Evaluating Which Housing Allowance System Is Best for U.S. Territories:

A Comparison of OHA and BAH

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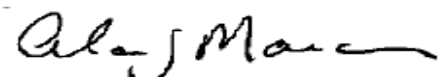

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Summary

Congress is considering whether to change the housing allowances paid to military servicemembers in the U.S. territories from the current Overseas Housing Allowance (OHA) system to the Basic Allowance for Housing (BAH) system used in the 50 states. Congress is especially concerned about each system's effects on costs, quality of life (QOL), and housing markets. This paper analyzes these issues in depth.

Background about OHA and BAH

Both OHA and BAH compensate servicemembers for off-base housing costs, but they are very different systems. OHA, for the most part, is a dollar-for-dollar reimbursement for actual housing costs up to a predetermined maximum amount. BAH, on the other hand, is a fixed payment to servicemembers. OHA requires that servicemembers document their rental costs. BAH is a compensation payment with no requirement that the funds actually be spent on housing.

Maximum OHA rates are calculated for each overseas area based on the actual expenditures of servicemembers. Maximum OHA rental rates are set to be equal to the 80th percentile of actual servicemember rents.

BAH rates are set each year for every housing area within the United States, based on a market survey of rental prices for military-appropriate housing. Rental rates are estimated for standard-sized and quality homes. Under BAH, a servicemember should be able to afford similar housing regardless of where they are stationed.

BAH estimates for the territories

We estimated BAH rates for Puerto Rico, the U.S. Virgin Islands, and Guam. In almost all cases, the BAH rates were substantially lower than the current maximum OHA rates. However, this alone does not mean

that all servicemembers will be worse off. Some members spend much less on their housing than the current OHA maximums; these members would see an allowance increase from BAH and would be allowed to keep the difference as cash. Other servicemembers do spend their OHA maximums and more on their housing; these servicemembers would see a decrease in their allowances. The change in total cost to the government depends upon how many servicemembers are in each category.

Active versus Reserve components

Active duty servicemembers tend to spend more on their housing than activated Guard and Reserve members. This is because active duty servicemembers will budget their housing search at a new duty station to their maximum OHA rate. In contrast, Guard and Reserve housing must be affordable both when they are activated and when they are not activated.

Switching from OHA to BAH will often result in lowering the housing allowances paid to active duty servicemembers, while raising the allowances paid to activated Guard and Reserve members.

Effect on quality of life

We estimated the financial effects of switching to BAH on the quality of life of servicemembers. Some servicemembers will be unambiguously better off; some will be unambiguously worse off. However, the effects for some will be indeterminate; although their housing allowances will be lower, some proportion of them will prefer to move to less expensive housing and pocket the savings from BAH. Table 1 summarizes these effects for Puerto Rico, the U.S. Virgin Islands, and Guam.

Long-term cost and savings to government

The long-term effect on total allowance costs in a territory will depend both on rates and the proportion of Active and Reserve component servicemembers. The U.S. Virgin Islands have very few active duty servicemembers; switching to BAH will likely raise the aggregate

Table 1. Estimated percentage effects of BAH on QOL

	Puerto Rico	U.S. Virgin Islands	Guam
Percent of servicemembers made better off	34%	50%	20%
Percent of servicemembers with reduced allowances but uncertain effect on QOL	42%	24%	57%
Percent of servicemembers made unambiguously worse off	24%	26%	23%

amount of housing allowances paid by roughly 10 percent. Puerto Rico has more active duty servicemembers; aggregate allowances there will likely remain the same with OHA or BAH. Guam has large numbers of active duty servicemembers living in the private sector; switching to BAH there will save 6 percent or more in the long-run cost of housing allowances.

Housing market on Guam

The housing market on Guam is unique. Whereas OHA has had negligible effects on markets in Puerto Rico and the U.S. Virgin Islands, it has major effects on Guam. Military servicemembers dominate the high-end housing market on Guam. Landlords are legally permitted to price discriminate based on OHA. In other words, servicemembers can be charged different rents for the same housing depending upon the OHA maximums for their paygrade and dependents status.

Because of this, it is difficult to determine a true market price for the standard BAH housing units. Transitioning to BAH will be a challenge. The paper includes an appendix with a discussion of an alternative transition strategy designed to minimize difficulties on Guam.

Although initial BAH rates will be difficult to determine on Guam, we do know they will be much lower than current OHA maximum rates. Servicemembers on Guam currently rent, with no out-of-pocket expenses, housing that is considerably larger than BAH standards. Current maximum OHA levels are high enough to encourage servicemembers to live off-base, leaving exceptionally high vacancy rates in on-base military housing.

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Introduction

The U.S. Congress is examining whether to change the housing allowances paid to military servicemembers in U.S. territories from the Overseas Housing Allowance (OHA) system to the Basic Allowance for Housing (BAH) system. BAH is paid to servicemembers stationed in the 50 states, while OHA, as the name implies, is paid to servicemembers stationed abroad.

In its report on the 2013 Defense Authorization Act, the House Armed Services Committee requested that the Secretary of Defense submit a report on "the feasibility and appropriateness" of changing the housing allowance system in the territories. Specifically, the Committee directed that:

> The report should provide an assessment as to which system better supports the quality of life of service members, and is most suitable to the housing markets of each U.S. territory...The report should also provide the comparable costs of operating the OHA and BAH systems in each of the U.S. territories, as well as the cost of implementing the transition from the OHA system to the BAH system. [1]

The deputy director of the Defense Travel Management Office (DTMO) asked CNA to conduct a study to help respond to the congressional request. In our analysis, we used detailed data from the territories, DTMO, and the Defense Manpower Data Center (DMDC). We conducted telephone interviews with personnel in the territories, and we visited Guam and Puerto Rico.

In this paper, we begin with a background overview of the two housing allowance systems and how they are implemented. We then discuss the methodology we used for estimating future BAH rates in the territories, comparing long-term costs and estimating transition costs. We apply the methodology to analyze allowance costs in the U.S. territories, specifically in Puerto Rico, the U.S. Virgin Islands, and

Guam. We then briefly discuss the other U.S. territories—American Samoa and the Northern Mariana Islands.

In later sections, we discuss broader analytical issues of OHA and BAH, including administrative costs, the effects on quality of life, and the effects on local housing markets. The final section of the paper contains the conclusion.

We also include five appendixes to the paper. Appendix A provides demographic data for servicemembers stationed in each of the U.S. territories. Appendixes B, C, and D contain detailed estimates of full BAH rate schedules for Puerto Rico, the U.S. Virgin Islands, and Guam, respectively. Appendix E provides details for an alternative strategy for transitioning Guam to the BAH system.

Background about housing allowances

There are two different housing allowance systems for military servicemembers not residing in government quarters. Servicemembers stationed in the 50 states receive the Basic Allowance for Housing. Those stationed overseas receive the Overseas Housing Allowance.

Although both allowance systems cover housing costs, they have very different underlying rate calculation methodologies. They provide different economic incentives for servicemembers deciding where to live. This section of the paper provides an overview of both systems. We also discuss how these housing allowances are implemented for Guard and Reserve members, who have a significant presence in the U.S. territories.

Basic Allowance for Housing

BAH is a tax-exempt payment designed to allow servicemembers to rent a home of standardized size and quality regardless of where in the United States they are stationed. The standardized units are based on a servicemember's paygrade and whether or not he or she has dependents.

BAH is a cash payment. Servicemembers are free to spend more or less than the BAH amount on their housing, and they can keep any remaining BAH funds.[1]

1. In some cases, servicemembers choose housing that the military considers inadequate in order to use the allowance payments for other purposes. This is fully permissible under BAH. DTMO told us that one reason OHA was initially instituted was to prevent a similar effect from occurring overseas where local housing standards are often much lower than in the United States.

BAH rates are set once a year based on a survey of local housing costs. Local military housing offices (MHOs) provide input to these surveys. Rental prices for standardized housing units, or so-called "BAH anchor points," are surveyed annually for all military housing areas (MHAs) in the 50 states. The median rental price for each anchor point becomes the estimated BAH rent for that sized unit. Estimated utility and insurance costs are added to these rental prices.[2]

The six BAH anchor points include a 1-bedroom apartment, a 2-bedroom apartment, a 2-bedroom townhouse, a 3-bedroom townhouse, a 3-bedroom single family detached (SFD) home, and a 4-bedroom SFD home. Servicemembers receive an allowance calculated to cover their appropriate anchor point plus a specified interpolated amount between their anchor point and the next highest anchor point. In this way, the housing allowances paid to various servicemembers span an entire range of home sizes and quality.

Table 2 shows the BAH formulas for all paygrades with dependents. Table 3 shows the BAH formulas for paygrades without dependents [2].

Table 2. BAH housing standards and interpolation amounts for servicemembers with dependents

	With dependents	
Paygrade	Housing type	+ BAH interpolation percentage
E1 to E4	2-BR apartment	50%
E5	2-BR townhouse	0%
O1	2-BR townhouse	11%
O2	2-BR townhouse	98%
E6	3-BR townhouse	0%
W1	3-BR townhouse	1%
E7	3-BR townhouse	36%
O1E	3-BR townhouse	44%
W2	3-BR townhouse	52%
E8	3-BR townhouse	75%
O2E	3-BR townhouse	93%

2. See [2] for additional details on BAH.

Table 2. BAH housing standards and interpolation amounts for service-members with dependents

With dependents		
Paygrade	Housing type	+ BAH interpolation percentage
O3	3-BR townhouse	98%
W3	3-BR SFD home	0%
E9	3-BR SFD home	16%
W4	3-BR SFD home	22%
O3E	3-BR SFD home	26%
W5	3-BR SFD home	48%
O4	3-BR SFD home	58%
O5	4-BR SFD home	0%
O6	4-BR SFD home	1%
O7	4-BR SFD home	2%

Table 3. BAH housing standards and interpolation amounts for service-members without dependents

Without dependents		
Paygrade	Housing type	+ BAH interpolation percentage
E1 to E4	1-BR apartment	0%
E5	1-BR apartment	67%
O1	2-BR apartment	0%
E6	2-BR apartment	7%
W1	2-BR apartment	31%
E7	2-BR apartment	53%
O2	2-BR apartment	83%
O1E	2-BR townhouse	0%
W2	2-BR townhouse	19%
E8	2-BR townhouse	20%
O2E	2-BR townhouse	44%
E9	2-BR townhouse	51%
W3	2-BR townhouse	54%
O3	2-BR townhouse	64%
O3E	3-BR townhouse	0%
W4	3-BR townhouse	9%
O4	3-BR townhouse	40%
W5	3-BR townhouse	45%
O5	3-BR townhouse	63%

Table 3. BAH housing standards and interpolation amounts for servicemembers without dependents

	Without dependents	
Paygrade	Housing type	+ BAH interpolation percentage
O6	3-BR SFD home	0%
O7	3-BR SFD home	2%

To summarize the BAH methodology: the Department of Defense (DOD) estimates BAH rates for the six BAH anchor point units and then uses the percentages listed in tables 2 and 3. to generate rates for all paygrades and dependent statuses.[3]

Overseas Housing Allowance

OHA is essentially a direct reimbursement for actual amounts spent on rent, subject to a maximum monthly cap. Servicemembers submit rental[4] documents to obtain their allowances.

