**

| 2018<br>Rental Cost | Number of Bedrooms |              |              |              |            | Total         |
|---------------------|--------------------|--------------|--------------|--------------|------------|---------------|
|                     | Studios            | One          | Two          | Three        | Four+      |               |
| Above \$2200        | -                  | -            | -            | 45           | 410        | 455           |
| 2,200               | -                  | -            | -            | 12           | 25         | 37            |
| 2,100               | -                  | -            | 7            | 24           | 4          | 35            |
| 2,000               | -                  | -            | 2            | 21           | 26         | 49            |
| 1,900               | -                  | -            | 2            | 20           | 97         | 119           |
| 1,800               | -                  | -            | 6            | 26           | 79         | 111           |
| 1,700               | -                  | -            | 11           | 74           | 52         | 137           |
| 1,600               | -                  | -            | 14           | 541          | 95         | 650           |
| 1,500               | -                  | 3            | 25           | 138          | 31         | 197           |
| 1,400               | -                  | 4            | 48           | 128          | 7          | 187           |
| 1,300               | -                  | 7            | 616          | 760          | 40         | 1,423         |
| 1,200               | -                  | 103          | 282          | 264          | 10         | 659           |
| 1,100               | -                  | 104          | 2,253        | 486          | 6          | 2,849         |
| 1,000               | -                  | 283          | 1,133        | 1,039        | 1          | 2,456         |
| \$900 & Below       | -                  | 5,850        | 4,384        | 211          | -          | 10,445        |
| <b>Total</b>        | <b>-</b>           | <b>6,354</b> | <b>8,783</b> | <b>3,789</b> | <b>883</b> | <b>19,809</b> |

Source: Estimates prepared for this study.

### 3.2 PUBLIC-ASSISTED HOUSING

Some Rock Island Arsenal uniformed personnel may qualify for assistance and may choose to occupy public-assisted housing units in the market area. The federal government and the states of Illinois and Iowa encourage and provide funding for local efforts to increase the availability of safe and affordable housing.

#### Programs Available

Public-assisted housing near Rock Island Arsenal is available through programs administered by the Rock Island Housing Authority, Moline Housing Authority, Bettendorf Housing Authority and the City of Davenport, IA.

#### Eligibility Requirements

Households are generally eligible for public housing assistance if their incomes fall below 50 percent of the median household income in the area. Some service personnel in the lowest pay grades without other sources of household income may qualify. Table 3-18 presents the income limits for eligibility for local housing programs in the Davenport-Moline-Rock Island MSA.

**Table 3-18. Annual Family Income Limits for HUD Housing Assistance Eligibility, Davenport-Moline-Rock Island MSA, 2013**

| Family Size | Very Low Income | Low Income |
|-------------|-----------------|------------|
| 1           | \$22,100        | \$35,350   |
| 2           | \$25,250        | \$40,400   |
| 3           | \$28,400        | \$45,450   |
| 4           | \$31,550        | \$50,500   |
| 5           | \$34,100        | \$54,550   |
| 6           | \$36,600        | \$58,600   |
| 7           | \$39,150        | \$62,650   |
| 8           | \$41,650        | \$66,700   |

Source: U.S. Department of Housing and Urban Development, 2013.

Table 3-19 displays fair market rents for federally assisted housing in the Davenport-Moline-Rock Island MSA.

**Table 3-19. Monthly Fair Market Rent Schedules for HUD Housing Assistance Programs, Davenport-Moline-Rock Island MSA, 2013**

| Bedrooms | Monthly Rent |
|----------|--------------|
| 0        | \$448        |
| 1        | \$555        |
| 2        | \$711        |
| 3        | \$959        |
| 4        | \$1,009      |

Source: U.S. Department of Housing and Urban Development, 2013.

### Availability to Uniformed Services Personnel

Eligibility for most assistance is based on very-low-income standards. These limits effectively disqualify nearly all military personnel from available programs, as service personnel have incomes (including housing allowances) too high to qualify. 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.

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## **4. MILITARY HOUSING DEMAND**

This chapter is divided into five sections covering: total military housing demand, government-provided housing occupancy, analysis of the floor requirements at Rock Island Arsenal, analysis of the 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 requirements for military personnel stationed at Rock Island Arsenal. Current and projected authorized permanent party military personnel strength is provided by Headquarters, Department of the Army (2012) from the Army Stationing Installation Plan (ASIP). Current (2013) and projected (2018) permanent party personnel were obtained from the 31 October 2012 ASIP report (3 January SAMAS). Data for 2013 reflects FY2013 values (1 October 2012 through 30 September 2013). Data for 2018 reflects FY2018 (1 October 2017 through 30 September 2018).

The breakdown of total personnel into accompanied and unaccompanied housing requirements was based on data for currently assigned personnel (as of 31 August 2012) provided by the Defense Manpower Data Center (DMDC). The DMDC supplied data on the number of personnel currently assigned to Rock Island Arsenal, by pay grade, marital status, and accompaniment status, including number of personnel married to another military member. The DMDC data included a distribution of accompanied personnel by family size. The family size data were used to calculate military family bedroom entitlements in this analysis. Voluntarily separated personnel (geographic bachelors) were projected using national averages by grade from the 1997 Variable Housing Allowance (VHA) Survey (U.S. Air Force, 1998) as planning factors.

#### **Current Housing Demand**

A total of 447 active duty permanent party military personnel are authorized for Rock Island Arsenal in 2013. Table 4-1 presents this total broken down by accompaniment status and grade. There are an estimated 133 unaccompanied members, 9 military couples, 14 voluntarily separated personnel, and 291 military families in 2013.

Table 4-1 also provides a breakdown of military families by bedroom entitlements. Accompanied personnel are estimated to have requirements for two-, three-, and four-plus-bedroom units depending on family size and seniority. Following current guidance to assign one bedroom per family member (other than spouse), and including seniority assignments, 29 families are entitled to two-bedroom units, 160 families are entitled to three-bedroom units, and 102 families are entitled to units with four or more bedrooms (Table 4-1).

**Table 4-1. Military Personnel by Accompaniment Status and Bedroom Entitlements, USAG Rock Island Arsenal, 2013**

| Pay Grade       | Number of Bedrooms |            |            | Military Families | Military Couples | Voluntarily Separated | Unaccompanied | Permanent Party Personnel |
|-----------------|--------------------|------------|------------|-------------------|------------------|-----------------------|---------------|---------------------------|
|                 | Two                | Three      | Four+      |                   |                  |                       |               |                           |
| O7 & Above      | -                  | -          | 6          | 6                 | -                | -                     | -             | 6                         |
| O6              | -                  | -          | 21         | 21                | -                | -                     | 10            | 31                        |
| O5              | -                  | 31         | 11         | 42                | 1                | 2                     | 17            | 62                        |
| O4              | -                  | 46         | 19         | 65                | 2                | 3                     | 28            | 98                        |
| O3              | 11                 | 17         | 10         | 38                | 2                | 1                     | 25            | 66                        |
| O2              | -                  | 4          | -          | 4                 | -                | -                     | -             | 4                         |
| O1              | -                  | -          | -          | -                 | -                | -                     | -             | -                         |
| <b>Officers</b> | <b>11</b>          | <b>98</b>  | <b>67</b>  | <b>176</b>        | <b>5</b>         | <b>6</b>              | <b>80</b>     | <b>267</b>                |
| W5              | -                  | 1          | 1          | 2                 | -                | -                     | 1             | 3                         |
| W4              | -                  | 4          | 1          | 5                 | -                | -                     | 1             | 6                         |
| W3              | 2                  | 2          | -          | 4                 | -                | -                     | 2             | 6                         |
| W2              | -                  | 2          | 3          | 5                 | 1                | -                     | -             | 6                         |
| W1              | -                  | -          | -          | -                 | -                | -                     | 1             | 1                         |
| <b>Warrants</b> | <b>2</b>           | <b>9</b>   | <b>5</b>   | <b>16</b>         | <b>1</b>         | <b>-</b>              | <b>5</b>      | <b>22</b>                 |
| E9              | -                  | 6          | 2          | 8                 | -                | 1                     | 4             | 13                        |
| E8              | -                  | 12         | 4          | 16                | 2                | 1                     | 3             | 22                        |
| E7              | -                  | 27         | 12         | 39                | 1                | 3                     | 16            | 59                        |
| E6              | 8                  | 5          | 8          | 21                | -                | 2                     | 12            | 35                        |
| E5              | 6                  | 3          | 2          | 11                | -                | 1                     | 9             | 21                        |
| E4              | 2                  | -          | 2          | 4                 | -                | -                     | 4             | 8                         |
| E3              | -                  | -          | -          | -                 | -                | -                     | -             | -                         |
| E2              | -                  | -          | -          | -                 | -                | -                     | -             | -                         |
| E1              | -                  | -          | -          | -                 | -                | -                     | -             | -                         |
| <b>Enlisted</b> | <b>16</b>          | <b>53</b>  | <b>30</b>  | <b>99</b>         | <b>3</b>         | <b>8</b>              | <b>48</b>     | <b>158</b>                |
| <b>Total</b>    | <b>29</b>          | <b>160</b> | <b>102</b> | <b>291</b>        | <b>9</b>         | <b>14</b>             | <b>133</b>    | <b>447</b>                |

Notes: Voluntarily separated personnel are married personnel who do not have family members living with them in the local area. Military couples are families in which both the husband and wife are permanent party military personnel and form one household. Only one spouse is counted in the military families column.

Source: Headquarters, Department of the Army, 2012; Defense Manpower Data Center, 2012; U.S. Air Force, 1998; and estimates prepared for this study.



Table 4-2 presents unaccompanied personnel by grade and bedroom entitlement for 2013.

**Table 4-2. Unaccompanied Personnel by Grade and Bedroom Entitlements, USAG Rock Island Arsenal, 2013**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total      |
|-------------------|--------------------|-----------|-----------|------------|
|                   | One                | Two       | Three     |            |
| O7 & Above        | -                  | -         | -         | -          |
| O6                | -                  | -         | 10        | 10         |
| O5                | -                  | -         | 17        | 17         |
| O4                | -                  | -         | 28        | 28         |
| O3                | -                  | 25        | -         | 25         |
| O2                | -                  | -         | -         | -          |
| O1                | -                  | -         | -         | -          |
| Officers          | -                  | 25        | 55        | 80         |
| W5                | -                  | -         | 1         | 1          |
| W4                | -                  | -         | 1         | 1          |
| W3                | -                  | 2         | -         | 2          |
| W2                | -                  | -         | -         | -          |
| W1                | -                  | 1         | -         | 1          |
| Warrants          | -                  | 3         | 2         | 5          |
| E9                | -                  | 4         | -         | 4          |
| E8                | -                  | 3         | -         | 3          |
| E7                | -                  | 16        | -         | 16         |
| E6                | -                  | 12        | -         | 12         |
| E5                | 9                  | -         | -         | 9          |
| E4                | 4                  | -         | -         | 4          |
| E3                | -                  | -         | -         | -          |
| E2                | -                  | -         | -         | -          |
| E1                | -                  | -         | -         | -          |
| Enlisted          | 13                 | 35        | -         | 48         |
| <b>Total</b>      | <b>13</b>          | <b>63</b> | <b>57</b> | <b>133</b> |

Source: Estimates prepared for this study.

## Projected Housing Demand

By 2018, the total personnel strength at Rock Island Arsenal is projected to increase by 97 permanent party personnel to 544 active duty members (Table 4-3). The total number of families requiring housing in the projected year is 358 and the number of unaccompanied personnel requiring housing is 158 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. Based on seniority assignments and current guidance to assign one bedroom per family member (other than spouse), 39 families are entitled to two-bedroom units, 199 families are entitled to three-bedroom units, and 120 families are entitled to units with at least four bedrooms (see Table 4-3).

**Table 4-3. Military Personnel by Accompaniment Status and Bedroom Entitlements, USAG Rock Island Arsenal, 2018**

| Pay Grade    | Number of Bedrooms |            |            | Military Families | Military Couples | Voluntarily Separated | Unaccompanied | Permanent Party Personnel |
|--------------|--------------------|------------|------------|-------------------|------------------|-----------------------|---------------|---------------------------|
|              | Two                | Three      | Four+      |                   |                  |                       |               |                           |
| O7 & Above   | -                  | -          | 6          | 6                 | -                | -                     | -             | 6                         |
| O6           | -                  | -          | 21         | 21                | -                | -                     | 10            | 31                        |
| O5           | -                  | 31         | 11         | 42                | 1                | 2                     | 17            | 62                        |
| O4           | -                  | 46         | 19         | 65                | 2                | 3                     | 28            | 98                        |
| O3           | 11                 | 17         | 10         | 38                | 2                | 1                     | 25            | 66                        |
| O2           | -                  | 4          | -          | 4                 | -                | -                     | -             | 4                         |
| O1           | -                  | -          | -          | -                 | -                | -                     | -             | -                         |
| Officers     | 11                 | 98         | 67         | 176               | 5                | 6                     | 80            | 267                       |
| W5           | -                  | 2          | 1          | 3                 | -                | -                     | 1             | 4                         |
| W4           | -                  | 6          | 1          | 7                 | -                | -                     | 1             | 8                         |
| W3           | 2                  | 3          | -          | 5                 | -                | -                     | 2             | 7                         |
| W2           | -                  | 2          | 4          | 6                 | 1                | -                     | -             | 7                         |
| W1           | -                  | -          | -          | -                 | -                | -                     | 1             | 1                         |
| Warrants     | 2                  | 13         | 6          | 21                | 1                | -                     | 5             | 27                        |
| E9           | -                  | 11         | 2          | 13                | -                | 1                     | 7             | 21                        |
| E8           | -                  | 20         | 6          | 26                | 2                | 2                     | 5             | 35                        |
| E7           | -                  | 44         | 19         | 63                | 1                | 5                     | 24            | 93                        |
| E6           | 13                 | 8          | 13         | 34                | -                | 3                     | 18            | 55                        |
| E5           | 10                 | 4          | 4          | 18                | -                | 2                     | 13            | 33                        |
| E4           | 3                  | 1          | 3          | 7                 | -                | -                     | 6             | 13                        |
| E3           | -                  | -          | -          | -                 | -                | -                     | -             | -                         |
| E2           | -                  | -          | -          | -                 | -                | -                     | -             | -                         |
| E1           | -                  | -          | -          | -                 | -                | -                     | -             | -                         |
| Enlisted     | 26                 | 88         | 47         | 161               | 3                | 13                    | 73            | 250                       |
| <b>Total</b> | <b>39</b>          | <b>199</b> | <b>120</b> | <b>358</b>        | <b>9</b>         | <b>19</b>             | <b>158</b>    | <b>544</b>                |

Notes: Voluntarily separated personnel are married personnel who do not have family members living with them in the local area. Military couples are families in which both the husband and wife are permanent party military personnel and form one household. Only one spouse is counted in the military families column.