Maximum OHA reimbursement rates are calculated for each location and military paygrade. The maximum rate is designed to fully cover (with no out-of-pocket expenses) the rent and utilities for 80 percent of servicemembers with dependents.[5] Unlike BAH, the OHA payment methodology does not take into account the size or the quality of a servicemember's housing, just the costs.

3. There are some additional rules. For example, the without-dependents rate must be at least 75 percent of the with-dependents rate. Also, in some areas, DOD does not survey local housing costs, but instead uses fair market rental data from the Department of Housing and Urban Development (HUD) to adapt rates from comparable areas. See [2] for full details of the BAH methodology.

4. Servicemembers who own their homes can submit mortgage or appraisal documents instead of a lease.

5. Servicemembers without dependents have a maximum OHA rate of 90 percent of the with-dependents rate.

OHA is made up of three parts [3]:

- Rental allowance, which is a dollar-for-dollar reimbursement to servicemembers for amounts actually spent up to a predetermined maximum. Servicemembers spending less than this maximum do not get to keep any of the savings.
- Utility/recurring maintenance allowance, which defrays the costs for utilities along with recurring maintenance and minor repairs to leased residences. Servicemembers spending less on their utility costs get to keep those savings.
- Move-in housing allowance, which is a one-time reimbursement for initial expenses related to renting and equipping a foreign rental unit. Part of the move-in allowance is a fixed payment and part is a reimbursement for actual expenses. Since this is a one-time expense per servicemember and, in the territories, generally much less than one month's OHA, we include it in our discussion of administrative costs, rather than in the discussion of monthly allowances.

OHA maximum rental allowances are reviewed and adjusted every six months. Utility costs are reviewed once a year, and move-in expenses are reviewed every three years. Fluctuations in foreign currencies are reviewed twice a month, but those are not relevant in the U.S. territories.

Housing allowances for Guard and Reserve members

Servicemembers in the Guard and Reserve, who are activated for 31 days or more, are entitled to housing allowances. Unless they are given permanent change of station (PCS) orders, they will receive allowances based on the MHA where they live. If they reside in the 50 states, they will receive BAH automatically.

If they reside in U.S. territories, they receive OHA. However, they must first provide rental or mortgage documentation in order to qualify. In some cases, these documents may be difficult to gather.[6]

6. In addition, OHA rules specify from whom a servicemember can rent housing. There are limits on renting from family members and friends.

OHA also influences the choice of housing. Active duty servicemembers in the territories know they will receive OHA and choose their housing accordingly. Guard and Reserve members are only activated for specific periods of time and, therefore, choose housing according to their long-term budgets.

The reimbursable nature of OHA, compared with BAH, means that switching systems in the territories will likely change housing choices for servicemembers. Also, there will be different effects on the actual allowances paid to active and reserve component servicemembers. We discuss these differences throughout the paper.

Methodology

In this section, we discuss the methodology used in this paper. We describe four areas of analysis:

- Estimating BAH rental rates for the territories
- Estimating BAH utility and insurance rates
- Estimating long-term costs
- Estimating transition costs

Estimating BAH rental rates for the territories

Each year, DOD calculates BAH rental rates for over 360 military housing areas. There is a set procedure for these calculations, which depends on specific inputs from local military housing offices. Because those inputs were not available to us, we used somewhat different methodologies for the estimations.[7] We tried to stay as close to the standard BAH methodology as the data would permit.

Because the available data for each territory varied, we adapted our methodology accordingly. We describe below the detailed methodology used for Puerto Rico, the U.S. Virgin Islands, and Guam. The other two territories, American Samoa and the Northern Mariana Islands, have too small a military presence to support a BAH estimate.

7. Our initial methodology was to use OHA data for estimating the rents and unit sizes where servicemembers actually reside. However, this method did not produce a credible price variation of rents for units of different sizes and could not be used to generate a consistent BAH rate schedule. This is likely because of the inherent incentives built into the OHA system.

Puerto Rico

For Puerto Rico, we estimated BAH rates for the greater San Juan area and seven outlying areas. For San Juan, we were able to stay close to the standard BAH methodology. The MHO at Fort Buchanan gave us contact information of local realtors who deal frequently with military servicemembers. The MHO also provided us with the names of several gated communities preferred by many military families.[8] We conducted telephone interviews with 12 realtors, and we researched the gated communities in order to find a price survey of the standard BAH anchor point units in the area. The price ranges quoted to us for the anchor units were consistent among the different sources. We used those anchor points to generate the full BAH schedule.

For the seven outlying areas in Puerto Rico, we used a methodology similar to that used for the BAH county cost groups. We used Department of Housing and Urban Development (HUD) Fair Market Rent (FMR) data to compare rental costs in each area with costs in San Juan. We averaged the percent differences in the FMR estimates for BAH anchor point units and then prorated the San Juan anchor point estimates accordingly. This provided anchor points and full BAH schedule estimates for each outlying area.

The U.S. Virgin Islands

Unlike Puerto Rico, there is no housing office in the U.S. Virgin Islands. We were, therefore, unable to obtain data similar to that used in the BAH estimates for Puerto Rico. Instead, we relied on a similar methodology to the one used for the outlying areas of Puerto Rico. We compared the HUD FMRs for St. Croix and St. Thomas to those of San Juan. We then prorated the San Juan anchor point BAH rates accordingly. This allowed us to generate estimated BAH rental schedules for St. Croix and St. Thomas.

8. These specific gated communities have school bus service to the Department of Defense Education Activity (DODEA) school at Fort Buchanan.

Guam

Guam is different from most military locations in several ways. There aren't neighborhoods or census tracts that can be designated appropriate or inappropriate for military servicemembers; luxury homes are often adjacent to very poor housing. Distance also tends not to be an issue, because Guam is a fairly small island and commuting times are generally not excessive.

For Guam, we used data from the Real Estate Multiple Listing Service (MLS). To ensure that we had appropriate housing units, we excluded all homes with rents below the HUD FMRs for the Pacific Islands.[9] Since military servicemembers tend to dominate the high-end housing rental market on Guam, there was no need to exclude high rent listings. The median prices from the MLS listings were generally consistent with other data for servicemember housing costs on Guam.

Estimating BAH utility and insurance rates

The standard BAH methodology uses American Community Survey (ACS) data to estimate utility costs for MHAs in the United States. Average utility costs are estimated for homes of different sizes listed in the survey. This method is not applicable for the territories. First, ACS is not conducted in all the territories, so if BAH is adopted, a different data source will be required for at least some locations.

Second, although ACS data are available for Puerto Rico, simply averaging the utility costs by unit size will not provide reasonable allowance levels. Because there is great poverty in Puerto Rico, many households spend very little on utilities; average utility costs from the ACS are too low for most servicemembers. If ACS data are to be used for Puerto Rico, the standard BAH methodology would have to be adapted to use household income bands to estimate appropriate utility expenditures.

9. HUD does not publish a set of FMRs just for Guam.

For these reasons, we chose to use the OHA utility survey data to estimate BAH utility costs in the territories. Periodically, DTMO surveys servicemembers in the territories to set OHA utility rates. The OHA utility rates are set at the 80th percentile of the responses from servicemembers with dependents. Servicemembers without dependents are given 75 percent of the with-dependents utility rates.

However, BAH pays for only average utility expenditures. Therefore, instead of using the 80th percentile from these surveys, we used the mean utility expenditure for our BAH estimates. As with OHA, we assumed that the without-dependents rate would be 75 percent of the with-dependents rate. Because of the small samples from the OHA utility survey, we did not adjust for unit size; we estimated one rate with dependents and one rate without dependents for each territory.

Insurance rates

Based on the breakdown of BAH rates within the United States, we assumed that renters' insurance rates would be about 1 percent of any paygrade's BAH rate.[10] We used this assumption for Guam, St. Croix, St. Thomas, and greater San Juan.

For the outlying areas of Puerto Rico, we assumed that they would receive the same insurance rates as for San Juan. This makes BAH rate comparisons, between locations in Puerto Rico in the appendix, easier for the reader to assess and does not change the overall rates in any significant way.

Estimating long-term costs

To estimate the long-term costs of OHA and BAH, we used DMDC allowance payment data for December 2012. We assumed that the military endstrengths, paygrade distributions, and housing rental costs, listed for the territories in December 2012 would continue into

10. The breakdown of BAH rates into their component parts can be found at http://www.defensetravel.dod.mil/Docs/perdiem/browse/Allowances/BAH/Component_Breakdown/2013-BAH-Rate-Component-Breakdown.pdf.

the future. We compared the OHA rates being paid with the rates that would be paid to those servicemembers under our estimated BAH rates.

DTMO appended additional calculations to the DMDC data. For each servicemember, DTMO estimated an OHA payment based on paygrade, dependents status, and rental lease data. In some cases, the DMDC-reported OHA payment did not match the DTMO-estimated OHA payment. We were told that this could be the result of the remediation of past over- and underpayments or that it could be because of rental payment advances. In cases where the actual OHA payment was within $100 of the DTMO-estimated OHA payment, we assumed that the DMDC-reported OHA payment was correct. If the difference was over $100, and no other source of discrepancy could be found, we assumed that the DTMO-estimated OHA payment would be the long-term monthly cost.

Estimating transition costs

We estimated transition costs for two hypothetical scenarios—a two-year transition and a three-year transition. We assumed that servicemembers currently receiving OHA would be given the option of continuing to receive OHA during the transition period or of switching to BAH. We also assumed that these servicemembers would choose whichever allowance was higher. This is likely an overestimate of the true costs as some servicemembers would choose a lower BAH but move to less-expensive housing so as to pocket some of the difference.

We assumed that new servicemembers transferred to the territory during the transition period would receive BAH and that these transfers would occur continuously throughout the transition period.

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Puerto Rico

Since the 2004 closure of the Roosevelt Roads Naval Station, DOD has had a greatly reduced presence in Puerto Rico. Today, most of DOD's activities are centered around Fort Buchanan in the greater San Juan area. The majority of the activities are related to the National Guard, Air Guard, and Reserve. There is also a significant Coast Guard presence in Puerto Rico, but the Coast Guard did not respond to our repeated requests for participation in this study. Overall demographic data for servicemembers in Puerto Rico is in appendix A.

In this section, we begin with a discussion of the geographic divisions of the various housing areas in Puerto Rico. We then discuss BAH estimates for San Juan and other outlying areas of Puerto Rico. We compare the long-term costs of BAH with OHA for all of Puerto Rico, and we estimate the transition costs of switching from OHA to BAH.

Geographic divisions

DOD currently divides Puerto Rico into 17 locality codes, with the largest being the greater San Juan area. DOD groups these locality codes into five distinct OHA schedules; each schedule may apply to several locality codes. Table 4 lists these groupings.

Table 4. Locality codes for Puerto Rico grouped by common OHA rate schedules

	Locality code	Locality name
OHA grouping 1		
	PR080	San Juan (incl Bayamón, Carolina, and Fort Buchanan)
	PR015	Caguas
	PR025	Cayey
	PR045	Guaynabo
	PR075	Sabana Seca
	PR085	Vega Baja

Table 4. Locality codes for Puerto Rico grouped by common OHA rate schedules

	Locality code	Locality name
OHA grouping 2		
	PR001	Aguadilla (incl CG as Borinquen)
	PR005	Arecibo
	PR053	Isabela
	PR999	Other
OHA grouping 3		
	PR030	Fajardo
	PR050	Humacao
	PR055	Luquillo
	PR070	Roosevelt Roads
OHA grouping 4		
	PR040	Guayama
	PR065	Ponce (incl Fort Allen and Camp Santiago)
OHA grouping 5		
	PR060	Mayagüez

We estimated BAH rates for each of these areas.

The majority of servicemembers in Puerto Rico live in the greater San Juan area. We estimated BAH rates for San Juan by directly gathering data on the rental costs of specific-sized housing units.

For the other areas of Puerto Rico, we used HUD FMR data to prorate the estimated San Juan rental rates. Because HUD and OHA group areas of Puerto Rico differently, we estimated BAH rates for eight slightly different location groupings for Puerto Rico. Table 5 shows the BAH groupings of locations.

Both the OHA and BAH sets of groupings cover all 17 DOD locality codes. The BAH grouping provides more granularity for matching allowance rates to locations.

Table 5. Locality codes for Puerto Rico grouped by BAH rate schedules

	Locality code	Locality name
BAH grouping 1		
	PR080	San Juan (incl Bayamón, Carolina, and Fort Buchanan)
	PR045	Guaynabo
	PR075	Sabana Seca
	PR085	Vega Baja
BAH grouping 2		
	PR001	Aguadilla (incl CG as Borinquen)
	PR053	Isabela
	PR999	Other
BAH grouping 3		
	PR005	Arecibo
BAH grouping 4		
	PR015	Caguas
	PR025	Cayey
BAH grouping 5		
	PR030	Fajardo
	PR050	Humacao
	PR055	Luquillo
	PR070	Roosevelt Roads
BAH grouping 6		
	PR040	Guayama
BAH grouping 7		
	PR060	Mayagüez
BAH grouping 8		
	PR065	Ponce (incl Fort Allen and Camp Santiago)

BAH estimates for San Juan

Rental rates

We estimated BAH rental rates for the greater San Juan area primarily by interviewing local realtors. The MHO at Fort Buchanan provided us contact information for realtors who often help military personnel find homes.

We interviewed 12 realtors and asked about rental rates for the six BAH anchor units in gated communities. The MHO told us that the vast majority of servicemembers choose gated communities. DTMO confirmed that gated communities are the preferred housing standard for military personnel assigned to Puerto Rico.

We supplemented the information gleaned in these interviews with internet searches on a few gated communities specifically recommended by the Fort Buchanan MHO. These gated communities are popular among servicemembers as they have bus stops for the DODEA school at Fort Buchanan.

Table 6 contains the anchor point estimates for the BAH rental rates in San Juan. The detailed list of realtors and their rental price estimates are contained in appendix B.

Table 6. Estimated rental rates for BAH anchor points in San Juan

Unit size	Estimated rent
1-BR apartment	$ 900
2-BR apartment	1,500
2-BR townhouse	1,600
3-BR townhouse	1,650
3-BR SFD home	1,775
4-BR SFD home	2,150

From these anchor points, we generated the overall BAH rental schedule for all paygrades according to the standard BAH methodology as described earlier in tables 2 and 3.

Utility rates

To estimate the BAH utility rate, we used the mean utility costs reported in the 2010 OHA utility survey[11] for Puerto Rico. As with OHA, we assumed that this utility rate was the same for units of all sizes and that the without-dependents rate was 75 percent of the with-dependents rate.

The estimated BAH utility rates in Puerto Rico are $607 with dependents and $455 without. This is about 24 percent less than the current OHA utility rates of $800 with dependents and $600 without.

Insurance rates

We assumed that renters' insurance rates were 1 percent of each paygrade's BAH rate.

BAH rates compared with OHA rates

Table 7 compares estimated BAH rates and the current OHA rates for San Juan. The table only includes the rates for enlisted servicemembers with dependents. Appendix B contains the detailed comparison for all paygrades, both with and without dependents.

Table 7. Comparison of OHA and estimated BAH rates for enlisted servicemembers with dependents in greater San Juan

Paygrade	Maximum OHA rate	Estimated BAH rate	Percent difference
E1 to E4	$2,360	$2,179	- 7.7%
E5	2,500	2,229	- 10.8%
E6	2,700	2,280	- 15.6%
E7	2,700	2,325	- 13.9%
E8	2,700	2,374	- 12.1%
E9	3,200	2,467	- 22.9%

11. 2010 was the most recent OHA utility survey conducted in Puerto Rico. The current OHA utility rates there are based on the 80th percentile of that survey.

BAH estimates for outlying areas of Puerto Rico

For the other areas of Puerto Rico, we used the relative HUD FMR estimates for 2013 to prorate the estimated San Juan rental rates. We took the average percent difference between each location's FMRs and the San Juan FMRs for all of the BAH anchor points. We then adjusted the San Juan BAH rental rates accordingly to produce rental estimates for the other locations.

Table 8 shows these rental adjustment rates for all the different areas of Puerto Rico.

Table 8. Estimated BAH rental cost adjustment percentages for all areas of Puerto Rico (compared to greater San Juan)

	Locality name	Estimated percent adjustment
BAH grouping 1	San Juan (incl Bayamón, Carolina, and Fort Buchanan), Guaynabo, Sabana Seca, Vega Baja	0.0%
BAH grouping 2	Aguadilla (incl CG as Borinquen), Isabela, Other	- 23.5%
BAH grouping 3	Arecibo	- 16.1%
BAH grouping 4	Caguas, Cayey	- 6.6%
BAH grouping 5	Fajardo, Humacao, Luquillo, Roosevelt Roads	- 0.3%
BAH grouping 6	Guayama	- 13.1%
BAH grouping 7	Mayagüez	- 11.8%
BAH grouping 8	Ponce (incl Fort Allen and Camp Santiago)	- 2.4%

Utility and insurance costs in the outlying areas of Puerto Rico were assumed to be the same as in greater San Juan.

Table 9 compares the estimated BAH rates and the current OHA rates for the four BAH locational groupings with the most servicemembers

outside of greater San Juan. The table only includes rates for enlisted servicemembers with dependents. Appendix B contains more detailed comparisons for all areas of Puerto Rico and for all paygrades, both with and without dependents.

Table 9. Comparison of OHA and estimated BAH rates for enlisted servicemembers with dependents in four outlying areas of Puerto Rico

Paygrade	Maximum OHA rate	Estimated BAH rate	Percent difference
Aguadilla (PR001), Isabela (PR053), Other areas (PR999)			
E1 to E4	$2,200	$1,814	- 17.5%
E5	2,500	1,853	- 25.9%
E6	2,500	1,892	- 24.3%
E7	2,500	1,926	- 22.9%
E8	2,500	1,964	- 21.4%
E9	2,500	2,035	- 18.6%
Ponce (incl Fort Allen and Camp Santiago) (PR065)			
E1 to E4	$2,300	$2,142	- 6.9%
E5	2,450	2,191	- 10.6%
E6	2,450	2,240	- 8.6%
E7	2,450	2,285	- 6.8%
E8	2,450	2,333	- 4.8%
E9	2,450	2,423	- 1.1%
Caguas (PR015), Cayey (PR025)			
E1 to E4	$2,360	$2,077	- 12.0%
E5	2,500	2,124	- 15.0%
E6	2,700	2,172	- 19.6%
E7	2,700	2,214	- 18.0%
E8	2,700	2,260	- 16.3%
E9	3,200	2,346	- 26.7%
Fajardo (PR030), Humacao (PR050), Luquillo (PR055), Roosevelt Roads (PR070)			
E1 to E4	$2,444	$2,174	- 11.1%
E5	2,700	2,224	- 17.6%
E6	2,700	2,274	- 15.8%
E7	2,700	2,320	- 14.1%
E8	2,700	2,369	- 12.3%
E9	3,050	2,461	- 19.3%

Long-term costs of BAH versus OHA

We used DMDC data on OHA payments in December 2012 to estimate the difference between overall BAH costs and OHA costs. We assumed that the paygrade distribution and housing preferences in the December 2012 data would continue into the future.[12]

Table 10 compares the total monthly cost estimates for OHA and BAH for the San Juan area and all of Puerto Rico.

Table 10. Estimated total monthly cost comparison between OHA and BAH in Puerto Rico (based on December 2012 DMDC data)

	Greater San Juan area	Other areas of Puerto Rico	Total
Total monthly OHA	$1,723,000	$1,031,000	$2,754,000
Total monthly estimated BAH	1,667,000	1,049,000	2,717,000
Percent change	-3.3%	+ 1.8%	- 1.4%
Number of servicemembers (observations)	731	502	1,233

The overall difference in costs are small and could easily change from year to year with BAH adjustments. The differences are small even though individual BAH rates are considerably smaller than maximum OHA rates. This is because many activated Guard and Reserve servicemembers live in homes with rental costs below the OHA maximums; these servicemembers would receive higher payments under BAH because BAH doesn't depend on a servicemember's actual rental payments. On the other hand, servicemembers who rent units near the OHA maximums would receive allowance decreases.

12. These estimates only include DOD personnel; Coast Guard personnel were excluded because they did not respond to our repeated inquiries. We assumed that DOD personnel in the San Juan area who received $0 in OHA were living in base housing at Fort Buchanan and would continue to do so under a BAH system.

We examined how switching to BAH would affect the aggregate allowances paid to active duty personnel compared with Guard and Reserve personnel. Table 11 shows the results.

Table 11. Distributional effects of switching from OHA to BAH on active and reserve components in Puerto Rico

	Greater San Juan area	Other areas of Puerto Rico	Total
Active duty			
Aggregate monthly OHA	$309,000	$237,000	$546,000
Aggregate monthly BAH	290,000	245,000	534,000
Percent change	- 6.3%	+ 3.4%	- 2.1%
Number of servicemembers	130	120	250
Guard / Reserve			
Aggregate monthly OHA	$1,414,000	$794,000	$2,208,000
Aggregate monthly BAH	1,378,000	804,000	2,182,000
Percent change	- 2.6%	+ 1.3%	- 1.2%
Number of servicemembers	601	382	983

Estimated transition costs for Puerto Rico

We estimated transition costs by assuming that every servicemember currently living in Puerto Rico would have the choice of either continuing to receive OHA or switching to BAH. We assumed they would choose whichever system reimbursed them more[13] and that there would be a continuous random turnover of these personnel over the transition period.