Source: Headquarters, Department of the Army, 2012; Defense Manpower Data Center, 2012; U.S. Air Force, 1998; and estimates prepared for this study.

Table 4-4 presents unaccompanied personnel by grade and bedroom entitlement for 2018.

**Table 4-4. Unaccompanied Personnel by Grade and Bedroom Entitlements, USAG Rock Island Arsenal, 2018**

| 2018<br>Pay Grade | Number of Bedrooms |           |           | Total      |
|-------------------|--------------------|-----------|-----------|------------|
|                   | One                | Two       | Three     |            |
| O7 & Above        | -                  | -         | -         | -          |
| O6                | -                  | -         | 10        | 10         |
| O5                | -                  | -         | 17        | 17         |
| O4                | -                  | -         | 28        | 28         |
| O3                | -                  | 25        | -         | 25         |
| O2                | -                  | -         | -         | -          |
| O1                | -                  | -         | -         | -          |
| Officers          | -                  | 25        | 55        | 80         |
| W5                | -                  | -         | 1         | 1          |
| W4                | -                  | -         | 1         | 1          |
| W3                | -                  | 2         | -         | 2          |
| W2                | -                  | -         | -         | -          |
| W1                | -                  | 1         | -         | 1          |
| Warrants          | -                  | 3         | 2         | 5          |
| E9                | -                  | 7         | -         | 7          |
| E8                | -                  | 5         | -         | 5          |
| E7                | -                  | 24        | -         | 24         |
| E6                | -                  | 18        | -         | 18         |
| E5                | 13                 | -         | -         | 13         |
| E4                | 6                  | -         | -         | 6          |
| E3                | -                  | -         | -         | -          |
| E2                | -                  | -         | -         | -          |
| E1                | -                  | -         | -         | -          |
| Enlisted          | 19                 | 54        | -         | 73         |
| <b>Total</b>      | <b>19</b>          | <b>82</b> | <b>57</b> | <b>158</b> |

Source: Estimates prepared for this study.

## 4.2 CURRENT GOVERNMENT-PROVIDED HOUSING OCCUPANCY

For analysis of current year conditions, government-provided military family housing is considered occupied at recent actual levels. Table 4-5 presents the current occupancy of military family housing at Rock Island Arsenal. The distribution by number of bedrooms 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 government-provided housing inventory. The USAG Rock Island Arsenal Housing Office (2012) reports that 94 accompanied military personnel currently reside in government-provided military family housing.

**Table 4-5. Military Family Housing Occupancy, USAG Rock Island Arsenal, 2013**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total     |
|-------------------|--------------------|-----------|-----------|-----------|
|                   | Two                | Three     | Four+     |           |
| O7 & Above        | -                  | -         | 5         | 5         |
| O6                | -                  | -         | 5         | 5         |
| O5                | -                  | -         | 1         | 1         |
| O4                | -                  | 5         | 5         | 10        |
| O3                | -                  | 5         | 1         | 6         |
| O2                | -                  | 1         | -         | 1         |
| O1                | -                  | -         | -         | -         |
| Officers          | -                  | 11        | 17        | 28        |
| W5                | -                  | 1         | -         | 1         |
| W4                | -                  | 3         | 1         | 4         |
| W3                | -                  | 2         | -         | 2         |
| W2                | -                  | -         | 1         | 1         |
| W1                | -                  | -         | -         | -         |
| Warrants          | -                  | 6         | 2         | 8         |
| E9                | -                  | 2         | 2         | 4         |
| E8                | -                  | 5         | 2         | 7         |
| E7                | -                  | 10        | 6         | 16        |
| E6                | 6                  | 5         | 8         | 19        |
| E5                | 3                  | 3         | 2         | 8         |
| E4                | 2                  | -         | 2         | 4         |
| E3                | -                  | -         | -         | -         |
| E2                | -                  | -         | -         | -         |
| E1                | -                  | -         | -         | -         |
| Enlisted          | 11                 | 25        | 22        | 58        |
| <b>Total</b>      | <b>11</b>          | <b>42</b> | <b>41</b> | <b>94</b> |

Source: USAG Rock Island Arsenal Housing Office, 2012; and estimates prepared for this study.

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 4-6. Unaccompanied Floor Housing Requirement, USAG Rock Island Arsenal, 2013**

| 2013<br>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                | 9                  | -        | -        | 9         |
| E4                | 4                  | -        | -        | 4         |
| E3                | -                  | -        | -        | -         |
| E2                | -                  | -        | -        | -         |
| E1                | -                  | -        | -        | -         |
| Enlisted          | 13                 | -        | -        | 13        |
| <b>Total</b>      | <b>13</b>          | <b>-</b> | <b>-</b> | <b>13</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 floor requirement for unaccompanied personnel. The following sections present the individual components of the floor requirements analysis by grade and bedroom entitlements for 2018.

#### Accompanied Personnel

##### *Accompanied Military Housing Community Requirement*

The ten percent military housing community requirement is initially set to zero in this analysis (see Chapter 1).

##### *Key and Essential Requirements*

There are 25 key and essential personnel at Rock Island Arsenal (Table 4-7).

**Table 4-7. Key and Essential Requirement, USAG Rock Island Arsenal, 2018**

| 2018<br>Pay Grade | Number of Bedrooms |          |           | Total     |
|-------------------|--------------------|----------|-----------|-----------|
|                   | Two                | Three    | Four+     |           |
| O7 & Above        | -                  | -        | 6         | 6         |
| O6                | -                  | -        | 6         | 6         |
| O5                | -                  | 1        | -         | 1         |
| O4                | -                  | 4        | 1         | 5         |
| O3                | -                  | 1        | 1         | 2         |
| O2                | -                  | -        | -         | -         |
| O1                | -                  | -        | -         | -         |
| Officers          | -                  | 6        | 14        | 20        |
| W5                | -                  | -        | -         | -         |
| W4                | -                  | -        | -         | -         |
| W3                | -                  | -        | -         | -         |
| W2                | -                  | -        | -         | -         |
| W1                | -                  | -        | -         | -         |
| Warrants          | -                  | -        | -         | -         |
| E9                | -                  | 2        | 1         | 3         |
| E8                | -                  | -        | -         | -         |
| E7                | -                  | 1        | 1         | 2         |
| E6                | -                  | -        | -         | -         |
| E5                | -                  | -        | -         | -         |
| E4                | -                  | -        | -         | -         |
| E3                | -                  | -        | -         | -         |
| E2                | -                  | -        | -         | -         |
| E1                | -                  | -        | -         | -         |
| Enlisted          | -                  | 3        | 2         | 5         |
| <b>Total</b>      | -                  | <b>9</b> | <b>16</b> | <b>25</b> |

Sources: USAG Rock Island Arsenal Housing Office, 2012 and estimates prepared for this study.

**Historic Housing Requirements**

There are nine historic housing units on the installation (Table 4-8).

**Table 4-8. Historic Housing, USAG Rock Island Arsenal, 2018**

| 2018<br>Pay Grade | Number of Bedrooms |          |          | Total    |
|-------------------|--------------------|----------|----------|----------|
|                   | Two                | Three    | Four+    |          |
| O7 & Above        | -                  | -        | 5        | 5        |
| O6                | -                  | -        | 1        | 1        |
| O5                | -                  | -        | -        | -        |
| O4                | -                  | -        | -        | -        |
| O3                | -                  | -        | -        | -        |
| O2                | -                  | -        | -        | -        |
| O1                | -                  | -        | -        | -        |
| Officers          | -                  | -        | 6        | 6        |
| W5                | -                  | -        | -        | -        |
| W4                | -                  | -        | -        | -        |
| W3                | -                  | -        | -        | -        |
| W2                | -                  | -        | -        | -        |
| W1                | -                  | -        | -        | -        |
| Warrants          | -                  | -        | -        | -        |
| E9                | -                  | 1        | 2        | 3        |
| E8                | -                  | -        | -        | -        |
| E7                | -                  | -        | -        | -        |
| E6                | -                  | -        | -        | -        |
| E5                | -                  | -        | -        | -        |
| E4                | -                  | -        | -        | -        |
| E3                | -                  | -        | -        | -        |
| E2                | -                  | -        | -        | -        |
| E1                | -                  | -        | -        | -        |
| Enlisted          | -                  | 1        | 2        | 3        |
| <b>Total</b>      | -                  | <b>1</b> | <b>8</b> | <b>9</b> |

Source: USAG Rock Island Arsenal Housing Office, 2012.

### Quality of Life Requirements

The quality of life requirement is determined by the number of accompanied personnel whose regular military compensation (RMC) falls below 50 percent of the median family income in the Rock Island Arsenal market area. The Davenport-Moline-Rock Island MSA has a FY 2013 median family income of \$63,100 (U.S. Department of Housing and Urban Development, 2013). One-half of this amount is \$31,550.

The RMC for 2013 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 4-9 provides the annual RMC by individual grade for Rock Island Arsenal personnel with dependents for the year 2013. No personnel collect a regular military compensation below 50 percent of the estimated median family income for the market area (\$31,550). Therefore, the quality of life requirement is zero (Table 4-10).

**Table 4-9. Regular Military Compensation (RMC), USAG Rock Island Arsenal, 2013**

| 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 | \$144,852        | \$31,464         | \$2,911    | \$34,375          | \$35,863               | \$12,797             | 35.7%                   | \$12,266      | \$191,493  |
| O6         | \$121,809        | \$31,140         | \$2,911    | \$34,051          | \$34,063               | \$11,374             | 33.4%                   | \$11,370      | \$167,230  |
| O5         | \$98,567         | \$30,852         | \$2,911    | \$33,763          | \$32,683               | \$10,424             | 31.9%                   | \$10,768      | \$143,098  |
| O4         | \$83,152         | \$28,584         | \$2,911    | \$31,495          | \$29,503               | \$7,643              | 25.9%                   | \$8,159       | \$122,807  |
| O3         | \$63,541         | \$25,308         | \$2,911    | \$28,219          | \$25,147               | \$4,600              | 18.3%                   | \$5,162       | \$96,923   |
| O2         | \$49,225         | \$18,576         | \$2,911    | \$21,487          | \$21,739               | \$3,981              | 18.3%                   | \$3,935       | \$74,648   |
| O1         | \$35,574         | \$13,212         | \$2,911    | \$16,123          | \$20,215               | \$4,328              | 21.4%                   | \$3,452       | \$55,149   |
| W5         | \$96,062         | \$28,008         | \$2,904    | \$30,912          | \$24,488               | \$7,667              | 31.3%                   | \$9,679       | \$136,653  |
| W4         | \$80,909         | \$26,604         | \$2,911    | \$29,515          | \$26,419               | \$6,302              | 23.9%                   | \$7,041       | \$117,465  |
| W3         | \$66,542         | \$25,416         | \$2,911    | \$28,327          | \$25,411               | \$4,667              | 18.4%                   | \$5,203       | \$100,072  |
| W2         | \$55,420         | \$22,212         | \$2,911    | \$25,123          | \$23,671               | \$4,237              | 17.9%                   | \$4,497       | \$85,040   |
| W1         | \$47,857         | \$18,756         | \$2,911    | \$21,667          | \$20,695               | \$4,024              | 19.4%                   | \$4,213       | \$73,737   |
| E9         | \$74,307         | \$26,280         | \$4,223    | \$30,503          | \$27,694               | \$5,994              | 21.6%                   | \$6,602       | \$111,412  |
| E8         | \$58,788         | \$23,760         | \$4,225    | \$27,985          | \$25,887               | \$4,576              | 17.7%                   | \$4,947       | \$91,721   |
| E7         | \$50,029         | \$21,132         | \$4,227    | \$25,359          | \$24,519               | \$4,496              | 18.3%                   | \$4,650       | \$80,038   |
| E6         | \$40,692         | \$18,684         | \$4,227    | \$22,911          | \$23,667               | \$5,259              | 22.2%                   | \$5,091       | \$68,695   |
| E5         | \$33,035         | \$12,564         | \$4,227    | \$16,791          | \$21,375               | \$5,265              | 24.6%                   | \$4,136       | \$53,962   |
| E4         | \$26,397         | \$11,808         | \$4,227    | \$16,035          | \$19,755               | \$4,792              | 24.3%                   | \$3,890       | \$46,322   |
| E3         | \$22,077         | \$11,808         | \$4,227    | \$16,035          | \$20,307               | \$4,058              | 20.0%                   | \$3,204       | \$41,316   |
| E2         | \$20,398         | \$11,808         | \$4,227    | \$16,035          | \$19,707               | \$3,865              | 19.6%                   | \$3,145       | \$39,578   |
| E1         | \$18,194         | \$11,808         | \$4,227    | \$16,035          | \$19,659               | \$3,577              | 18.2%                   | \$2,918       | \$37,147   |

Source: U.S Department of Defense, 2012.