13. Note that this assumption provides a high estimate of the transition costs. Most likely, some servicemembers currently receiving maximum OHA payments would choose to move to cheaper homes and pocket some of the savings from receiving BAH.

We assumed that new activated servicemembers and transfers to Puerto Rico would be given BAH. We estimated costs for both a two- and a three-year transition. Table 12 shows the results.

Table 12. Estimated transition costs for Puerto Rico

Type of cost	Estimated amount
Current annual OHA cost	$33.0 million
Long-term estimated BAH cost	$32.6 million
Estimated annual savings	$446,000
Initial (maximum) monthly transition cost above estimated BAH cost	$240,000
Aggregate cost for two-year transition	$2.9 million
Nominal payback period for two-year transition	6.4 years
Aggregate cost for three-year transition	$4.3 million
Nominal payback period for three-year transition	9.6 years

Savings from switching to BAH appear to be modest—at less than $500,000 annually. This means that the payback times will not be rapid—more than 6 years for a two-year transition or 10 years for a three-year transition.

U.S. Virgin Islands

The U.S. Virgin Islands currently has National Guard presence in St. Croix and St. Thomas. The overall presence is small with fewer than 140 activated DOD servicemembers.[14]

In this section, we discuss BAH estimates for both St. Croix and St. Thomas. We compare the long-term costs of BAH with OHA and estimate transition costs of switching to BAH.

BAH estimates

Rental rates

DOD currently estimates OHA rates on both St. Croix and St. Thomas. We estimated BAH rental rates for each island with the methodology used for the outlying areas of Puerto Rico. We compared the HUD FMRs between both islands and the greater San Juan area, and prorated the estimated rents accordingly.

For St. Croix, the FMR adjustment was 20 percent greater than for San Juan. For St. Thomas, the adjustment was 60 percent greater.[15] Table 13 shows the estimated BAH anchor point rental costs for the U.S. Virgin Islands.

14. DMDC data also show the presence of 32 Coast Guard servicemembers. Appendix A contains overall demographic data for servicemembers stationed on the U.S. Virgin Islands.

15. HUD FMRs are estimated based on specific percentile costs of local housing. To the extent that there is more poverty in Puerto Rico than in the U.S. Virgin Islands, the HUD FMRs may be comparing units of different quality. In that case, the rental estimates for the U.S. Virgin Islands are probably high-end estimates.

Table 13. Estimated rents for BAH anchor points on the U.S. Virgin Islands

BAH anchor point	St. Croix	St. Thomas
1-BR apartment	$1,081	$1,438
2-BR apartment	1,802	2,397
2-BR townhouse	1,922	2,557
3-BR townhouse	1,982	2,637
3-BR SFD home	2,132	2,837
4-BR SFD home	2,583	3,436

Utility rates

As with Puerto Rico, we estimated the BAH utility rate as the mean utility costs reported in the 2009 OHA survey for the U.S. Virgin Islands.[16] We assumed that the utility rate was the same for units of all sizes and that the without-dependents rate was 75 percent of the with-dependents rate.

The estimated BAH utility rates for the U.S. Virgin Islands are $520 with dependents and $390 without dependents. We assumed the utility costs were the same on both St. Croix and St. Thomas. This is about 30 percent less than the current OHA utility rate of $743 with dependents and $557 without dependents.

Insurance rates

We assumed that renters' insurance rates were 1 percent of each paygrade's BAH rate on either island.

BAH rates compared to OHA rates

Table 14 compares the estimated BAH rates with current OHA rates for the U.S. Virgin Islands. The table only includes the rates for enlisted servicemembers with dependents. Appendix C contains the rate comparison for servicemembers from all paygrades, both with and without dependents.

16. 2009 was the most recent OHA utility survey conducted in the U.S. Virgin Islands.

Table 14. Comparison of OHA and estimated BAH rates for enlisted servicemembers with dependents in the U.S. Virgin Islands

Paygrade	Maximum OHA rate	Estimated BAH rate	Percent difference
St. Croix			
E1 to E4	$2,687	$2,406	- 10.5%
E5	2,910	2,467	- 15.2%
E6	3,187	2,527	- 20.7%
E7	3,187	2,582	- 19.0%
E8	3,187	2,641	- 17.1%
E9	3,343	2,752	- 17.7%
St. Thomas			
E1 to E4	$3,076	$3,028	- 1.6%
E5	3,299	3,108	- 5.8%
E6	3,299	3,189	- 3.3%
E7	3,299	3,262	- 1.1%
E8	3,299	3,340	+ 1.3%
E9	3,299	3,488	+ 5.7%

Long-term costs of BAH versus OHA

We used two separate datasets for estimating the long-term costs of BAH compared with OHA:

1. DMDC data from December 2012 (similar to Puerto Rico)
2. Data provided by the Virgin Islands Army National Guard (VIARNG) from December 2012

VIARNG gave us detailed OHA data for their servicemembers, which we used to create a second estimate of long-term costs. Although the two datasets have different numbers of observations and different category breakdowns,[17] they produced similar estimates for the percent change to total current housing allowance costs.

Tables 15 and 16 compare the total monthly cost estimates for OHA and BAH for both St. Croix and St. Thomas. The estimates from table

15 use DMDC data; the estimates from table 16 use VIARNG data. The overall change in costs for switching to BAH are similar for both data sources—13 percent more than OHA and 12 percent more, respectively.

Table 15. Estimated total monthly cost comparison between OHA and BAH in the U.S. Virgin Islands (based on December 2012 DMDC data)

	St. Croix	St. Thomas	Total
Total monthly OHA	$275,000	$47,000	$322,000
Total monthly estimated BAH	288,000	76,000	364,000
Percent change	+ 4.8%	+ 62%	+ 13%
Number of servicemembers (observations)	112	24	136

Table 16. Estimated total monthly cost comparison between OHA and BAH in the U.S. Virgin Islands (based on December 2012 VIARNG data)

	St. Croix	St. Thomas	Total
Total monthly OHA	$237,000	$56,000	$293,000
Total monthly estimated BAH	246,000	81,000	327,000
Percent change	+ 3.6%	+ 45%	+ 12%
Number of servicemembers (observations)	97	26	123

17. Different military datasets often have different numbers of observations. The only way to fully reconcile personnel and cost datasets is to match Social Security numbers. We were unable to do this because of personally identifiable information (PII) restrictions. Although the datasets were not reconciled, it is still reassuring that they gave similar overall results.

As with the Puerto Rico estimates, we examined how switching housing allowances from OHA to BAH would affect the total allowance payments among different components. The DMDC data provided entries to break out these changes between active and reserve components. These are shown in table 17. The VIARNG data had entries to break out Guard members by Active Guard Reserve (AGR) and Active Duty for Operational Support (ADOS). These estimates are shown in table 18.

Table 17. Distributional effects of switching from OHA to BAH on active and reserve components in the U.S. Virgin Islands (DMDC data)

	St. Croix	St. Thomas	Total
Active duty			
Aggregate monthly OHA	$16,600	$5,100	$21,700
Aggregate monthly BAH	16,500	6,500	22,900
Percent change	- 0.8%	+ 26.5%	+ 5.6%
Number of servicemembers	7	2	9
Guard / Reserve			
Aggregate monthly OHA	$258,000	$42,000	$300,000
Aggregate monthly BAH	272,000	70,000	341,000
Percent change	+ 5.2%	+ 66.3%	+ 13.7%
Number of servicemembers	105	22	127

Table 18. Distributional effects of switching from OHA to BAH on Guard AGR and ADOS servicemembers in the U.S. Virgin Islands (VIARNG data)

	St. Croix	St. Thomas	Total
AGRs			
Aggregate monthly OHA	$203,000	$39,000	$241,000
Aggregate monthly BAH	202,000	56,000	258,000
Percent change	- 0.3%	+ 45.7%	+ 7.1%
Number of servicemembers	79	18	97

Table 18. Distributional effects of switching from OHA to BAH on Guard AGR and ADOS servicemembers in the U.S. Virgin Islands (VIARNG data)

	St. Croix	St. Thomas	Total
ADOSs			
Aggregate monthly OHA	$34,000	$17,000	$52,000
Aggregate monthly BAH	43,000	25,000	68,000
Percent change	+ 26.5%	+ 43.6%	+ 32.2%
Number of servicemembers	18	8	26

Estimated transition costs for the U.S. Virgin Islands

To estimate the transition costs for the U.S. Virgin Islands, we assumed that every activated servicemember currently living in the U.S. Virgin Islands would have the choice of continuing to receive OHA or of switching to BAH. We assumed that they would choose whichever system reimbursed them the most[18] and that there would be a continuous random turnover of these personnel over the transition period.

We assumed that newly activated servicemembers and transfers to the U.S. Virgin Islands would be given BAH. We used the DMDC data to estimate costs for both two- and three- year transitions. Table 19 displays the results.

Many servicemembers are expected to choose BAH immediately, so additional transition costs will be minimal. Since switching to BAH in the U.S. Virgin Islands is expected to cost DOD more, there is no payback period for recouping an investment.

18. This assumption provides a high estimate of the transition costs as some servicemembers who currently receive maximum OHA payments might opt for lower BAH, but will move to a less expensive home and pocket the savings.

Table 19. Estimated transition costs for the U.S. Virgin Islands

Type of cost	Estimated amount
Current annual OHA cost	$3.9 million
Long-term estimated BAH cost	$4.4 million
Estimated additional annual cost	$509,000
Initial (maximum) monthly transition cost above estimated BAH cost	$26,000
Aggregate cost for two-year transition	$315,000
Nominal payback period for two-year transition	N/A
Aggregate cost for three-year transition	$472,000
Nominal payback period for three-year transition	N/A

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Guam

There are two military bases on Guam: Navy Base Guam (NBG) located on the southwest part of the island and Andersen Air Force Base (AFB) in the north. Base operations at both locations are overseen by Joint Region Marianas (JRM).

There are also Army National Guard and Air Guard facilities, and in the coming years, the Marine Corps is expected to relocate from Okinawa, Japan, to Guam. Demographic data for servicemembers currently residing on Guam is included in appendix A.

Guam has a unique housing market. We begin this section by discussing its special characteristics. We then estimate approximate BAH rates for Guam and compare long-term OHA and BAH costs. We conclude with an estimate of transition costs from OHA to BAH and a discussion of an alternative transition strategy.

Guam is different

The housing market in Guam is different from most other areas. This uniqueness stems from two fundamental factors:

- The military dominates the high-end housing market on Guam.
- Landlords are legally allowed to price discriminate by income and often set rents to OHA rates.

Military servicemembers dominate the high-end civilian housing market

The 2009 Guam Comprehensive Housing Study [4] stated the following:

> Real estate experts...noted that high-end condominium units are disproportionately occupied by military personnel. There were some who suggested that the top end of the condo market on Guam depends on military renters for much of its revenue. [4]

This observation was also borne out anecdotally during our visit to Guam in November 2012. We toured a beachfront high-rise housing complex and learned from personnel at the front desk that about 80 percent of the residents were military.

The 2009 Guam Comprehensive Housing Study also found that the median military renter spent about 90 percent more on rent than the median non-military renter [4].

Our data support these observations. DMDC data show that there were roughly 2,400 active servicemembers on Guam renting homes in private sector in December 2012. An internet search of the Guam MLS for rental homes from $1,980 to $2,900 per month (the range of OHA maximum rental rates)[19] showed a total of 219 listings [5].[20] The Guam Statistical Yearbook 2011 reported from 2010 U.S. Census data, about 17 percent of housing units in Guam were vacant [6]. Even if the MLS contained only one quarter of the rental listings in the OHA price range, a rough calculation with these vacancy rates shows that military servicemembers would account for over half the occupancy of these high-end rental units.[21]

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19. Currently on Guam, the E1 to E4 OHA maximum rental allowance without dependents is $1,980 per month. The O7 OHA maximum rental allowance with dependents is $2,900 per month.

20. Search was conducted on 19 Feb. 2013.

21. The total number of units can be estimated as the number of available rental units divided by the vacancy rate. In this case, if the MLS listings represent only one quarter of the vacancies, then $(4 \times 219) / 0.17 = 5{,}153$ military-appropriate units. Of these units, 4,277 (or $0.83 \times 5{,}153$) would be occupied, and the 2,400 military servicemembers would account for 56 percent of these residents.

Landlords are allowed to set rents to OHA rates

The other common assertion on Guam is that landlords often set their rents to the OHA rates of their tenants regardless of the unit size. The JRM General Counsel's office told us that it is legal on Guam for landlords to price discriminate based on a tenant's income.

Since OHA is a dollar-for-dollar reimbursement to servicemembers for their rent, as long as those rents are below OHA maximums, servicemembers have no economic incentive to bargain with landlords. We were told that at one time the housing offices on Guam did try to bargain directly with landlords, but a ruling by the General Counsel limited that ability.

During our visit to Guam, we were told many anecdotes about rents being set to maximum OHA rates. We were told about similar apartments in housing complexes that rent for very different amounts depending on the paygrade of the tenant. We were also told that in some cases landlords rent units to civilians at rates significantly lower than the rates charged to military servicemembers.

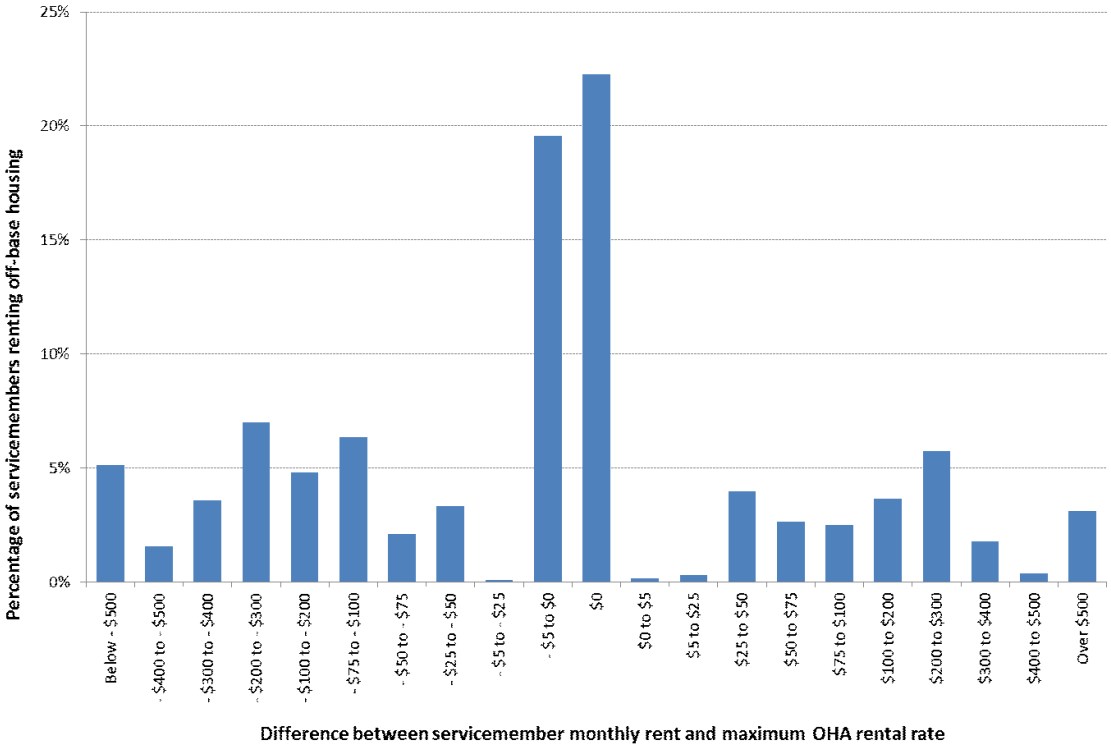
Realtors openly recognize that rents are set by OHA rates. One realtor's website states that "...most homes target the military market and the asking price for rent closely follows the Military Overseas Housing Allowance scale" [7].

Although the prevalence of this practice is difficult to ascertain, there is some statistical evidence to support the assertion. Rents paid by servicemembers provide circumstantial evidence. At NBG, about 40 percent of servicemembers living off base pay rent within $5 of their OHA maximums. Figure 1 shows the distribution of rents paid compared with the maximum OHA rates.

What this means for BAH

The fact that servicemembers dominate the market for military-appropriate housing and that landlords can price discriminate based on paygrade means that a normal market price for housing may not currently exist on Guam. BAH is predicated on the assumption of having a market price for specifically sized rental homes. If that price

Figure 1. Difference between servicemember rents and maximum OHA rental rates at NBG[a,b]



a. Columns above zero represent servicemember rents greater than maximum OHA levels; columns below zero are rents below OHA maximums.
b. Data provided by the MHO at NBG.

does not exist, then it isn't possible to reliably calculate a future BAH rate.

The rental rates that civilians currently pay are probably not an accurate predictor of future long-term rents. Landlords may be willing to rent vacant units to civilians at lower rates until they can find a military tenant able to pay more. Those lower civilian rents may not be a sustainable, long-term equilibrium rent. Although the lower civilian rents would be greater than a landlord's variable costs, those rents might not cover their share of the fixed costs of the housing complex.

There is, however, one thing that we can say for certain: Future BAH rates will be lower than current OHA rates for two reasons: lower utility allowances and smaller BAH housing standards.

Lower utility allowances

OHA rates are calculated to cover utilities at the 80th percentile. BAH rates are calculated to cover the mean utility payment level. This change would likely reduce allowance rates by $100 to $150.

Smaller BAH housing standards

Currently, a majority of junior and mid-grade servicemembers living off base are renting units much larger than the BAH standards. The BAH rates for E1 to E5 servicemembers with dependents are estimated to cover 2-bedroom units with no out-of-pocket expenses. Currently, 83 percent of E1 to E5 servicemembers with dependents at NBG are renting larger units with no out-of-pocket expenses. Figure 2 illustrates the bedroom distribution for these servicemembers. Since most servicemembers can currently afford units larger than the BAH standard, future BAH rates will certainly be below current OHA rates.[22]

Further evidence

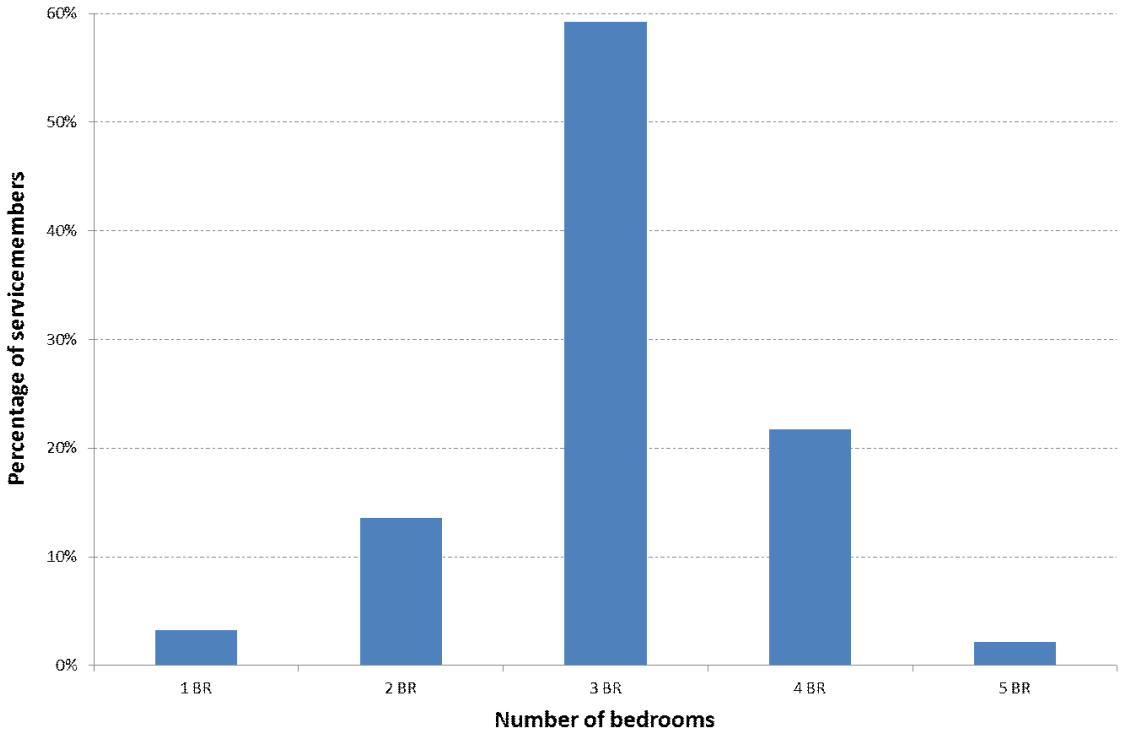
There is also indirect evidence that suggests that long-term BAH rates will be lower than OHA rates. Currently, military families on Guam are not required to live in base housing, and the high OHA rates encourage them to live in the private sector. This results in high vacancy rates for on-base housing.

The quality of military family housing in Guam is considered adequate, yet only 55 percent of the units are occupied by military servicemembers. This is a much lower occupancy rate than observed at most installations with BAH. In the 50 states, privatized military housing have occupancies over 90 percent [8][23].

22. Of course, this prediction will depend on the overall housing market. Exogenous factors, such as changes to Asian travel preferences, could affect land and home prices.

23. In addition to military families, these housing complexes may have other military, government, and private tenants. These tenants, when added to the military families, raise occupancies to 95 percent [8].

Figure 2. Bedroom distribution of E1 to E5 servicemembers (with dependents) living off base at NBG with no out-of-pocket expenses



Since BAH rates are estimated for standard-sized units, the allowances will be less attractive compared to living on base. The long-term effect of switching to BAH should raise on-base occupancy rates.