**Table 4-10. Quality of Life Requirement, USAG Rock Island Arsenal, 2018**

| 2018<br>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). For Rock Island Arsenal, the projected floor requirement reflects the key and essential component in all pay grades (Table 4-11). The greatest component for each grade determines the floor requirement in that grade. The overall floor requirement totals 25 units.

**Table 4-11. Floor Requirement by Criterion, Accompanied Personnel, 2018**

| <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       | 6                        | -                         | 6                        | 5                     | -                      | 6                        |
| O6               | 21                       | -                         | 6                        | 1                     | -                      | 6                        |
| O5               | 42                       | -                         | 1                        | -                     | -                      | 1                        |
| O4               | 65                       | -                         | 5                        | -                     | -                      | 5                        |
| O3               | 38                       | -                         | 2                        | -                     | -                      | 2                        |
| O2               | 4                        | -                         | -                        | -                     | -                      | -                        |
| O1               | -                        | -                         | -                        | -                     | -                      | -                        |
| <b>Officers</b>  | <b>176</b>               | <b>-</b>                  | <b>20</b>                | <b>6</b>              | <b>-</b>               | <b>20</b>                |
| W5               | 3                        | -                         | -                        | -                     | -                      | -                        |
| W4               | 7                        | -                         | -                        | -                     | -                      | -                        |
| W3               | 5                        | -                         | -                        | -                     | -                      | -                        |
| W2               | 6                        | -                         | -                        | -                     | -                      | -                        |
| W1               | -                        | -                         | -                        | -                     | -                      | -                        |
| <b>Warrants</b>  | <b>21</b>                | <b>-</b>                  | <b>-</b>                 | <b>-</b>              | <b>-</b>               | <b>-</b>                 |
| E9               | 13                       | -                         | 3                        | 3                     | -                      | 3                        |
| E8               | 26                       | -                         | -                        | -                     | -                      | -                        |
| E7               | 63                       | -                         | 2                        | -                     | -                      | 2                        |
| E6               | 34                       | -                         | -                        | -                     | -                      | -                        |
| E5               | 18                       | -                         | -                        | -                     | -                      | -                        |
| E4               | 7                        | -                         | -                        | -                     | -                      | -                        |
| E3               | -                        | -                         | -                        | -                     | -                      | -                        |
| E2               | -                        | -                         | -                        | -                     | -                      | -                        |
| E1               | -                        | -                         | -                        | -                     | -                      | -                        |
| <b>Enlisted</b>  | <b>161</b>               | <b>-</b>                  | <b>5</b>                 | <b>3</b>              | <b>-</b>               | <b>5</b>                 |
| <b>Total</b>     | <b>358</b>               | <b>-</b>                  | <b>25</b>                | <b>9</b>              | <b>-</b>               | <b>25</b>                |

Source: Estimates prepared for this study.

The total floor requirement by grade and number of bedrooms is presented in Table 4-12.

**Table 4-12. Floor Requirement by Bedrooms, Accompanied Personnel, USAG Rock Island Arsenal 2018**

| 2018<br>Pay Grade | Number of Bedrooms |          |           | Total     |
|-------------------|--------------------|----------|-----------|-----------|
|                   | Two                | Three    | Four+     |           |
| O7 & Above        | -                  | -        | 6         | 6         |
| O6                | -                  | -        | 6         | 6         |
| O5                | -                  | 1        | -         | 1         |
| O4                | -                  | 4        | 1         | 5         |
| O3                | -                  | 1        | 1         | 2         |
| O2                | -                  | -        | -         | -         |
| O1                | -                  | -        | -         | -         |
| Officers          | -                  | 6        | 14        | 20        |
| W5                | -                  | -        | -         | -         |
| W4                | -                  | -        | -         | -         |
| W3                | -                  | -        | -         | -         |
| W2                | -                  | -        | -         | -         |
| W1                | -                  | -        | -         | -         |
| Warrants          | -                  | -        | -         | -         |
| E9                | -                  | 1        | 2         | 3         |
| E8                | -                  | -        | -         | -         |
| E7                | -                  | 1        | 1         | 2         |
| E6                | -                  | -        | -         | -         |
| E5                | -                  | -        | -         | -         |
| E4                | -                  | -        | -         | -         |
| E3                | -                  | -        | -         | -         |
| E2                | -                  | -        | -         | -         |
| E1                | -                  | -        | -         | -         |
| Enlisted          | -                  | 2        | 3         | 5         |
| <b>Total</b>      | -                  | <b>8</b> | <b>17</b> | <b>25</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 government-provided 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 government-provided family housing is 94 families. The projected floor requirement is 25 units. The difference between these two values (69) is the number of accompanied personnel who are assumed to gradually transition to seek private-sector housing over the forecast period. For the purposes of this analysis it is assumed that the development community would respond to the potential increase in private-sector renters by building an additional 15 units each year, representing a 2.8 percent increase over the projected baseline pace of residential construction. 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 4-13 presents the projected floor housing requirement for unaccompanied personnel.

**Table 4-13. Unaccompanied Floor Housing Requirement, USAG Rock Island Arsenal, 2018**

| 2018<br>Pay Grade | Number of Bedrooms |           |           | Total      |
|-------------------|--------------------|-----------|-----------|------------|
|                   | One                | Two       | Three     |            |
| O7 & Above        | -                  | -         | -         | -          |
| O6                | -                  | -         | 10        | 10         |
| O5                | -                  | -         | 17        | 17         |
| O4                | -                  | -         | 28        | 28         |
| O3                | -                  | 25        | -         | 25         |
| O2                | -                  | -         | -         | -          |
| O1                | -                  | -         | -         | -          |
| <b>Officers</b>   | -                  | 25        | 55        | 80         |
| W5                | -                  | -         | 1         | 1          |
| W4                | -                  | -         | 1         | 1          |
| W3                | -                  | 2         | -         | 2          |
| W2                | -                  | -         | -         | -          |
| W1                | -                  | 1         | -         | 1          |
| <b>Warrants</b>   | -                  | 3         | 2         | 5          |
| E9                | -                  | 7         | -         | 7          |
| E8                | -                  | 5         | -         | 5          |
| E7                | -                  | 24        | -         | 24         |
| E6                | -                  | 18        | -         | 18         |
| E5                | 13                 | -         | -         | 13         |
| E4                | 6                  | -         | -         | 6          |
| E3                | -                  | -         | -         | -          |
| E2                | -                  | -         | -         | -          |
| E1                | -                  | -         | -         | -          |
| <b>Enlisted</b>   | 19                 | 54        | -         | 73         |
| <b>Total</b>      | <b>19</b>          | <b>82</b> | <b>57</b> | <b>158</b> |

Source: Estimates prepared for this study

#### 4.4 COMMUNITY HOUSING DEMAND

For accompanied personnel, total potential community housing demand is defined for 2013 as those accompanied personnel in excess of the current occupants of government-provided housing and for 2018 as those personnel in excess of the projected floor requirement. For unaccompanied personnel the potential community housing demand equals those personnel in excess of the floor requirement in both years.

##### Accompanied Personnel

Accompanied personnel “community first” housing demand totals 197 families in 2013 and 333 families in 2018. The bedroom requirements of these personnel, by grade, are shown in Table 4-14.

**Table 4-14. Community-First Accompanied Housing Demand, USAG Rock Island Arsenal, 2013 and 2018**

| 2013<br>Pay Grade | Number of Bedrooms |            |           | Total      | 2018<br>Pay Grade | Number of Bedrooms |            |            | Total      |
|-------------------|--------------------|------------|-----------|------------|-------------------|--------------------|------------|------------|------------|
|                   | Two                | Three      | Four+     |            |                   | Two                | Three      | Four+      |            |
| O7 & Above        | -                  | -          | 1         | 1          | O7 & Above        | -                  | -          | -          | -          |
| O6                | -                  | -          | 16        | 16         | O6                | -                  | -          | 15         | 15         |
| O5                | -                  | 31         | 10        | 41         | O5                | -                  | 30         | 11         | 41         |
| O4                | -                  | 41         | 14        | 55         | O4                | -                  | 42         | 18         | 60         |
| O3                | 11                 | 12         | 9         | 32         | O3                | 11                 | 16         | 9          | 36         |
| O2                | -                  | 3          | -         | 3          | O2                | -                  | 4          | -          | 4          |
| O1                | -                  | -          | -         | -          | O1                | -                  | -          | -          | -          |
| Officers          | 11                 | 87         | 50        | 148        | Officers          | 11                 | 92         | 53         | 156        |
| W5                | -                  | -          | 1         | 1          | W5                | -                  | 2          | 1          | 3          |
| W4                | -                  | 1          | -         | 1          | W4                | -                  | 6          | 1          | 7          |
| W3                | 2                  | -          | -         | 2          | W3                | 2                  | 3          | -          | 5          |
| W2                | -                  | 2          | 2         | 4          | W2                | -                  | 2          | 4          | 6          |
| W1                | -                  | -          | -         | -          | W1                | -                  | -          | -          | -          |
| Warrants          | 2                  | 3          | 3         | 8          | Warrants          | 2                  | 13         | 6          | 21         |
| E9                | -                  | 4          | -         | 4          | E9                | -                  | 10         | -          | 10         |
| E8                | -                  | 7          | 2         | 9          | E8                | -                  | 20         | 6          | 26         |
| E7                | -                  | 17         | 6         | 23         | E7                | -                  | 43         | 18         | 61         |
| E6                | 2                  | -          | -         | 2          | E6                | 13                 | 8          | 13         | 34         |
| E5                | 3                  | -          | -         | 3          | E5                | 10                 | 4          | 4          | 18         |
| E4                | -                  | -          | -         | -          | E4                | 3                  | 1          | 3          | 7          |
| E3                | -                  | -          | -         | -          | E3                | -                  | -          | -          | -          |
| E2                | -                  | -          | -         | -          | E2                | -                  | -          | -          | -          |
| E1                | -                  | -          | -         | -          | E1                | -                  | -          | -          | -          |
| Enlisted          | 5                  | 28         | 8         | 41         | Enlisted          | 26                 | 86         | 44         | 156        |
| <b>Total</b>      | <b>18</b>          | <b>118</b> | <b>61</b> | <b>197</b> | <b>Total</b>      | <b>39</b>          | <b>191</b> | <b>103</b> | <b>333</b> |

Source: Estimates prepared for this study.

## Change in Homeownership Rates

Homeownership rates in this analysis were derived from data collected by the USAG Rock Island Arsenal Housing Office in November 2012. Of the 124 military personnel who responded to the Housing Office survey, 37 indicated they had purchased a home locally.

The projected number of homeowners is based on the expected change in homeownership between 2013 and 2018 in the Rock Island Arsenal housing market area. 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 is needed.

Table 4-15 presents a method for calculating changes in affordability of homeownership for Rock Island Arsenal personnel between 2013 and 2018. This method can be used to adjust the 2013 homeownership rates to 2018. 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 2013 and 2018, the adjustment for the change in affordability could potentially provide an accurate measure of homeownership in 2018.

The calculation shown in Table 4-15 uses the average sales price of a home in the Davenport-Moline-Rock Island MSA (Ruhl & Ruhl Realtors, 2012). Assuming a ten percent down payment, it is possible to calculate the amount of the mortgage carried by the purchaser. 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.

Assumptions about future interest rates, home prices, utility costs, and housing allowance escalation must be formulated in order to project changes in affordability. The trend in home mortgage rates is determined using a combination of sources, including the latest press releases and economic forecasts from the U.S. Federal Reserve, 10-year Treasury note projections from the Congressional Budget Office (2013), and 30-year mortgage rate forecasts from Freddie Mac and the Mortgage Bankers Association (2013). Interest rates are assumed to increase to 6.5 percent by 2018. Home prices are projected to increase at an average rate of 0.8 percent per year from 2013 to 2018, consistent with recent historical changes in the price of a home in the area and the latest home price forecasts (Fiserv, Inc., 2012). Utility costs are assumed to increase 1.3 percent per year, on average, consistent with the changes in the household utility component of the Consumer Price Index (CPI) for the Davenport-Moline-Rock Island MSA over the last 5 years (U.S. Bureau of Labor Statistics, 2013).

Weighted-average housing allowances for Rock Island Arsenal military families are projected to increase by an average of 2.4 percent per year from 2013 to 2018. Comparing the cost of owning a home to the weighted average housing allowance (BAH in 2013 and expected BAH in 2018) for personnel with dependents allows for a calculation of an Affordability Gap in dollar terms. As shown in Table 4-15, this gap is expected to increase slightly in dollar terms from \$-1,063 in 2013 to \$-1,062 in 2018.