Estimating an approximate BAH rate for Guam

The uncertainty of true housing rents will complicate implementing BAH. Over time, rental prices may change dramatically. Servicemembers will begin negotiating rents, because with BAH, they will be able to keep the difference. This effect will likely reverberate throughout the rental market for military-appropriate housing.

The standard BAH methodology will ultimately converge to the correct rental price, but it is not clear what that price will be or when it will converge. Initial BAH rates are likely to be exactly that—"initial."

In this subsection, we make rough estimates of BAH rates for Guam and compare them with current OHA rates.

Rental rates

Even with the anomalies in the rental market for military-appropriate housing, we were able to find housing data to estimate an approximate rate. We examined all the rental units listed on the Guam Association of Realtors MLS [5].

MLS tends to filter out many lower quality units because realtors need to earn commissions by finding tenants. However, to roughly ensure that we were examining homes appropriate for military servicemembers, we removed all listings with asking rents below HUD FMRs for the Pacific Islands.[24]

The data provided significant rent irregularities for smaller-sized units which creates difficulties for the standard BAH methodology. The median price for a 2-bedroom townhouse was $1,650. The median price for a 2-bedroom apartment was $1,975. The median price for a 1-bedroom apartment was $1,980.[25] Because of this, we estimated a rental floor of $1,980 for all one- and two-bedroom units.[26] The rental floor means that these BAH estimates are likely upper-bound estimates, especially for those without dependents.

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24. HUD does not publish FMRs solely for Guam.

25. Examining OHA data for servicemembers in Guam produced even more severe anomalies. Data from both NBG and Andersen AFB showed that the median rental prices paid by servicemembers for 1-bedroom, 2-bedroom, and 3-bedroom apartments/townhouses were all $2,200 per month regardless of the unit size. This, combined with the results of the MLS searches, provide additional evidence that the housing market in Guam currently has distortions.

26. Even if units below the HUD FMR were not excluded from the sample, a rental floor would still be needed. The median rents for all Guam listings on the MLS showed 2-bedroom townhomes renting for $1,100; 2-bedroom apartments renting for $1,500; and 1-bedroom apartments renting for $1,600.

On Guam, home prices vary considerably with location. Apartments along the beach are often much nicer than townhouses inland. Therefore, we included 3-bedroom apartments with the 3-bedroom townhouse anchor point. Table 20 lists the estimated rental rates used for the BAH anchor points including the price floor.

Table 20. Estimated rental rates for BAH anchor points in Guam

Unit size	Estimated rent
1-BR apartment	$1,980
2-BR apartment	1,980
2-BR townhouse	1,980
3-BR apartment or townhouse	2,200
3-BR SFD home	2,200
4-BR SFD home	2,450

The rental prices for the larger units are consistent with OHA data regarding actual servicemember leases. The median rent paid by servicemembers on Guam for a 4-bedroom SFD is $2,450 per month. The median rent paid by servicemembers for a 3-bedroom apartment is $2,200 per month, and the median rent for a 3-bedroom SFD home is $2,250 per month.[27]

Utility rates

As with the other territories, we estimated the BAH utility rate as the mean utility costs reported in the 2009 OHA survey for Guam.[28] We assumed that this utility rate was the same for units of all sizes and that the without-dependents rate was 75 percent of the with-dependents rate.

The estimated BAH utility rates for Guam are $653 with dependents and $490 without dependents. This is 19 percent less than the current

27. OHA data were provided by the MHOs at NBG and Andersen AFB.

28. 2009 was the most recent OHA utility survey conducted in Guam. Current OHA rates there are based on that survey.

OHA utility rate of $809 with dependents and $607 without dependents.

Insurance rates

We assumed that renters' insurance rates were 1 percent of each paygrade's BAH rate.

BAH rates compared to OHA rates

Table 21 compares the estimated approximate BAH rates with the current OHA rates for Guam. The table only includes the rates for enlisted servicemembers with dependents. Appendix D contains the full allowance rate schedules for all paygrades, both with and without dependents.

Table 21. Comparison of OHA and approximate BAH rates for enlisted servicemembers with dependents in Guam

Paygrade	Maximum OHA rate	Estimated BAH rate	Percent difference
E1 to E4	$3,009	$2,660	- 11.6%
E5	3,259	2,660	- 18.4%
E6	3,259	2,882	- 11.6%
E7	3,259	2,882	- 11.6%
E8	3,259	2,882	- 11.6%
E9	3,409	2,922	- 14.3%

The BAH rates in table 21 are substantially lower than the maximum OHA rates. About $160 of the difference is due to lower utility allowances. The rest is due to lower rental allowances. The estimated BAH rental allowances for E1 to E6 servicemembers are similar to OHA maximum rental rates from 2009. For E7 through E9 servicemembers, the rental rates are similar to OHA maximum rates from 2004.[29]

29. Historic OHA rates can be found under the Appendix K tab at [9].

Long-term costs of BAH versus OHA

We used DMDC data on OHA payments in December 2012 to estimate the difference between overall BAH costs and OHA costs. We assumed that the paygrade distribution and housing preferences in the December 2012 data would continue into the future.[30] We also assumed that the estimated BAH rates will continue into the future.

Table 22 compares the total monthly cost estimates for OHA and BAH for Guam.

Table 22. Estimated total monthly cost comparison between OHA and BAH in Guam (based on December 2012 DMDC data)

	Estimated cost for Guam
Total monthly OHA	$7,437,000
Total monthly estimated BAH	6,990,000
Percent change	- 6.0%
Number of servicemembers (observations)	2,602

In general, switching from OHA to BAH will decrease the aggregate amount of housing allowances paid to active component servicemembers and increase the aggregate amount of allowances paid to activated Guard and Reserve members. This is because Guard and Reserve members on Guam must budget their housing expenditures according to their incomes both when they are activated and not activated. Often, this means that their rental costs are well below the OHA maximums. Since BAH is a cash payment and not a dollar-for-

30. Additional details and assumptions regarding the long-term estimates: These estimates only include DOD personnel. We assumed that personnel in Guam who received $0 in OHA were living in military family housing or unaccompanied housing and would continue to do so under a BAH system. If switching to BAH causes personnel to leave base housing, the cost estimates will change substantially.

dollar reimbursement like OHA, Guard and Reserve members are likely to receive more, even under lower BAH rates. Table 23 shows how the aggregate distribution of housing allowances would change between active duty and reserve component servicemembers.

Table 23. Distributional effects of switching from OHA to BAH on active and reserve components in Guam

	Estimated cost for Guam
Active duty	
Aggregate monthly OHA	$6,669,000
Aggregate monthly BAH	6,190,000
Percent change	- 7.2%
Number of servicemembers	2,320
Guard / Reserve	
Aggregate monthly OHA	$768,000
Aggregate monthly BAH	799,000
Percent change	+ 4.1%
Number of servicemembers	282

Caveats

The accuracy of these estimates depends on some key assumptions. We assumed that servicemembers currently living in on-base family housing and barracks will not move off-base under BAH. Because BAH is a cash payment, it might encourage some servicemembers to move off-base to inexpensive housing and pocket the difference. If less than 5 percent of on-base families and bachelors move off base, switching to BAH will lower DOD's long-term allowance costs. If more than 5 percent leave base housing, allowance costs will increase.[31]

Another concern is incomplete data regarding activated National and Air Guard servicemembers from Guam. Large-scale activations of

31. Although in this case allowance costs would increase, base housing costs would decrease. Researching on-base housing costs and estimating the full net result is beyond the scope of this paper.

Guard and Reserve troops could reduce or eliminate savings. We also do not know whether any currently activated Guard servicemembers are not receiving OHA due to not having qualified leases or mortgages. Our requests for data from the Guam National Guard and Air Guard have only been partially answered. If many activated servicemembers do not currently qualify for OHA, it could substantially change the aggregate costs of switching to BAH.

Transition costs and strategy for Guam

Challenges

Guam will pose special challenges for BAH. Although we have rough estimates of what an initial BAH rate would be, it is not clear what will happen in the long run. Once servicemembers start actively negotiating with their landlords, rental prices are likely to change substantially.

Setting the wrong initial BAH rate could have undesirable effects. If the rate is too high, residents in base housing will move into private housing, increasing an already substantial on-base vacancy rate.[32] In addition, since servicemembers in a location are protected from future reductions in their BAH rates, setting a high initial rate could remain expensive for years to come.

Setting the initial BAH rate too low will create other problems. There could be large disruptions to the private housing market if rates are too low to cover true costs. Many servicemembers may want to move back on base. Although existing base housing could accommodate most active duty servicemembers currently assigned to Guam, there may be long waiting lines if the planned transfer of servicemembers from Japan occurs.

32. Currently, military servicemembers occupy only 55 percent of on-base family housing and 66 percent of permanent party bachelor housing on Guam.

Because of the greater uncertainty and risks, the simple transition strategies described for Puerto Rico and the U.S. Virgin Islands may not be optimal for Guam. In the next subsection, we estimate the costs of a simple transition strategy, but we then discuss an alternative strategy that could minimize disruptions and total costs to DOD.

Simple transition strategy and costs

In the simple transition strategy, we assume that current servicemembers are given a choice of OHA or BAH for two or three years, and that they choose whichever system pays them more.[33] We also assume that there is a random turnover of personnel during the transition period and that new personnel receive BAH. Table 24 shows the estimated transition costs for this strategy. Payback periods for either transition are quick.

Table 24. Estimated transition costs for Guam under a simple transition strategy

Type of cost	Estimated amount
Current annual OHA cost	$89.2 million
Long-term estimated BAH cost	$83.9 million
Estimated annual savings	$5.4 million
Initial (maximum) monthly transition cost above estimated BAH cost	$641,000
Aggregate cost for two-year transition	$7.7 million
Nominal payback period for two-year transition	1.4 years
Aggregate cost for three-year transition	$11.5 million
Nominal payback period for three-year transition	2.1 years

33. As with Puerto Rico and the U.S. Virgin Islands, this is a high estimate of the transition costs, as some servicemembers currently receiving high OHA allowances would choose to receive BAH and move to less expensive housing in order to pocket the savings.

Alternative strategy

The transition in Guam involves not just changing the housing allowance system, it involves creating a normal rental market for military-appropriate homes. It is difficult to accurately predict ahead of time what the final market rents will be.

If BAH is initially set too high or too low, it could be disruptive to the local housing market and to the occupancy of on-base housing. From the military's standpoint, initial BAH rates that are too low would be easier to correct than rates that are too high. BAH rates that are too low mean increased demand for base housing, which currently has abundant vacancies. BAH rates that are too high get locked in for several years due to servicemember rate protection. The current BAH rate setting methodology does not take such transition considerations into account.

An alternative strategy could be used to minimize these potential disruptions. A low initial BAH rate could be set and then raised slowly. while both allowance systems are run simultaneously. For a period of time, all servicemembers, both currently on Guam and new arrivals, could be given a choice of receiving either OHA or a low BAH.

Some servicemembers may choose the low BAH rate because they prefer cheaper housing and keeping some of the savings. However, if most servicemembers choose OHA, that would indicate that BAH needs to be raised. BAH could be raised (perhaps even more than once a year), until the correct amount is found. This would allow a true market price to develop slowly over time. Once that true price is found, a standard transition to BAH could begin.

A key question would be how low should the initial BAH rate be? Appendix E discusses two alternative strategies for setting this initial BAH rate and estimates potential transition costs as the correct BAH level is found.

Other territories

The other two U.S. territories, American Samoa and the Northern Mariana Islands, have very few servicemembers. As of December 2012, DMDC data showed only 21 DOD servicemembers in American Samoa—6 in the active component and 15 in the reserve component. For the Northern Mariana Islands, there were 11 DOD servicemembers—6 in the active component and 5 in the reserve component. Appendix A contains paygrade data for servicemembers stationed in American Samoa and in the Northern Mariana Islands.

Of the 32 DOD servicemembers in these locations, 6 of them received OHA payments that appear abnormally low. This could suggest that some servicemembers are having problems qualifying for housing allowances. This is a small number and would probably be best examined on a case-by-case basis rather than by changing the allowance system in these areas.

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Administrative and other fixed costs

BAH and OHA have different types of administrative costs. Since BAH does not require any verification of servicemember leases and mortgages, it is somewhat easier to administer on an individual basis. However, BAH does require additional annual submissions from the local housing office; in that sense, it is more difficult to administer. We discussed these differences during visits to Guam and Puerto Rico.

In this section, we examine administrative costs and other fixed-cost differences between OHA and BAH. We begin by discussing the differences in processing time. We then discuss costs associated with the BAH annual survey. Finally, we discuss costs from the OHA move-in allowances; since these are one-time payments to servicemembers locating overseas, they are more like a fixed cost than an ongoing housing allowance.

Processing time

For newly arriving servicemembers, personnel at the MHOs in Guam and Puerto Rico did not view OHA as being burdensome. Servicemembers check in with the housing office for orientation. Officials at the housing offices told us that OHA administrative requirements might add 15 to 30 minutes to that process, which was not a significant increase to their workload.

Guard and Reserve personnel, however, had a different point of view. OHA imposed burdens during large-scale activations of servicemembers. Some Guard deployments involve hundreds of servicemembers, each one requiring OHA processing time. Housing personnel complained that they would sometimes receive hundreds of OHA requests at one time, requiring that they work overtime to process. These tended to be heavy, short-term burdens, but it did not change long-term workloads.

Also, Guard and Reserve personnel do spend considerable effort to remedy faulty implementation of OHA. Their accounting systems do not adequately support OHA. We were told that awkward and error-prone work-arounds are required for activated Guard servicemembers who do not meet the documentation requirements for OHA.

From 2006 to 2012, the work-arounds were not properly implemented on Guam, resulting in hundreds of servicemembers improperly receiving OHA or BAH II[34] payments. The National Guard and Air Guard comptrollers on Guam are now burdened with correcting these past mistakes.

BAH survey requirements

DOD hires a contractor to compile data each year and help estimate the following year's BAH rate. This process requires inputs from military housing offices. Until recently, this contract was held by Runzheimer International, Inc. Each year, Runzheimer would survey the housing offices regarding the number of hours spent supporting the BAH process. Table 25 contains the results for the 2011 BAH submission. The median response from the MHOs was that it took between 41 and 80 hours to support the process.

We sent personnel in Puerto Rico, the U.S. Virgin Islands, and Guam copies of the BAH submission requirements and requested their evaluation of the labor burden involved. The U.S. Virgin Islands responded that BAH implementation would require "two full time personnel with dedicated transportation, one on St. Croix and one

34. BAH II, or Non-Locality BAH, is a fixed amount usually paid to servicemembers in transition from one location to another. Guard servicemembers activated for 30 days or less receive BAH II with no paperwork requirements. Since 2006, Guard servicemembers activated for 31 days or more require approved paperwork to receive either OHA or BAH II. Prior to that, activated servicemembers without proper paperwork automatically received BAH II. Failure to implement this change resulted in overpayments to National and Air Guard personnel in Guam.

Table 25. Response of MHOs to survey on burden of BAH submissions[a]

Number of hours spent on the 2011 BAH submission	Number of responses from MHOs
From 1 to 10 hours	24
From 11 to 40 hours	45
From 41 to 80 hours	52
From 81 to 160 hours	37
More than 160 hours	26
No response	43

a. Data provided by Runzheimer International, Inc.

on St. Thomas." We did not receive any response from Guam or Puerto Rico.

BAH also requires contractor support. We asked contractors informally to estimate how much it would cost to implement BAH in the territories. Depending on the cooperation of local officials and the availability of information, they estimated that it would cost between $5,000 and $20,000 annually per location.

OHA move-in expenses

OHA provides servicemembers with a one-time payment to defray move-in expenses, such as expenses for making a dwelling habitable, paying agent fees, and enhancing security [3]. Some of these expense components are fixed payments to the servicemember and some are reimbursements for actual expenditures.

The move-in expense is more like a fixed overhead expense for OHA than a recurring monthly allowance. However, BAH does not cover these costs, so if a territory switches, this amount will be saved by DOD. Table 26 shows the annual estimated savings for each territory. Note: this is a high estimate as not all servicemembers receive the maximum move-in expense allowance.

The maximum move-in expense is the same whether or not a servicemember has dependents. We assume it will be paid just to active duty servicemembers with PCS orders. Our estimates also assume that ser-

vicemembers will be at the location for three years during which time they receive one move-in allowance.

Table 26. Estimated maximum annual OHA move-in expense allowances

Location	Maximum move-in allowance	Number of active duty servicemembers receiving OHA[a]	Assumed number of years at location	Estimated max. annual move-in expense allowance
Guam	$ 482	2,320	3	$373,000
Puerto Rico	1,335	250	3	111,000
Virgin Islands	1,088	9	3	3,300

a. Estimated from DMDC data.

Quality of life

Congress requested that DOD analyze the effect of changing to BAH on the quality of life (QOL) of servicemembers in the territories. We consider two types of effects:

- Monetary effects
- Other general effects

Monetary effects

Switching to BAH will likely change the allowances received by all servicemembers in a territory. Some will receive more and some will receive less. In general, there will likely be a redistribution of allowance payments from active component servicemembers to reserve component servicemembers. This is because active duty servicemembers are more likely to receive allowances close to their OHA maximums. When active duty servicemembers are transferred to a territory, they know their OHA maximums and conduct their housing searches accordingly.

Guard and Reserve members may be living in less expensive housing already and decide not to move when they are called up for duty. Since BAH payments are fixed amounts and do not require a lease to be submitted, many Guard and Reserve members could see their allowances increase, even if the new BAH rate is less than the previous OHA maximum.

Servicemembers who receive an increase in allowance payments will be unambiguously better off under BAH than OHA. However, the reverse cannot be stated with certainty. Since OHA only reimburses for actual housing costs, it may encourage servicemembers to live in higher quality housing than they would normally prefer. In other words, even if allowances go down, some servicemembers will prefer

to move to less expensive housing and pocket the savings from BAH. It is uncertain whether these servicemembers would be better or worse off.

On the other hand, some servicemembers do prefer very high-quality housing and already spend more than their OHA maximums.[35] If the allowances go down for these servicemembers, it can be assumed that they are unambiguously worse off.

From these criteria, we can estimate the number of servicemembers who fall into each category: unambiguously better off, reduced allowance with uncertain effect on QOL, and unambiguously worse off. Table 27 show the result of this analysis for Puerto Rico, the U.S. Virgin Islands, and Guam for the estimated BAH rates.

Table 27. Estimated effects of BAH on QOL

	Puerto Rico	U.S. Virgin Islands	Guam
Number of servicemembers made better off	423	68	511
Percent better off	34%	50%	20%
Number of servicemembers with reduced allowances but uncertain effect on QOL	520	33	1,487
Percent uncertain	42%	24%	57%
Number of servicemembers made unambiguously worse off	290	35	604
Percent worse off	24%	26%	23%

35. By adding out-of-pocket expenses to their housing costs, these servicemembers show a revealed preference for high-quality housing.

Other general effects on QOL

Apart from monetary compensation, BAH might have other effects on QOL. One benefit is that it will reduce a servicemember's paperwork burden. OHA requires that servicemembers submit copies of their leases or mortgages. This requirement might be fairly burdensome for some servicemembers.[36] Since BAH has no similar requirement, it is easier for the servicemember.

Unfortunately, the OHA system is prone to fraud. Because it is a dollar-to-dollar reimbursement, servicemembers may be tempted to submit fraudulent leases and pocket the difference. The temptation for fraud was a concern to officials both in Guam and Puerto Rico. They feared it has a corrupting influence that could get servicemembers into severe legal difficulties. Recently, several Guard members on Guam were indicted and pleaded guilty to submitting fraudulent leases.

The two housing offices in Guam raised concerns about safety. Under OHA, they must approve every servicemembers' choice of residence. Before approval, they inspect each residence to ensure that it can withstand typhoons. They told us that many homes on the island do not meet that safety standard and that with BAH they might not have the ability to prevent servicemembers from choosing cheap, unsafe dwellings.

36. We were told that some Guard and Reserve members in Guam and Puerto Rico reside in homes that have been in their families for generations. The paperwork requirement under OHA could be quite burdensome for these servicemembers.

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Effect on housing markets

Switching from OHA to BAH may affect local housing markets. This should not be a concern in Puerto Rico or the U.S. Virgin Islands because the military's presence is small relative to the local population.

On the U.S. Virgin Islands, there are 168 servicemembers[37] receiving OHA out of a total population of 110,000 [10]. Most of these servicemembers are in the U.S. Virgin Island Army National Guard and are not choosing their homes based just on housing allowances.

In Puerto Rico, there are about 1,600 servicemembers[38] receiving OHA payments out of a population of close to 4 million [10]. Even in the gated communities most preferred by servicemembers, the realtors we interviewed said that military servicemembers only rented about 20 to 25 percent of the homes. Switching to BAH would likely have little overall effect on housing markets in Puerto Rico.

Switching to BAH will likely have an effect on Guam. Military servicemembers dominate high-end segments of the housing market. Realtors openly admit that rents are set to OHA rates. There will be an effect if rates go down and servicemembers begin aggressively bargaining with landlords. Some housing complexes may suffer. Some property values may decline in desirable areas, and mortgage holders could be affected.

37. The estimate is based on DMDC data. The 168 servicemembers include the U.S. Coast Guard. Although their costs are not paid by DOD, they would be part of a switch to BAH. Their numbers need to be included when assessing effects on local housing markets.