The Affordability Gap measured as a percent of the weighted-average housing allowance is also shown. Rock Island Arsenal personnel have to pay, on average, about 50.0 percent of the average housing allowance to cover the cost of owning a home in 2013. Because the cost of owning a home is expected to rise faster than the weighted-average housing allowance, the cost of owning a home in 2018 is projected to be approximately 55.7 percent of the average housing allowance. This is an expected

increase of 5.7 percentage points, or an 11.4 percent relative change in the Affordability Gap between 2013 and 2018 (see the Adjustment Factor shown as the last row in Table 4-15).

**Table 4-15. Military Homeownership Affordability Analysis, USAG Rock Island Arsenal, Illinois**

| <b>Indicator</b>       | <b>Comment/description</b>  | <b>2013</b> | <b>2018</b> |
|------------------------|---|-------------|-------------|
| Purchase Price         | Average sales price of a residential home, Projection to 2018 assumes 0.8%/year increase  | \$146,548   | \$152,576   |
| Down Payment           | Assumed to be 10% of Purchase Price; varies with use of VHA financing, other factors  | \$14,655    | \$15,258    |
| Loan Amount            | Purchase Price less Down Payment  | \$131,894   | \$137,318   |
| Interest Rate          | Annual average yield on new home mortgages as compiled by Federal Reserve Board; 2018 projection assumes moderate increase in rates | 3.9%        | 6.5%        |
| Monthly Payment        | Assumes 30-year fixed rate loan   | \$622       | \$872       |
| Property Taxes         | Annual amount assumed to be 1.5% of purchase price; shown as \$/month   | \$183       | \$191       |
| Insurance              | Annual amount assumed to be 0.75% of purchase price; shown as \$/month  | \$92        | \$95        |
| Utility Costs          | 2013 cost is for a 3-BR unit as estimated for this analysis; 2018 projection assumes 1.3%/year increase                             | \$166       | \$178       |
| Monthly Cost           | Loan payment plus property taxes plus insurance plus utilities  | \$1,063     | \$1,336     |
| Military Allowances    | Weighted average housing allowance for military personnel, \$/month   | \$2,127     | \$2,398     |
| Affordability Gap (\$) | Monthly Cost minus military allowance equals cost to be borne from base pay or other income (spouse, second job, etc.)              | -\$1,063    | -\$1,062    |
| Affordability Gap (%)  | Monthly Cost as a percent of military allowance   | 50.0%       | 55.7%       |
| Adjustment Factor      | Relative Change in Affordability Gap (%)  | 100.0%      | 111.4%      |

Note: Total settlement/escrow costs are not shown.

Sources: Congressional Budget Office, 2013; Federal Reserve Bank of St. Louis, 2013; Freddie Mac, 2013; Mortgage Bankers Association, 2013; Ruhl & Ruhl Realtors, 2012; U.S. Bureau of Labor Statistics, 2013; and estimates prepared for this study.

The purpose of the analysis shown in Table 4-15 is to forecast changes in affordability between 2013 and 2018. 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. 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 families that are not homeowners (that is, are renters) can be assumed to rise proportionately with the relative affordability gap. Symbolically, this can be expressed as:

$$\text{Projected homeownership share} = \frac{1}{1 + \text{Ratio of renters to homeowners in 2013} \times \text{Relative affordability gap in the projected year}}$$

This adjustment factor can then be applied to each grade's homeownership propensity, as calculated from Housing Office data, to project homeowners. Applying the adjustment factor to 2018 projections provides an estimate of future homeowners given the assumed trends in home prices, housing allowances, and interest rates. Use of this approach is necessarily judgmental, and is subject to uncertainty due to housing and credit market conditions.

Based on data provided by the USAG Rock Island Arsenal Housing Office (2012), 29.9 percent of families are estimated to be homeowners in the current year (87 homeowners; Table 4-16). The monthly cost of owning a home at Rock Island Arsenal is projected to increase at a faster rate than housing allowances. As a result, the decline in affordability between 2013 and 2018 is sufficient to lower the percentage of military homeowners in the future. In 2018, using the pro forma analysis it is projected that 28.5 percent of all Rock Island Arsenal families will be homeowners in 2018 (102 homeowners; Table 4-16).

Military homeowners projected for 2018 are not affected by the definition of the floor requirement. All military members living on the installation in 2013 are considered renters. Therefore, those personnel simulated to be part of the transition from government-provided housing into community housing between 2013 and 2018 are treated as renters – they are transitioning from “renting” government-provided housing to renting private-sector community housing.



**Table 4-16. Accompanied Homeowners, USAG Rock Island Arsenal, 2013 and 2018**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total     | 2018<br>Pay Grade | Number of Bedrooms |           |           | Total      |
|-------------------|--------------------|-----------|-----------|-----------|-------------------|--------------------|-----------|-----------|------------|
|                   | Two                | Three     | Four+     |           |                   | Two                | Three     | Four+     |            |
| O7 & Above        | -                  | -         | -         | -         | O7 & Above        | -                  | -         | -         | -          |
| O6                | -                  | -         | 6         | 6         | O6                | -                  | -         | 6         | 6          |
| O5                | -                  | 15        | 6         | 21        | O5                | -                  | 15        | 6         | 21         |
| O4                | -                  | 16        | 7         | 23        | O4                | -                  | 16        | 7         | 23         |
| O3                | 4                  | 6         | 3         | 13        | O3                | 4                  | 6         | 3         | 13         |
| O2                | -                  | -         | -         | -         | O2                | -                  | -         | -         | -          |
| O1                | -                  | -         | -         | -         | O1                | -                  | -         | -         | -          |
| <b>Officers</b>   | <b>4</b>           | <b>37</b> | <b>22</b> | <b>63</b> | <b>Officers</b>   | <b>4</b>           | <b>37</b> | <b>22</b> | <b>63</b>  |
| W5                | -                  | -         | 1         | 1         | W5                | -                  | -         | 1         | 1          |
| W4                | -                  | -         | -         | -         | W4                | -                  | 1         | -         | 1          |
| W3                | 1                  | -         | -         | 1         | W3                | 1                  | -         | -         | 1          |
| W2                | -                  | -         | -         | -         | W2                | -                  | -         | -         | -          |
| W1                | -                  | -         | -         | -         | W1                | -                  | -         | -         | -          |
| <b>Warrants</b>   | <b>1</b>           | <b>-</b>  | <b>1</b>  | <b>2</b>  | <b>Warrants</b>   | <b>1</b>           | <b>1</b>  | <b>1</b>  | <b>3</b>   |
| E9                | -                  | 3         | -         | 3         | E9                | -                  | 5         | -         | 5          |
| E8                | -                  | 4         | 1         | 5         | E8                | -                  | 7         | 1         | 8          |
| E7                | -                  | 9         | 4         | 13        | E7                | -                  | 15        | 6         | 21         |
| E6                | 1                  | -         | -         | 1         | E6                | 2                  | -         | -         | 2          |
| E5                | -                  | -         | -         | -         | E5                | -                  | -         | -         | -          |
| E4                | -                  | -         | -         | -         | E4                | -                  | -         | -         | -          |
| E3                | -                  | -         | -         | -         | E3                | -                  | -         | -         | -          |
| E2                | -                  | -         | -         | -         | E2                | -                  | -         | -         | -          |
| E1                | -                  | -         | -         | -         | E1                | -                  | -         | -         | -          |
| <b>Enlisted</b>   | <b>1</b>           | <b>16</b> | <b>5</b>  | <b>22</b> | <b>Enlisted</b>   | <b>2</b>           | <b>27</b> | <b>7</b>  | <b>36</b>  |
| <b>Total</b>      | <b>6</b>           | <b>53</b> | <b>28</b> | <b>87</b> | <b>Total</b>      | <b>7</b>           | <b>65</b> | <b>30</b> | <b>102</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 4-14 and Table 4-16) to obtain the number of accompanied renters. The number of accompanied renters is thus 110 families in 2013 and 231 families in 2018 (Table 4-17).

**Table 4-17. Accompanied Renters, USAG Rock Island Arsenal, 2013**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total      | 2018<br>Pay Grade | Number of Bedrooms |            |           | Total      |
|-------------------|--------------------|-----------|-----------|------------|-------------------|--------------------|------------|-----------|------------|
|                   | Two                | Three     | Four+     |            |                   | Two                | Three      | Four+     |            |
| O7 & Above        | -                  | -         | 1         | 1          | O7 & Above        | -                  | -          | -         | -          |
| O6                | -                  | -         | 10        | 10         | O6                | -                  | -          | 9         | 9          |
| O5                | -                  | 16        | 4         | 20         | O5                | -                  | 15         | 5         | 20         |
| O4                | -                  | 25        | 7         | 32         | O4                | -                  | 26         | 11        | 37         |
| O3                | 7                  | 6         | 6         | 19         | O3                | 7                  | 10         | 6         | 23         |
| O2                | -                  | 3         | -         | 3          | O2                | -                  | 4          | -         | 4          |
| O1                | -                  | -         | -         | -          | O1                | -                  | -          | -         | -          |
| Officers          | 7                  | 50        | 28        | 85         | Officers          | 7                  | 55         | 31        | 93         |
| W5                | -                  | -         | -         | -          | W5                | -                  | 2          | -         | 2          |
| W4                | -                  | 1         | -         | 1          | W4                | -                  | 5          | 1         | 6          |
| W3                | 1                  | -         | -         | 1          | W3                | 1                  | 3          | -         | 4          |
| W2                | -                  | 2         | 2         | 4          | W2                | -                  | 2          | 4         | 6          |
| W1                | -                  | -         | -         | -          | W1                | -                  | -          | -         | -          |
| Warrants          | 1                  | 3         | 2         | 6          | Warrants          | 1                  | 12         | 5         | 18         |
| E9                | -                  | 1         | -         | 1          | E9                | -                  | 5          | -         | 5          |
| E8                | -                  | 3         | 1         | 4          | E8                | -                  | 13         | 5         | 18         |
| E7                | -                  | 8         | 2         | 10         | E7                | -                  | 28         | 12        | 40         |
| E6                | 1                  | -         | -         | 1          | E6                | 11                 | 8          | 13        | 32         |
| E5                | 3                  | -         | -         | 3          | E5                | 10                 | 4          | 4         | 18         |
| E4                | -                  | -         | -         | -          | E4                | 3                  | 1          | 3         | 7          |
| E3                | -                  | -         | -         | -          | E3                | -                  | -          | -         | -          |
| E2                | -                  | -         | -         | -          | E2                | -                  | -          | -         | -          |
| E1                | -                  | -         | -         | -          | E1                | -                  | -          | -         | -          |
| Enlisted          | 4                  | 12        | 3         | 19         | Enlisted          | 24                 | 59         | 37        | 120        |
| <b>Total</b>      | <b>12</b>          | <b>65</b> | <b>33</b> | <b>110</b> | <b>Total</b>      | <b>32</b>          | <b>126</b> | <b>73</b> | <b>231</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. Total community housing demand is thus 120 unaccompanied personnel in 2013 and 139 personnel in 2018. The bedroom requirements of these personnel by grade are shown in Table 4-18.

**Table 4-18. Community-First Unaccompanied Housing Demand, USAG Rock Island Arsenal, 2013 and 2018**

| 2013<br>Pay Grade | Number of Bedrooms |           |           |            | 2018<br>Pay Grade | Number of Bedrooms |           |           |            |
|-------------------|--------------------|-----------|-----------|------------|-------------------|--------------------|-----------|-----------|------------|
|                   | One                | Two       | Three     | Total      |                   | One                | Two       | Three     | Total      |
| O7 & Above        | -                  | -         | -         | -          | O7 & Above        | -                  | -         | -         | -          |
| O6                | -                  | -         | 10        | 10         | O6                | -                  | -         | 10        | 10         |
| O5                | -                  | -         | 17        | 17         | O5                | -                  | -         | 17        | 17         |
| O4                | -                  | -         | 28        | 28         | O4                | -                  | -         | 28        | 28         |
| O3                | -                  | 25        | -         | 25         | O3                | -                  | 25        | -         | 25         |
| O2                | -                  | -         | -         | -          | O2                | -                  | -         | -         | -          |
| O1                | -                  | -         | -         | -          | O1                | -                  | -         | -         | -          |
| Officers          | -                  | 25        | 55        | 80         | Officers          | -                  | 25        | 55        | 80         |
| W5                | -                  | -         | 1         | 1          | W5                | -                  | -         | 1         | 1          |
| W4                | -                  | -         | 1         | 1          | W4                | -                  | -         | 1         | 1          |
| W3                | -                  | 2         | -         | 2          | W3                | -                  | 2         | -         | 2          |
| W2                | -                  | -         | -         | -          | W2                | -                  | -         | -         | -          |
| W1                | -                  | 1         | -         | 1          | W1                | -                  | 1         | -         | 1          |
| Warrants          | -                  | 3         | 2         | 5          | Warrants          | -                  | 3         | 2         | 5          |
| E9                | -                  | 4         | -         | 4          | E9                | -                  | 7         | -         | 7          |
| E8                | -                  | 3         | -         | 3          | E8                | -                  | 5         | -         | 5          |
| E7                | -                  | 16        | -         | 16         | E7                | -                  | 24        | -         | 24         |
| E6                | -                  | 12        | -         | 12         | E6                | -                  | 18        | -         | 18         |
| E5                | -                  | -         | -         | -          | E5                | -                  | -         | -         | -          |
| E4                | -                  | -         | -         | -          | E4                | -                  | -         | -         | -          |
| E3                | -                  | -         | -         | -          | E3                | -                  | -         | -         | -          |
| E2                | -                  | -         | -         | -          | E2                | -                  | -         | -         | -          |
| E1                | -                  | -         | -         | -          | E1                | -                  | -         | -         | -          |
| Enlisted          | -                  | 35        | -         | 35         | Enlisted          | -                  | 54        | -         | 54         |
| <b>Total</b>      | -                  | <b>63</b> | <b>57</b> | <b>120</b> | <b>Total</b>      | -                  | <b>82</b> | <b>57</b> | <b>139</b> |

Source: Estimates prepared for this study.

The estimated number of unaccompanied personnel owning homes in the community is presented in Table 4-19. A total of 32 unaccompanied personnel are estimated to own their homes in the area in 2013. The projected number of unaccompanied military homeowners in 2018 is 35. The number of unaccompanied homeowners is calculated based on the same homeownership affordability analysis used to estimate accompanied homeowners.

**Table 4-19. Unaccompanied Homeowners, USAG Rock Island Arsenal, 2013 and 2018**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total     | 2018<br>Pay Grade | Number of Bedrooms |           |           | Total     |
|-------------------|--------------------|-----------|-----------|-----------|-------------------|--------------------|-----------|-----------|-----------|
|                   | One                | Two       | Three     |           |                   | One                | Two       | Three     |           |
| O7 & Above        | -                  | -         | -         | -         | O7 & Above        | -                  | -         | -         | -         |
| O6                | -                  | -         | -         | -         | O6                | -                  | -         | -         | -         |
| O5                | -                  | -         | 9         | 9         | O5                | -                  | -         | 9         | 9         |
| O4                | -                  | -         | 11        | 11        | O4                | -                  | -         | 11        | 11        |
| O3                | -                  | 5         | -         | 5         | O3                | -                  | 5         | -         | 5         |
| O2                | -                  | -         | -         | -         | O2                | -                  | -         | -         | -         |
| O1                | -                  | -         | -         | -         | O1                | -                  | -         | -         | -         |
| Officers          | -                  | 5         | 20        | 25        | Officers          | -                  | 5         | 20        | 25        |
| W5                | -                  | -         | -         | -         | W5                | -                  | -         | -         | -         |
| W4                | -                  | -         | -         | -         | W4                | -                  | -         | -         | -         |
| W3                | -                  | -         | -         | -         | W3                | -                  | -         | -         | -         |
| W2                | -                  | -         | -         | -         | W2                | -                  | -         | -         | -         |
| W1                | -                  | -         | -         | -         | W1                | -                  | -         | -         | -         |
| Warrants          | -                  | -         | -         | -         | Warrants          | -                  | -         | -         | -         |
| E9                | -                  | 2         | -         | 2         | E9                | -                  | 3         | -         | 3         |
| E8                | -                  | 1         | -         | 1         | E8                | -                  | 2         | -         | 2         |
| E7                | -                  | 3         | -         | 3         | E7                | -                  | 4         | -         | 4         |
| E6                | -                  | 1         | -         | 1         | E6                | -                  | 1         | -         | 1         |
| E5                | -                  | -         | -         | -         | E5                | -                  | -         | -         | -         |
| E4                | -                  | -         | -         | -         | E4                | -                  | -         | -         | -         |
| E3                | -                  | -         | -         | -         | E3                | -                  | -         | -         | -         |
| E2                | -                  | -         | -         | -         | E2                | -                  | -         | -         | -         |
| E1                | -                  | -         | -         | -         | E1                | -                  | -         | -         | -         |
| Enlisted          | -                  | 7         | -         | 7         | Enlisted          | -                  | 10        | -         | 10        |
| <b>Total</b>      | -                  | <b>12</b> | <b>20</b> | <b>32</b> | <b>Total</b>      | -                  | <b>15</b> | <b>20</b> | <b>35</b> |

Source: Estimates prepared for this study.

The number of unaccompanied personnel owning homes in the area is subtracted from the total community housing demand (see Table 4-18) to obtain the number of unaccompanied renters. The number of unaccompanied renters is thus 88 in 2013 and 104 in 2018. Table 4-20 displays the grade and bedroom entitlements of these renters.

**Table 4-20. Unaccompanied Renters, USAG Rock Island Arsenal, 2013 and 2018**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total     | 2018<br>Pay Grade | Number of Bedrooms |           |           | Total      |
|-------------------|--------------------|-----------|-----------|-----------|-------------------|--------------------|-----------|-----------|------------|
|                   | One                | Two       | Three     |           |                   | One                | Two       | Three     |            |
| O7 & Above        | -                  | -         | -         | -         | O7 & Above        | -                  | -         | -         | -          |
| O6                | -                  | -         | 10        | 10        | O6                | -                  | -         | 10        | 10         |
| O5                | -                  | -         | 8         | 8         | O5                | -                  | -         | 8         | 8          |
| O4                | -                  | -         | 17        | 17        | O4                | -                  | -         | 17        | 17         |
| O3                | -                  | 20        | -         | 20        | O3                | -                  | 20        | -         | 20         |
| O2                | -                  | -         | -         | -         | O2                | -                  | -         | -         | -          |
| O1                | -                  | -         | -         | -         | O1                | -                  | -         | -         | -          |
| Officers          | -                  | 20        | 35        | 55        | Officers          | -                  | 20        | 35        | 55         |
| W5                | -                  | -         | 1         | 1         | W5                | -                  | -         | 1         | 1          |
| W4                | -                  | -         | 1         | 1         | W4                | -                  | -         | 1         | 1          |
| W3                | -                  | 2         | -         | 2         | W3                | -                  | 2         | -         | 2          |
| W2                | -                  | -         | -         | -         | W2                | -                  | -         | -         | -          |
| W1                | -                  | 1         | -         | 1         | W1                | -                  | 1         | -         | 1          |
| Warrants          | -                  | 3         | 2         | 5         | Warrants          | -                  | 3         | 2         | 5          |
| E9                | -                  | 2         | -         | 2         | E9                | -                  | 4         | -         | 4          |
| E8                | -                  | 2         | -         | 2         | E8                | -                  | 3         | -         | 3          |
| E7                | -                  | 13        | -         | 13        | E7                | -                  | 20        | -         | 20         |
| E6                | -                  | 11        | -         | 11        | E6                | -                  | 17        | -         | 17         |
| E5                | -                  | -         | -         | -         | E5                | -                  | -         | -         | -          |
| E4                | -                  | -         | -         | -         | E4                | -                  | -         | -         | -          |
| E3                | -                  | -         | -         | -         | E3                | -                  | -         | -         | -          |
| E2                | -                  | -         | -         | -         | E2                | -                  | -         | -         | -          |
| E1                | -                  | -         | -         | -         | E1                | -                  | -         | -         | -          |
| Enlisted          | -                  | 28        | -         | 28        | Enlisted          | -                  | 44        | -         | 44         |
| <b>Total</b>      | -                  | <b>51</b> | <b>37</b> | <b>88</b> | <b>Total</b>      | -                  | <b>67</b> | <b>37</b> | <b>104</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 entitlements 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. Maximum Acceptable Housing Cost (MAHC) is currently equal to BAH. Military personnel are assumed to pay approximately 85 percent to 100 percent of MAHC for rent, utilities, and renter’s 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 Rock Island Arsenal area, MAHC for military families ranges from \$984 per month to \$2,622 per month depending on grade. For unaccompanied personnel, MAHC ranges from \$792 to \$2,160 per month (Table 4-21).

**Table 4-21. Maximum Acceptable Housing Cost, With Dependents and Without Dependents, USAG Rock Island Arsenal, 2013**

| Pay Grade  | With Dependents | Without Dependents |
|------------|-----------------|--------------------|
|            | BAH             | BAH                |
| O7 & Above | \$2,622         | \$2,160            |
| O6         | \$2,595         | \$2,118            |
| O5         | \$2,571         | \$1,929            |
| O4         | \$2,382         | \$1,785            |
| O3         | \$2,109         | \$1,650            |
| O2         | \$1,548         | \$1,323            |
| O1         | \$1,101         | \$924              |
| W5         | \$2,334         | \$1,809            |
| W4         | \$2,217         | \$1,680            |
| W3         | \$2,118         | \$1,647            |
| W2         | \$1,851         | \$1,386            |
| W1         | \$1,563         | \$1,173            |
| E9         | \$2,190         | \$1,644            |
| E8         | \$1,980         | \$1,485            |
| E7         | \$1,761         | \$1,320            |
| E6         | \$1,557         | \$1,170            |
| E5         | \$1,047         | \$879              |
| E4         | \$984           | \$792              |
| E3         | \$984           | \$792              |
| E2         | \$984           | \$792              |
| E1         | \$984           | \$792              |

Source: U.S. Department of Defense, 2012.

### Accompanied and Unaccompanied Renters by Cost Band

Table 4-22 presents the current accompanied rental housing requirement by rental cost band and Table 4-23 presents the projected accompanied rental housing requirement by rental cost band.

**Table 4-22. Accompanied Renters, by Rental Cost, USAG Rock Island Arsenal, 2013**

| 2013<br>Rental Cost | Number of Bedrooms |     |           |           |           | Total      |
|---------------------|--------------------|-----|-----------|-----------|-----------|------------|
|                     | Studios            | One | Two       | Three     | Four+     |            |
| Above \$2200        | -                  | -   | -         | 28        | 19        | 47         |
| 2,200               | -                  | -   | -         | 9         | 2         | 11         |
| 2,100               | -                  | -   | 4         | 8         | 3         | 15         |
| 2,000               | -                  | -   | 2         | 3         | 2         | 7          |
| 1,900               | -                  | -   | 2         | 3         | 3         | 8          |
| 1,800               | -                  | -   | -         | 4         | 1         | 5          |
| 1,700               | -                  | -   | -         | 4         | 2         | 6          |
| 1,600               | -                  | -   | -         | 4         | 1         | 5          |
| 1,500               | -                  | -   | 1         | 1         | -         | 2          |
| 1,400               | -                  | -   | -         | 1         | -         | 1          |
| 1,300               | -                  | -   | -         | -         | -         | -          |
| 1,200               | -                  | -   | -         | -         | -         | -          |
| 1,100               | -                  | -   | 1         | -         | -         | 1          |
| 1,000               | -                  | -   | 2         | -         | -         | 2          |
| \$900 & Below       | -                  | -   | -         | -         | -         | -          |
| <b>Total</b>        | -                  | -   | <b>12</b> | <b>65</b> | <b>33</b> | <b>110</b> |

Source: Estimates prepared for this study.

**Table 4-23. Accompanied Renters, by Rental Cost, USAG Rock Island Arsenal, 2018**

| 2018<br>Rental Cost | Number of Bedrooms |     |           |            |           | Total      |
|---------------------|--------------------|-----|-----------|------------|-----------|------------|
|                     | Studios            | One | Two       | Three      | Four+     |            |
| Above \$2200        | -                  | -   | -         | 28         | 20        | 48         |
| 2,200               | -                  | -   | -         | 11         | 4         | 15         |
| 2,100               | -                  | -   | 4         | 14         | 4         | 22         |
| 2,000               | -                  | -   | 2         | 12         | 3         | 17         |
| 1,900               | -                  | -   | 2         | 9          | 5         | 16         |
| 1,800               | -                  | -   | -         | 11         | 7         | 18         |
| 1,700               | -                  | -   | -         | 13         | 5         | 18         |
| 1,600               | -                  | -   | 3         | 14         | 8         | 25         |
| 1,500               | -                  | -   | 4         | 5          | 6         | 15         |
| 1,400               | -                  | -   | 4         | 4          | 4         | 12         |
| 1,300               | -                  | -   | -         | -          | -         | -          |
| 1,200               | -                  | -   | -         | -          | -         | -          |
| 1,100               | -                  | -   | 3         | 1          | 1         | 5          |
| 1,000               | -                  | -   | 8         | 4          | 5         | 17         |
| \$900 & Below       | -                  | -   | 2         | -          | 1         | 3          |
| <b>Total</b>        | -                  | -   | <b>32</b> | <b>126</b> | <b>73</b> | <b>231</b> |

Source: Estimates prepared for this study.

Table 4-24 presents the current unaccompanied rental housing requirement by rental cost band and Table 4-25 presents the projected unaccompanied rental housing requirement by rental cost band.

**Table 4-24. Unaccompanied Renters, by Rental Cost, USAG Rock Island Arsenal, 2013**

| 2013<br>Rental Cost | Number of Bedrooms |     |           |           |       | Total     |
|---------------------|--------------------|-----|-----------|-----------|-------|-----------|
|                     | Studios            | One | Two       | Three     | Four+ |           |
| Above \$2200        | -                  | -   | -         | -         | -     | -         |
| 2,200               | -                  | -   | -         | 1         | -     | 1         |
| 2,100               | -                  | -   | -         | 3         | -     | 3         |
| 2,000               | -                  | -   | -         | 4         | -     | 4         |
| 1,900               | -                  | -   | -         | 5         | -     | 5         |
| 1,800               | -                  | -   | -         | 9         | -     | 9         |
| 1,700               | -                  | -   | 4         | 9         | -     | 13        |
| 1,600               | -                  | -   | 10        | 6         | -     | 16        |
| 1,500               | -                  | -   | 11        | -         | -     | 11        |
| 1,400               | -                  | -   | 2         | -         | -     | 2         |
| 1,300               | -                  | -   | 7         | -         | -     | 7         |
| 1,200               | -                  | -   | 9         | -         | -     | 9         |
| 1,100               | -                  | -   | 8         | -         | -     | 8         |
| 1,000               | -                  | -   | -         | -         | -     | -         |
| \$900 & Below       | -                  | -   | -         | -         | -     | -         |
| <b>Total</b>        | -                  | -   | <b>51</b> | <b>37</b> | -     | <b>88</b> |

Source: Estimates prepared for this study.

**Table 4-25. Unaccompanied Renters, by Rental Cost, USAG Rock Island Arsenal, 2018**

| 2018<br>Rental Cost | Number of Bedrooms |     |           |           |       | Total      |
|---------------------|--------------------|-----|-----------|-----------|-------|------------|
|                     | Studios            | One | Two       | Three     | Four+ |            |
| Above \$2200        | -                  | -   | -         | -         | -     | -          |
| 2,200               | -                  | -   | -         | 1         | -     | 1          |
| 2,100               | -                  | -   | -         | 3         | -     | 3          |
| 2,000               | -                  | -   | -         | 4         | -     | 4          |
| 1,900               | -                  | -   | -         | 5         | -     | 5          |
| 1,800               | -                  | -   | -         | 9         | -     | 9          |
| 1,700               | -                  | -   | 5         | 9         | -     | 14         |
| 1,600               | -                  | -   | 10        | 6         | -     | 16         |
| 1,500               | -                  | -   | 12        | -         | -     | 12         |
| 1,400               | -                  | -   | 3         | -         | -     | 3          |
| 1,300               | -                  | -   | 11        | -         | -     | 11         |
| 1,200               | -                  | -   | 15        | -         | -     | 15         |
| 1,100               | -                  | -   | 10        | -         | -     | 10         |
| 1,000               | -                  | -   | 1         | -         | -     | 1          |
| \$900 & Below       | -                  | -   | -         | -         | -     | -          |
| <b>Total</b>        | -                  | -   | <b>67</b> | <b>37</b> | -     | <b>104</b> |

Source: Estimates prepared for this study.



## Community Shortfall

To assess the availability, affordability, and adequacy of community rentals under the Army’s definition of acceptable housing, military rental housing demand was 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 extent of suitable rental housing in the market area. Chapter 1 describes the methodology used in this analysis. The following sections present the results of the analysis for both military families and unaccompanied personnel.

## Accompanied Personnel

Table 4-26 presents the estimated number of expected suitable rentals likely to be captured by accompanied renters for 2013 and 2018. A total of 74 expected suitable rentals are estimated for 2013 and 167 expected suitable rentals are projected for 2018.

**Table 4-26. Expected Suitable Rentals for Accompanied Renters, USAG Rock Island Arsenal, 2013**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total     | 2018<br>Pay Grade | Number of Bedrooms |           |           | Total      |
|-------------------|--------------------|-----------|-----------|-----------|-------------------|--------------------|-----------|-----------|------------|
|                   | Two                | Three     | Four+     |           |                   | Two                | Three     | Four+     |            |
| O7 & Above        | -                  | -         | 1         | 1         | O7 & Above        | -                  | -         | -         | -          |
| O6                | -                  | -         | 8         | 8         | O6                | -                  | -         | 8         | 8          |
| O5                | -                  | 10        | 4         | 14        | O5                | -                  | 10        | 4         | 14         |
| O4                | -                  | 13        | 7         | 20        | O4                | -                  | 14        | 10        | 24         |
| O3                | 4                  | 3         | 3         | 10        | O3                | 5                  | 7         | 6         | 18         |
| O2                | -                  | 3         | -         | 3         | O2                | -                  | 4         | -         | 4          |
| O1                | -                  | -         | -         | -         | O1                | -                  | -         | -         | -          |
| Officers          | 4                  | 29        | 23        | 56        | Officers          | 5                  | 35        | 28        | 68         |
| W5                | -                  | -         | -         | -         | W5                | -                  | 2         | -         | 2          |
| W4                | -                  | 1         | -         | 1         | W4                | -                  | 3         | 1         | 4          |
| W3                | 1                  | -         | -         | 1         | W3                | 1                  | 3         | -         | 4          |
| W2                | -                  | 1         | 2         | 3         | W2                | -                  | 2         | 3         | 5          |
| W1                | -                  | -         | -         | -         | W1                | -                  | -         | -         | -          |
| Warrants          | 1                  | 2         | 2         | 5         | Warrants          | 1                  | 10        | 4         | 15         |
| E9                | -                  | 1         | -         | 1         | E9                | -                  | 4         | -         | 4          |
| E8                | -                  | 2         | 1         | 3         | E8                | -                  | 10        | 4         | 14         |
| E7                | -                  | 6         | -         | 6         | E7                | -                  | 18        | 9         | 27         |
| E6                | 1                  | -         | -         | 1         | E6                | 9                  | 7         | 9         | 25         |
| E5                | 2                  | -         | -         | 2         | E5                | 9                  | 3         | -         | 12         |
| E4                | -                  | -         | -         | -         | E4                | 1                  | 1         | -         | 2          |
| E3                | -                  | -         | -         | -         | E3                | -                  | -         | -         | -          |
| E2                | -                  | -         | -         | -         | E2                | -                  | -         | -         | -          |
| E1                | -                  | -         | -         | -         | E1                | -                  | -         | -         | -          |
| Enlisted          | 3                  | 9         | 1         | 13        | Enlisted          | 19                 | 43        | 22        | 84         |
| <b>Total</b>      | <b>8</b>           | <b>40</b> | <b>26</b> | <b>74</b> | <b>Total</b>      | <b>25</b>          | <b>88</b> | <b>54</b> | <b>167</b> |

Source: Estimates prepared for this study.

Total acceptable housing for accompanied personnel in the market area is the sum of area homeowners and expected suitable rentals in the area. A total of 161 accompanied personnel are acceptably housed in 2013 and 269 accompanied personnel are acceptably housed in 2018 (Table 4-27).

**Table 4-27. Total Acceptable Housing for Accompanied Personnel, USAG Rock Island Arsenal, 2013**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total      | 2018<br>Pay Grade | Number of Bedrooms |            |           | Total      |
|-------------------|--------------------|-----------|-----------|------------|-------------------|--------------------|------------|-----------|------------|
|                   | Two                | Three     | Four+     |            |                   | Two                | Three      | Four+     |            |
| O7 & Above        | -                  | -         | 1         | 1          | O7 & Above        | -                  | -          | -         | -          |
| O6                | -                  | -         | 14        | 14         | O6                | -                  | -          | 14        | 14         |
| O5                | -                  | 25        | 10        | 35         | O5                | -                  | 25         | 10        | 35         |
| O4                | -                  | 29        | 14        | 43         | O4                | -                  | 30         | 17        | 47         |
| O3                | 8                  | 9         | 6         | 23         | O3                | 9                  | 13         | 9         | 31         |
| O2                | -                  | 3         | -         | 3          | O2                | -                  | 4          | -         | 4          |
| O1                | -                  | -         | -         | -          | O1                | -                  | -          | -         | -          |
| Officers          | 8                  | 66        | 45        | 119        | Officers          | 9                  | 72         | 50        | 131        |
| W5                | -                  | -         | 1         | 1          | W5                | -                  | 2          | 1         | 3          |
| W4                | -                  | 1         | -         | 1          | W4                | -                  | 4          | 1         | 5          |
| W3                | 2                  | -         | -         | 2          | W3                | 2                  | 3          | -         | 5          |
| W2                | -                  | 1         | 2         | 3          | W2                | -                  | 2          | 3         | 5          |
| W1                | -                  | -         | -         | -          | W1                | -                  | -          | -         | -          |
| Warrants          | 2                  | 2         | 3         | 7          | Warrants          | 2                  | 11         | 5         | 18         |
| E9                | -                  | 4         | -         | 4          | E9                | -                  | 9          | -         | 9          |
| E8                | -                  | 6         | 2         | 8          | E8                | -                  | 17         | 5         | 22         |
| E7                | -                  | 15        | 4         | 19         | E7                | -                  | 33         | 15        | 48         |
| E6                | 2                  | -         | -         | 2          | E6                | 11                 | 7          | 9         | 27         |
| E5                | 2                  | -         | -         | 2          | E5                | 9                  | 3          | -         | 12         |
| E4                | -                  | -         | -         | -          | E4                | 1                  | 1          | -         | 2          |
| E3                | -                  | -         | -         | -          | E3                | -                  | -          | -         | -          |
| E2                | -                  | -         | -         | -          | E2                | -                  | -          | -         | -          |
| E1                | -                  | -         | -         | -          | E1                | -                  | -          | -         | -          |
| Enlisted          | 4                  | 25        | 6         | 35         | Enlisted          | 21                 | 70         | 29        | 120        |
| <b>Total</b>      | <b>14</b>          | <b>93</b> | <b>54</b> | <b>161</b> | <b>Total</b>      | <b>32</b>          | <b>153</b> | <b>84</b> | <b>269</b> |

Source: Estimates prepared for this study.

The community-housing shortfall is thus estimated to total 36 units in 2013 and 64 units in 2018 (the total community housing requirement less acceptable community housing for accompanied personnel). The grade and bedroom breakdown of these units is presented in Table 4-28.

**Table 4-28. Accompanied Community Housing Shortfall, USAG Rock Island Arsenal, 2013**

| 2013<br>Pay Grade | Number of Bedrooms |           |          | Total     | 2018<br>Pay Grade | Number of Bedrooms |           |           | Total     |
|-------------------|--------------------|-----------|----------|-----------|-------------------|--------------------|-----------|-----------|-----------|
|                   | Two                | Three     | Four+    |           |                   | Two                | Three     | Four+     |           |
| O7 & Above        | -                  | -         | -        | -         | O7 & Above        | -                  | -         | -         | -         |
| O6                | -                  | -         | 2        | 2         | O6                | -                  | -         | 1         | 1         |
| O5                | -                  | 6         | -        | 6         | O5                | -                  | 5         | 1         | 6         |
| O4                | -                  | 12        | -        | 12        | O4                | -                  | 12        | 1         | 13        |
| O3                | 3                  | 3         | 3        | 9         | O3                | 2                  | 3         | -         | 5         |
| O2                | -                  | -         | -        | -         | O2                | -                  | -         | -         | -         |
| O1                | -                  | -         | -        | -         | O1                | -                  | -         | -         | -         |
| Officers          | 3                  | 21        | 5        | 29        | Officers          | 2                  | 20        | 3         | 25        |
| W5                | -                  | -         | -        | -         | W5                | -                  | -         | -         | -         |
| W4                | -                  | -         | -        | -         | W4                | -                  | 2         | -         | 2         |
| W3                | -                  | -         | -        | -         | W3                | -                  | -         | -         | -         |
| W2                | -                  | 1         | -        | 1         | W2                | -                  | -         | 1         | 1         |
| W1                | -                  | -         | -        | -         | W1                | -                  | -         | -         | -         |
| Warrants          | -                  | 1         | -        | 1         | Warrants          | -                  | 2         | 1         | 3         |
| E9                | -                  | -         | -        | -         | E9                | -                  | 1         | -         | 1         |
| E8                | -                  | 1         | -        | 1         | E8                | -                  | 3         | 1         | 4         |
| E7                | -                  | 2         | 2        | 4         | E7                | -                  | 10        | 3         | 13        |
| E6                | -                  | -         | -        | -         | E6                | 2                  | 1         | 4         | 7         |
| E5                | 1                  | -         | -        | 1         | E5                | 1                  | 1         | 4         | 6         |
| E4                | -                  | -         | -        | -         | E4                | 2                  | -         | 3         | 5         |
| E3                | -                  | -         | -        | -         | E3                | -                  | -         | -         | -         |
| E2                | -                  | -         | -        | -         | E2                | -                  | -         | -         | -         |
| E1                | -                  | -         | -        | -         | E1                | -                  | -         | -         | -         |
| Enlisted          | 1                  | 3         | 2        | 6         | Enlisted          | 5                  | 16        | 15        | 36        |
| <b>Total</b>      | <b>4</b>           | <b>25</b> | <b>7</b> | <b>36</b> | <b>Total</b>      | <b>7</b>           | <b>38</b> | <b>19</b> | <b>64</b> |

Source: Estimates prepared for this study.

**Unaccompanied Personnel**

Table 4-29 presents the estimated number of expected suitable rentals likely to be captured by unaccompanied renters in 2013 and 2018. A total of 56 expected suitable rentals are estimated for unaccompanied renters in 2013 and 86 expected suitable rentals are projected for 2018.

**Table 4-29. Expected Suitable Rentals for Unaccompanied Renters, USAG Rock Island Arsenal, 2013 and 2018**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total     | 2018<br>Pay Grade | Number of Bedrooms |           |           | Total     |
|-------------------|--------------------|-----------|-----------|-----------|-------------------|--------------------|-----------|-----------|-----------|
|                   | One                | Two       | Three     |           |                   | One                | Two       | Three     |           |
| O7 & Above        | -                  | -         | -         | -         | O7 & Above        | -                  | -         | -         | -         |
| O6                | -                  | -         | 7         | 7         | O6                | -                  | -         | 7         | 7         |
| O5                | -                  | -         | 5         | 5         | O5                | -                  | -         | 7         | 7         |
| O4                | -                  | -         | 10        | 10        | O4                | -                  | -         | 14        | 14        |
| O3                | -                  | 11        | -         | 11        | O3                | -                  | 15        | -         | 15        |
| O2                | -                  | -         | -         | -         | O2                | -                  | -         | -         | -         |
| O1                | -                  | -         | -         | -         | O1                | -                  | -         | -         | -         |
| Officers          | -                  | 11        | 22        | 33        | Officers          | -                  | 15        | 28        | 43        |
| W5                | -                  | -         | 1         | 1         | W5                | -                  | -         | 1         | 1         |
| W4                | -                  | -         | 1         | 1         | W4                | -                  | -         | 1         | 1         |
| W3                | -                  | 1         | -         | 1         | W3                | -                  | 2         | -         | 2         |
| W2                | -                  | -         | -         | -         | W2                | -                  | -         | -         | -         |
| W1                | -                  | 1         | -         | 1         | W1                | -                  | 1         | -         | 1         |
| Warrants          | -                  | 2         | 2         | 4         | Warrants          | -                  | 3         | 2         | 5         |
| E9                | -                  | 1         | -         | 1         | E9                | -                  | 3         | -         | 3         |
| E8                | -                  | 2         | -         | 2         | E8                | -                  | 3         | -         | 3         |
| E7                | -                  | 9         | -         | 9         | E7                | -                  | 18        | -         | 18        |
| E6                | -                  | 7         | -         | 7         | E6                | -                  | 14        | -         | 14        |
| E5                | -                  | -         | -         | -         | E5                | -                  | -         | -         | -         |
| E4                | -                  | -         | -         | -         | E4                | -                  | -         | -         | -         |
| E3                | -                  | -         | -         | -         | E3                | -                  | -         | -         | -         |
| E2                | -                  | -         | -         | -         | E2                | -                  | -         | -         | -         |
| E1                | -                  | -         | -         | -         | E1                | -                  | -         | -         | -         |
| Enlisted          | -                  | 19        | -         | 19        | Enlisted          | -                  | 38        | -         | 38        |
| <b>Total</b>      | -                  | <b>32</b> | <b>24</b> | <b>56</b> | <b>Total</b>      | -                  | <b>56</b> | <b>30</b> | <b>86</b> |

Source: Estimates prepared for this study.

Total acceptable housing for unaccompanied personnel in the market area is the sum of area homeowners and expected suitable rentals in the area. A total of 88 unaccompanied personnel are acceptably housed in 2013 and 121 unaccompanied personnel are acceptably housed in 2018 (Table 4-30).

**Table 4-30. Total Acceptable Housing for Unaccompanied Personnel, USAG Rock Island Arsenal, 2013 and 2018**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total     | 2018<br>Pay Grade | Number of Bedrooms |           |           | Total      |
|-------------------|--------------------|-----------|-----------|-----------|-------------------|--------------------|-----------|-----------|------------|
|                   | One                | Two       | Three     |           |                   | One                | Two       | Three     |            |
| O7 & Above        | -                  | -         | -         | -         | O7 & Above        | -                  | -         | -         | -          |
| O6                | -                  | -         | 7         | 7         | O6                | -                  | -         | 7         | 7          |
| O5                | -                  | -         | 14        | 14        | O5                | -                  | -         | 16        | 16         |
| O4                | -                  | -         | 21        | 21        | O4                | -                  | -         | 25        | 25         |
| O3                | -                  | 16        | -         | 16        | O3                | -                  | 20        | -         | 20         |
| O2                | -                  | -         | -         | -         | O2                | -                  | -         | -         | -          |
| O1                | -                  | -         | -         | -         | O1                | -                  | -         | -         | -          |
| Officers          | -                  | 16        | 42        | 58        | Officers          | -                  | 20        | 48        | 68         |
| W5                | -                  | -         | 1         | 1         | W5                | -                  | -         | 1         | 1          |
| W4                | -                  | -         | 1         | 1         | W4                | -                  | -         | 1         | 1          |
| W3                | -                  | 1         | -         | 1         | W3                | -                  | 2         | -         | 2          |
| W2                | -                  | -         | -         | -         | W2                | -                  | -         | -         | -          |
| W1                | -                  | 1         | -         | 1         | W1                | -                  | 1         | -         | 1          |
| Warrants          | -                  | 2         | 2         | 4         | Warrants          | -                  | 3         | 2         | 5          |
| E9                | -                  | 3         | -         | 3         | E9                | -                  | 6         | -         | 6          |
| E8                | -                  | 3         | -         | 3         | E8                | -                  | 5         | -         | 5          |
| E7                | -                  | 12        | -         | 12        | E7                | -                  | 22        | -         | 22         |
| E6                | -                  | 8         | -         | 8         | E6                | -                  | 15        | -         | 15         |
| E5                | -                  | -         | -         | -         | E5                | -                  | -         | -         | -          |
| E4                | -                  | -         | -         | -         | E4                | -                  | -         | -         | -          |
| E3                | -                  | -         | -         | -         | E3                | -                  | -         | -         | -          |
| E2                | -                  | -         | -         | -         | E2                | -                  | -         | -         | -          |
| E1                | -                  | -         | -         | -         | E1                | -                  | -         | -         | -          |
| Enlisted          | -                  | 26        | -         | 26        | Enlisted          | -                  | 48        | -         | 48         |
| <b>Total</b>      | -                  | <b>44</b> | <b>44</b> | <b>88</b> | <b>Total</b>      | -                  | <b>71</b> | <b>50</b> | <b>121</b> |

Source: Estimates prepared for this study.

The community-housing shortfall for unaccompanied personnel is thus estimated to total 32 units in 2013 and 18 units in 2018 (the total community housing requirement less acceptable community housing for unaccompanied personnel). The grade and bedroom breakdown of these units is presented in Table 4-31.

**Table 4-31. Unaccompanied Community Housing Shortfall, USAG Rock Island Arsenal, 2013 and 2018**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total     | 2018<br>Pay Grade | Number of Bedrooms |           |          | Total     |
|-------------------|--------------------|-----------|-----------|-----------|-------------------|--------------------|-----------|----------|-----------|
|                   | One                | Two       | Three     |           |                   | One                | Two       | Three    |           |
| O7 & Above        | -                  | -         | -         | -         | O7 & Above        | -                  | -         | -        | -         |
| O6                | -                  | -         | 3         | 3         | O6                | -                  | -         | 3        | 3         |
| O5                | -                  | -         | 3         | 3         | O5                | -                  | -         | 1        | 1         |
| O4                | -                  | -         | 7         | 7         | O4                | -                  | -         | 3        | 3         |
| O3                | -                  | 9         | -         | 9         | O3                | -                  | 5         | -        | 5         |
| O2                | -                  | -         | -         | -         | O2                | -                  | -         | -        | -         |
| O1                | -                  | -         | -         | -         | O1                | -                  | -         | -        | -         |
| Officers          | -                  | 9         | 13        | 22        | Officers          | -                  | 5         | 7        | 12        |
| W5                | -                  | -         | -         | -         | W5                | -                  | -         | -        | -         |
| W4                | -                  | -         | -         | -         | W4                | -                  | -         | -        | -         |
| W3                | -                  | 1         | -         | 1         | W3                | -                  | -         | -        | -         |
| W2                | -                  | -         | -         | -         | W2                | -                  | -         | -        | -         |
| W1                | -                  | -         | -         | -         | W1                | -                  | -         | -        | -         |
| Warrants          | -                  | 1         | -         | 1         | Warrants          | -                  | -         | -        | -         |
| E9                | -                  | 1         | -         | 1         | E9                | -                  | 1         | -        | 1         |
| E8                | -                  | -         | -         | -         | E8                | -                  | -         | -        | -         |
| E7                | -                  | 4         | -         | 4         | E7                | -                  | 2         | -        | 2         |
| E6                | -                  | 4         | -         | 4         | E6                | -                  | 3         | -        | 3         |
| E5                | -                  | -         | -         | -         | E5                | -                  | -         | -        | -         |
| E4                | -                  | -         | -         | -         | E4                | -                  | -         | -        | -         |
| E3                | -                  | -         | -         | -         | E3                | -                  | -         | -        | -         |
| E2                | -                  | -         | -         | -         | E2                | -                  | -         | -        | -         |
| E1                | -                  | -         | -         | -         | E1                | -                  | -         | -        | -         |
| Enlisted          | -                  | 9         | -         | 9         | Enlisted          | -                  | 6         | -        | 6         |
| <b>Total</b>      | -                  | <b>19</b> | <b>13</b> | <b>32</b> | <b>Total</b>      | -                  | <b>11</b> | <b>7</b> | <b>18</b> |

Source: Estimates prepared for this study.

## 5. SUPPLY-DEMAND BALANCE

This chapter presents the total current and projected requirement for military family and unaccompanied 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

The initial military family housing requirement in 2018 is a projected 89 units, reflecting the sum of the floor requirement and the community housing shortfall. This initial housing requirement is then adjusted to include at least ten percent of military families in each pay grade to satisfy the military community requirement (see page 1-2 regarding the floor and military housing community requirement calculations). The initial requirement was raised in this analysis by one unit in the W3, W5, and O2 pay grades. The total military family housing requirement in 2018 is thus 92 units. The breakout of the requirement by pay grade and bedroom entitlement is presented in Table 5-2.

**Table 5-1. Floor Requirement, Private Sector Shortfall, and Total Military Family Housing Requirement, USAG Rock Island Arsenal, 2018**

| 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   | 6                 | -                  | 6                 | 5              | -               | 6                 | -                        | 6                           | 1                             | 6                                  |
| O6           | 21                | -                  | 6                 | 1              | -               | 6                 | 1                        | 7                           | 2                             | 7                                  |
| O5           | 42                | -                  | 1                 | -              | -               | 1                 | 6                        | 7                           | 4                             | 7                                  |
| O4           | 65                | -                  | 5                 | -              | -               | 5                 | 13                       | 18                          | 7                             | 18                                 |
| O3           | 38                | -                  | 2                 | -              | -               | 2                 | 5                        | 7                           | 4                             | 7                                  |
| O2           | 4                 | -                  | -                 | -              | -               | -                 | -                        | -                           | 1                             | 1                                  |
| O1           | -                 | -                  | -                 | -              | -               | -                 | -                        | -                           | -                             | -                                  |
| Officers     | 176               | -                  | 20                | 6              | -               | 20                | 25                       | 45                          | 19                            | 46                                 |
| W5           | 3                 | -                  | -                 | -              | -               | -                 | -                        | -                           | 1                             | 1                                  |
| W4           | 7                 | -                  | -                 | -              | -               | -                 | 2                        | 2                           | 1                             | 2                                  |
| W3           | 5                 | -                  | -                 | -              | -               | -                 | -                        | -                           | 1                             | 1                                  |
| W2           | 6                 | -                  | -                 | -              | -               | -                 | 1                        | 1                           | 1                             | 1                                  |
| W1           | -                 | -                  | -                 | -              | -               | -                 | -                        | -                           | -                             | -                                  |
| Warrants     | 21                | -                  | -                 | -              | -               | -                 | 3                        | 3                           | 4                             | 5                                  |
| E9           | 13                | -                  | 3                 | 3              | -               | 3                 | 1                        | 4                           | 1                             | 4                                  |
| E8           | 26                | -                  | -                 | -              | -               | -                 | 4                        | 4                           | 3                             | 4                                  |
| E7           | 63                | -                  | 2                 | -              | -               | 2                 | 13                       | 15                          | 6                             | 15                                 |
| E6           | 34                | -                  | -                 | -              | -               | -                 | 7                        | 7                           | 3                             | 7                                  |
| E5           | 18                | -                  | -                 | -              | -               | -                 | 6                        | 6                           | 2                             | 6                                  |
| E4           | 7                 | -                  | -                 | -              | -               | -                 | 5                        | 5                           | 1                             | 5                                  |
| E3           | -                 | -                  | -                 | -              | -               | -                 | -                        | -                           | -                             | -                                  |
| E2           | -                 | -                  | -                 | -              | -               | -                 | -                        | -                           | -                             | -                                  |
| E1           | -                 | -                  | -                 | -              | -               | -                 | -                        | -                           | -                             | -                                  |
| Enlisted     | 161               | -                  | 5                 | 3              | -               | 5                 | 36                       | 41                          | 16                            | 41                                 |
| <b>Total</b> | <b>358</b>        | <b>-</b>           | <b>25</b>         | <b>9</b>       | <b>-</b>        | <b>25</b>         | <b>64</b>                | <b>89</b>                   | <b>39</b>                     | <b>92</b>                          |

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

Source: Estimates prepared for this study.

The total accompanied housing requirement is 130 in 2013 and 92 in 2018. In 2018, the accompanied housing requirement comprises 7 two-bedroom units, 49 three-bedroom units, and 36 units with four or more bedrooms (Table 5-2).

**Table 5-2. Total Military Family Housing Requirement, USAG Rock Island Arsenal, 2013 and 2018**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total      | 2018<br>Pay Grade | Number of Bedrooms |           |           | Total     |
|-------------------|--------------------|-----------|-----------|------------|-------------------|--------------------|-----------|-----------|-----------|
|                   | Two                | Three     | Four+     |            |                   | Two                | Three     | Four+     |           |
| O7 & Above        | -                  | -         | 5         | 5          | O7 & Above        | -                  | -         | 6         | 6         |
| O6                | -                  | -         | 7         | 7          | O6                | -                  | -         | 7         | 7         |
| O5                | -                  | 6         | 1         | 7          | O5                | -                  | 6         | 1         | 7         |
| O4                | -                  | 17        | 5         | 22         | O4                | -                  | 16        | 2         | 18        |
| O3                | 3                  | 8         | 4         | 15         | O3                | 2                  | 4         | 1         | 7         |
| O2                | -                  | 1         | -         | 1          | O2                | -                  | 1         | -         | 1         |
| O1                | -                  | -         | -         | -          | O1                | -                  | -         | -         | -         |
| <b>Officers</b>   | <b>3</b>           | <b>32</b> | <b>22</b> | <b>57</b>  | <b>Officers</b>   | <b>2</b>           | <b>27</b> | <b>17</b> | <b>46</b> |
| W5                | -                  | 1         | -         | 1          | W5                | -                  | 1         | -         | 1         |
| W4                | -                  | 3         | 1         | 4          | W4                | -                  | 2         | -         | 2         |
| W3                | -                  | 2         | -         | 2          | W3                | -                  | 1         | -         | 1         |
| W2                | -                  | 1         | 1         | 2          | W2                | -                  | -         | 1         | 1         |
| W1                | -                  | -         | -         | -          | W1                | -                  | -         | -         | -         |
| <b>Warrants</b>   | <b>-</b>           | <b>7</b>  | <b>2</b>  | <b>9</b>   | <b>Warrants</b>   | <b>-</b>           | <b>4</b>  | <b>1</b>  | <b>5</b>  |
| E9                | -                  | 2         | 2         | 4          | E9                | -                  | 2         | 2         | 4         |
| E8                | -                  | 6         | 2         | 8          | E8                | -                  | 3         | 1         | 4         |
| E7                | -                  | 12        | 8         | 20         | E7                | -                  | 11        | 4         | 15        |
| E6                | 6                  | 5         | 8         | 19         | E6                | 2                  | 1         | 4         | 7         |
| E5                | 4                  | 3         | 2         | 9          | E5                | 1                  | 1         | 4         | 6         |
| E4                | 2                  | -         | 2         | 4          | E4                | 2                  | -         | 3         | 5         |
| E3                | -                  | -         | -         | -          | E3                | -                  | -         | -         | -         |
| E2                | -                  | -         | -         | -          | E2                | -                  | -         | -         | -         |
| E1                | -                  | -         | -         | -          | E1                | -                  | -         | -         | -         |
| <b>Enlisted</b>   | <b>12</b>          | <b>28</b> | <b>24</b> | <b>64</b>  | <b>Enlisted</b>   | <b>5</b>           | <b>18</b> | <b>18</b> | <b>41</b> |
| <b>Total</b>      | <b>15</b>          | <b>67</b> | <b>48</b> | <b>130</b> | <b>Total</b>      | <b>7</b>           | <b>49</b> | <b>36</b> | <b>92</b> |

Source: Estimates prepared for this study.



## Unaccompanied Personnel

The total unaccompanied housing requirement is 45 units in 2013 and 37 units in 2018, reflecting the sum of the community housing shortfall and the unaccompanied floor housing requirement in both years (Table 5-3).

**Table 5-3. Total Unaccompanied Housing Requirement, USAG Rock Island Arsenal, 2013 and 2018**

| 2013<br>Pay Grade | Number of Bedrooms |           |           | Total     | 2018<br>Pay Grade | Number of Bedrooms |           |          | Total     |
|-------------------|--------------------|-----------|-----------|-----------|-------------------|--------------------|-----------|----------|-----------|
|                   | One                | Two       | Three     |           |                   | One                | Two       | Three    |           |
| O7 & Above        | -                  | -         | -         | -         | O7 & Above        | -                  | -         | -        | -         |
| O6                | -                  | -         | 3         | 3         | O6                | -                  | -         | 3        | 3         |
| O5                | -                  | -         | 3         | 3         | O5                | -                  | -         | 1        | 1         |
| O4                | -                  | -         | 7         | 7         | O4                | -                  | -         | 3        | 3         |
| O3                | -                  | 9         | -         | 9         | O3                | -                  | 5         | -        | 5         |
| O2                | -                  | -         | -         | -         | O2                | -                  | -         | -        | -         |
| O1                | -                  | -         | -         | -         | O1                | -                  | -         | -        | -         |
| Officers          | -                  | 9         | 13        | 22        | Officers          | -                  | 5         | 7        | 12        |
| W5                | -                  | -         | -         | -         | W5                | -                  | -         | -        | -         |
| W4                | -                  | -         | -         | -         | W4                | -                  | -         | -        | -         |
| W3                | -                  | 1         | -         | 1         | W3                | -                  | -         | -        | -         |
| W2                | -                  | -         | -         | -         | W2                | -                  | -         | -        | -         |
| W1                | -                  | -         | -         | -         | W1                | -                  | -         | -        | -         |
| Warrants          | -                  | 1         | -         | 1         | Warrants          | -                  | -         | -        | -         |
| E9                | -                  | 1         | -         | 1         | E9                | -                  | 1         | -        | 1         |
| E8                | -                  | -         | -         | -         | E8                | -                  | -         | -        | -         |
| E7                | -                  | 4         | -         | 4         | E7                | -                  | 2         | -        | 2         |
| E6                | -                  | 4         | -         | 4         | E6                | -                  | 3         | -        | 3         |
| E5                | 9                  | -         | -         | 9         | E5                | 13                 | -         | -        | 13        |
| E4                | 4                  | -         | -         | 4         | E4                | 6                  | -         | -        | 6         |
| E3                | -                  | -         | -         | -         | E3                | -                  | -         | -        | -         |
| E2                | -                  | -         | -         | -         | E2                | -                  | -         | -        | -         |
| E1                | -                  | -         | -         | -         | E1                | -                  | -         | -        | -         |
| Enlisted          | 13                 | 9         | -         | 22        | Enlisted          | 19                 | 6         | -        | 25        |
| <b>Total</b>      | <b>13</b>          | <b>19</b> | <b>13</b> | <b>45</b> | <b>Total</b>      | <b>19</b>          | <b>11</b> | <b>7</b> | <b>37</b> |

Source: Estimates prepared for this study.

## 5.2 HOUSING DEFICIT/(SURPLUS)

This report addresses the current and projected requirement for housing at Rock Island Arsenal. 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 Rock Island Arsenal.

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## **6. SUMMARY OF FINDINGS**

### **6.1 HOUSING MARKET AREA**

Rock Island Arsenal is located in the Quad Cities metropolitan area, which straddles the Illinois-Iowa state line and includes the cities of Rock Island and Moline in Illinois and Davenport and Bettendorf in Iowa. The housing market area for Rock Island Arsenal is defined as the area within an approximate 20-mile commute of the installation's main work areas. The off-post population in the market area currently totals 321,816 persons, having increased at an average annual rate of 0.3 percent since 2010. Population is projected to grow an average rate of 0.3 percent per year over the next five years, for a projected market area population of 326,646 persons in 2018.

### **6.2 HOUSING SUPPLY**

The area's housing stock is currently estimated to total 141,509 units. Owner-occupants account for 70.0 percent of occupied homes, while renters occupy the remaining 30.0 percent. The rental vacancy rate is currently estimated to be 8.1 percent, down from 8.3 percent in 2010. The rental vacancy rate is projected to fall to 8.0 percent by 2018.

The median monthly rental cost (rent, utilities, and renter's insurance) for one-bedroom units in the market area is \$668. The median monthly rental cost for two-bedroom units in the market area is \$861. For three-bedroom units, the median rental cost is \$1,044 per month. The median rental cost for units with four or more bedrooms is \$1,665 per month.

### **6.3 HOUSING DEMAND**

Rock Island Arsenal currently has an authorized military personnel strength of 447 active-duty permanent party members. Of this total, there are 291 families requiring housing. In 2018, personnel strength is projected to total 544 personnel, with 358 families. The projected floor requirement is 25 units. In 2018, 102 families are projected to own a home locally, and the remaining 231 families would be renters.

Currently, Rock Island Arsenal has 133 unaccompanied personnel, of which 120 are assumed to seek housing in the private sector. An estimated 32 unaccompanied service members are homeowners, and 88 are renters in 2013. In 2018, there are projected to be 158 unaccompanied personnel, of which 139 would seek private sector housing. Of these, 35 unaccompanied personnel would be homeowners and 104 would be renters.

### **6.4 TOTAL GOVERNMENT-PROVIDED HOUSING REQUIREMENTS**

There is a total military family housing requirement of 130 units in 2013 and a projected total requirement of 92 units in 2018. The projected requirement is for 7 two-bedroom units, 49 three-bedroom units, and 36 units with at least four bedrooms. There is a total unaccompanied housing requirement of 45 units in 2013, and a projected total unaccompanied housing requirement of 37 units in 2018.

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## 7. ORGANIZATIONS CONTACTED

| <b>Organization</b>  | <b>Representative</b>   |
|--|---|
| Alexis Apartments at Perry Pointe<br>2001 Sheridan Street<br>Davenport, IA 52806                 | Christina Terronez<br><i>Leasing Agent</i><br>563/326-5001  |
| Archer Drive Townhomes<br>4000 Archer Drive<br>East Moline, IA 61244                             | Janice Shimkus<br><i>Manager</i><br>309/755-1765  |
| Ashford Apartments<br>4800 Grand Avenue<br>Davenport, IA 52807                                   | Helen Sims<br><i>Property Manager</i><br>563/386-0900   |
| Bi-State Regional Commission<br>1504 3 <sup>rd</sup> Avenue<br>Rock Island, IL 61204             | Denise L. Bulat<br><i>Executive Director</i><br>309/793-6302x140<br><br>Lisa J. Miller<br><i>Data/Graphics/GIS/Mapping Director</i><br>309/793-6302x133 |
| Breckenridge Apartments<br>4323 North Division Street<br>Davenport, IA 52806                     | Allison Holman<br><i>Leasing Manager</i><br>563/386-6168  |
| Candlelight Colony, Commons & Village<br>605 West 53 <sup>rd</sup> Street<br>Davenport, IA 52806 | Kelly<br><i>Leasing Manager</i><br>563/359-0307   |
| Century 21 Cornelis-Simpson, Inc.<br>1440 12 <sup>th</sup> Street<br>Moline, IL 61265            | Jerry Ketelaar<br><i>Realtor</i><br>309/764-7413  |
| Chateau Knoll Apartments<br>2900 Middle Road<br>Bettendorf, IA 52722                             | Brian Tank<br><i>Leasing Agent</i><br>563/332-8421  |
| City View Apartments<br>321 East 7 <sup>th</sup> Street<br>Davenport, IA 52803                   | Raquel Maiden<br><i>Representative</i><br>877/388-6422  |
| Cody Apartments<br>1450 18 <sup>th</sup> Avenue<br>Rock Island, IL 61201                         | Jim Lyon<br><i>Manager</i><br>309/796-1188  |
| Davenport, City of<br>226 West 4 <sup>th</sup> Street<br>Davenport, IA 52801                     | Matthew Flynn<br><i>Senior Manager</i><br>563/326-7743  |

|   |   |
|---|---|
| Fox Pointe<br>4700 7 <sup>th</sup> Street<br>East Moline, IL 61244                    | Beth Krawol<br><i>Leasing Consultant</i><br>309/796-1188  |
| Homewood Manor Apartments<br>3425 60 <sup>th</sup> Street<br>Moline, IA 61265         | Connie<br><i>Leasing Agent</i><br>309/764-7767            |
| Indian Ridge Apartments<br>3403 Jersey Ridge Road<br>Davenport, IA 52807              | Dana Jansen<br><i>Leasing Consultant</i><br>563/3595      |
| Jersey Meadows Apartments<br>2700 East 53 <sup>rd</sup> Street<br>Davenport, IA 52807 | Adrienne Vicy<br><i>Assistant Manager</i><br>563/355-8836 |
| Kimberly Club Apartments<br>3300 East Kimberly Road<br>Davenport, IA 52807            | Mike Hedrick<br><i>Leasing Consultant</i><br>563/359-8235 |
| Mel Foster Co.<br>3211 East 35 <sup>th</sup> Street Court<br>Davenport, IA 52807      | Kristin Eckhardt<br><i>Realtor</i><br>563/823-2264        |
| Moline, City of<br>619 16 <sup>th</sup> Street<br>Moline, IL 61264                    | Jeff Anderson<br><i>City Planner</i><br>309/524-2038      |
| Moline Police Department<br>1640 16 <sup>th</sup> Street<br>Moline, IL 61265          | Lyndsey D. Nellon<br><i>DPD Records</i><br>563/326-618    |
| Racquet Club<br>605 West 53 <sup>rd</sup> Street<br>Davenport, IA 52806               | Kelly<br><i>Leasing Manager</i><br>563/332-0400           |
| Regency Apartments<br>2505 Devils Glen Road<br>Bettendorf, IA 52722                   | Artoria Sarat<br><i>Leasing Agent</i><br>563/332-0400     |
| Remax Bi-State<br>901 East Kimberly Road<br>Davenport, IA 52807                       | Cyndee Browner<br><i>Broker/Owner</i><br>563/388-0008     |
| Remax River Cities<br>4555 Utica Ridge Road<br>Bettendorf, IA 52722                   | Nathan Lunsford<br><i>Realtor</i><br>563/332-6631         |
| Rock Island Housing Authority<br>227 21 <sup>st</sup> Street<br>Rock Island, IL 61201 | Terrie Davis<br><i>Leasing Assistant</i><br>309/788-0825  |

Rock Island Integrated Services  
1 Rock Island Arsenal Bldg 102  
Rock Island, IL 61299

Kim House  
*Housing Manager*  
309/782-2900

Kathleen Tucker  
*Housing Referral Assistant*  
309/782-0605

Janine McClimon  
*Family Housing Referral Assistant*  
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