38. Again, the estimate is based on DMDC data and includes the U.S. Coast Guard.

It is difficult to estimate what will happen to property values. One realtor's website suggests that new residents should purchase homes because it is cheaper overall:

> For those people moving to Guam that aren't receiving extra allowances for housing, it might be wise to consider purchasing a home rather that paying top dollar for rent to go towards someone else's mortgage. It's very difficult to compete with the military renter because of the generous housing allowance they receive. [7]

If this dichotomy between rental prices and homeowner prices is true, it suggests that the market is anticipating an eventual reduction in rents. In places where rents are expected to rise in the future, property values will be high relative to current rents. However, in places where rents are expected to decline in the future, property values will be low relative to current rents. The situation discussed by the realtor suggests the latter case where the market has partially discounted the effects of reducing allowances.

Conclusion

This study examined the feasibility of switching U.S. territories from the current OHA system, to the BAH system used in the 50 states. The two housing allowance systems are very different. OHA, for the most part, is a dollar-for-dollar reimbursement to servicemembers for their housing costs. BAH is essentially a fixed payment to servicemembers in lieu of base housing. Switching from one system to the other is certainly feasible, but there will be winners and losers.

The winners will be those servicemembers who currently spend much less than the maximum OHA rates on their housing. They will receive a higher allowance and, under BAH rules, will be able to keep the difference as cash.

The losers will be those servicemembers who prefer high-quality housing and spend accordingly. Their allowances will decrease, and they will either have to pay more out of pocket or move to less expensive homes.

Many of the winners will be members of the Guard and Reserve, because they budget their housing costs both for the times when they are activated and not activated. Many of the losers will be active duty servicemembers who budget their housing solely according to their OHA rates. One result of switching from OHA to BAH would be a net redistribution of allowance dollars from active to reserve component servicemembers.

The new BAH rates will generally be lower than the current OHA maximum rates. The change in total allowance costs to DOD will depend critically on the number of active duty servicemembers in a territory compared to Guard and Reserve servicemembers.

In the U.S. Virgin Islands, we estimate that switching to BAH will increase total allowance costs by roughly 10 percent. This is because there are very few active duty servicemembers compared to Guard

and Reserve members. In addition, VIARNG personnel believe that implementing the BAH submission requirements will be especially expensive and burdensome.

In Puerto Rico, we estimate that switching to BAH will have a neutral effect on the total DOD allowance costs. There are about 250 active duty servicemembers compared to about 1,000 activated Guard and Reserve members.

In Guam, we estimate that switching to BAH will reduce DOD's total housing allowance costs substantially—roughly 6 percent or more in the long run. However, Guam's housing market for military-appropriate rentals is unique. Military servicemembers currently dominate the high-end housing market on Guam. Landlords can legally price discriminate and set rents to each servicemember's maximum OHA rate. The result is that currently there may not be a true market price for military-appropriate housing. This will make it very difficult to set accurate initial BAH rates.

After the housing markets on Guam adjust, BAH rates will be much lower than current maximum OHA rates. We know this because servicemembers on Guam currently rent, with no out-of-pocket expenses, housing units that are much larger than the BAH standards. Also, current OHA rates are so high that many servicemembers are choosing to live off base, leaving exceptionally high vacancy rates in base housing.

Because of the situation in Guam, DOD should consider alternative strategies for transitioning to BAH. Key considerations should be to:

- Ease the creation of a true market price for military-appropriate housing,
- Minimize transition and long-term costs for DOD,
- Avoid increasing on-base vacancy rates, and
- Ease disruptions to the Guam housing market.

An alternative transition strategy is presented in the appendix of this paper.

Other than in Guam, switching to BAH should not affect the local housing markets, as the other territories have a small military presence compared to the local populations.

However, switching to BAH in the territories will require some changes to the standard BAH methodologies. The cost hierarchy of the BAH standard units does not hold in all the territories. Also, the BAH methodology for calculating utility costs will need to be changed. Data used in the 50 states for this purpose are not always available and can produce inappropriate results in the territories.

Finally, the military presence in American Samoa and the Northern Mariana Islands are so small that switching to BAH is probably not a cost-effective way to resolve any allowance difficulties.

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Appendix A: Servicemember demographics in the U.S. territories

This appendix provides overall demographic data for servicemembers assigned to U.S. territories. Tables 28 through 32 show the paygrade distributions for servicemembers stationed on Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Northern Mariana Islands, respectively.

Each table shows the number of DOD active duty servicemembers, the number of activated DOD Guard and Reserve servicemembers, and the number of Coast Guard and U.S. Public Health servicemembers. The tables include all servicemembers assigned to the territories, whether they are receiving OHA or living in on-base housing.

The data in tables 28 through 32 are derived from DMDC data for December 2012.

Table 28. Paygrade distribution of servicemembers stationed in Puerto Rico

Paygrade	Number of DOD active duty servicemembers	Number of DOD Guard & Reserve servicemembers	Number of Coast Guard and U.S. Public Health servicemembers
E1	0	0	0
E2	1	0	11
E3	8	2	71
E4	30	44	97
E5	48	143	130
E6	47	261	90
E7	66	310	44
E8	16	74	4
E9	0	21	3
O1	1	2	7
O2	2	4	12
O3	10	25	32
O4	13	42	18
O5	7	31	7
O6	2	8	11
O7	0	0	0
O1E	0	1	1
O2E	0	3	2
O3E	4	13	7
W1	0	1	0
W2	4	19	10
W3	3	8	4
W4	0	1	4
W5	0	3	0
Total	262	1016	565

Table 29. Paygrade distribution of servicemembers stationed in the U.S. Virgin Islands

Paygrade	Number of DOD active duty servicemembers	Number of DOD Guard & Reserve servicemembers	Number of Coast Guard and U.S. Public Health servicemembers
E1	0	0	0
E2	0	0	0
E3	0	1	0
E4	2	2	5
E5	2	13	9
E6	1	28	9
E7	3	31	3
E8	0	9	0
E9	0	5	0
O1	0	1	0
O2	0	2	0
O3	0	3	1
O4	0	6	1
O5	1	7	0
O6	0	5	0
O7	0	0	0
O1E	0	0	0
O2E	0	3	0
O3E	0	5	1
W1	0	1	0
W2	0	2	2
W3	0	2	0
W4	0	1	1
W5	0	0	0
Total	9	127	32

Table 30. Paygrade distribution of servicemembers stationed in Guam

Paygrade	Number of DOD active duty servicemembers	Number of DOD Guard & Reserve servicemembers	Number of Coast Guard and U.S. Public Health servicemembers
E1	28	0	0
E2	122	0	0
E3	772	1	24
E4	978	9	33
E5	1330	34	46
E6	928	62	39
E7	442	75	17
E8	101	22	1
E9	39	7	1
O1	15	12	4
O2	79	14	7
O3	187	35	7
O4	123	18	3
O5	82	15	1
O6	25	6	1
O7	1	0	0
O1E	9	9	0
O2E	18	9	2
O3E	71	5	2
W1	0	1	0
W2	6	8	3
W3	8	4	4
W4	2	0	1
W5	0	1	0
Total	5366	347	196

Table 31. Paygrade distribution of servicemembers stationed in American Samoa

Paygrade	Number of DOD active duty servicemembers	Number of DOD Guard & Reserve servicemembers	Number of Coast Guard and U.S. Public Health servicemembers
E1	0	0	0
E2	0	0	0
E3	0	0	0
E4	2	0	0
E5	1	3	0
E6	2	4	1
E7	1	4	0
E8	0	0	0
E9	0	0	0
O1	0	0	0
O2	0	0	0
O3	0	3	0
O4	0	1	0
O5	0	0	0
O6	0	0	0
O7	0	0	0
O1E	0	0	0
O2E	0	0	0
O3E	0	0	1
W1	0	0	0
W2	0	0	0
W3	0	0	0
W4	0	0	1
W5	0	0	0
Total	6	15	3

Table 32. Paygrade distribution of servicemembers stationed in the Northern Mariana Islands

Paygrade	Number of DOD active duty servicemembers	Number of DOD Guard & Reserve servicemembers	Number of Coast Guard and U.S. Public Health servicemembers
E1	0	0	0
E2	0	0	0
E3	0	0	0
E4	2	0	0
E5	3	1	0
E6	0	3	1
E7	0	1	0
E8	0	0	0
E9	0	0	0
O1	0	0	0
O2	0	0	0
O3	1	0	1
O4	0	0	1
O5	0	0	1
O6	0	0	1
O7	0	0	0
O1E	0	0	0
O2E	0	0	0
O3E	0	0	0
W1	0	0	0
W2	0	0	0
W3	0	0	0
W4	0	0	1
W5	0	0	0
Total	6	5	6

Appendix B: BAH estimates for Puerto Rico

Greater San Juan

BAH rates for the greater San Juan area were estimated from data gathered from realtors and internet searches. The MHO at Fort Buchanan provided contact information for local realtors with experience helping military servicemembers find homes. We interviewed 12 realtors by phone and asked them to estimate rents for military-appropriate homes for the six BAH anchor points—a 1-bedroom (BR) apartment, 2-BR apartment, 2-BR townhouse (TH), 3-BR TH, 3-BR single family detached (SFD) home, and 4-BR SFD. Table 33 contains the results of these interviews.

Table 33. Realtor estimates of rents for military-appropriate homes in greater San Juan

	Estimated monthly rent for BAH anchor point unit					
Realtor	1-BR Apt.	2-BR Apt.	2-BR TH	3-BR TH	3-BR SFD	4-BR SFD
1	$800	$1,300 to $1,500	$1,500	$1,600 to $1,700	$1,600 to $1,800	$1,800 to $2,500
2	$800 to $1,000	$1,200 to $1,400	$1,600	$1,500 to $1,800	$1,700 to $1,800	$2,000
3	$1,200	$1,800	$1,600	$1,600	$1,600 to $2000	$2,000 to $2,500
4	$1,200	$1,500		$1,500 to $1,800	$1,700 to $2,000	$2,000 to $2,500
5	$900 to $1,200	$1,500	$1,500 to $1,800	$1,500 to $1,800	$1,800 to $2,000	$2,500
6	$800 to $1,000	$1,500	$1,300	$1,800	$1,800	$2,000
7	$800 to $1,200	$1,500	$1,300 to $1,700	$1,500	$1,500 to $1,800	$2,500
8	$900	$1,500	$1,800	$1,700	$1,600	$2,000
9	$900	$1,800		$1,500 to $1,800	$1,600 to $2,000	$2,000 to $2,500

Table 33. Realtor estimates of rents for military-appropriate homes in greater San Juan

	Estimated monthly rent for BAH anchor point unit					
Realtor	1-BR Apt.	2-BR Apt.	2-BR TH	3-BR TH	3-BR SFD	4-BR SFD
10	$1,000	$1,800	$1,500 to $1,700	$1,500 to $1,700	$1,800 to $2,000	$2,500
11	$800 to $1,000	$1,200 to $1,500	$1,500	$1,500	$1,700 to $1,900	$2,000
12	$800 to $1,000	$1,200		$1,500	$1,800 to $2,000	$2,000 to $2,500

The MHO at Fort Buchanan also provided us with the names of several nearby gated communities with school bus stops for the on-base DODEA school. We conducted internet searches and telephone calls to price rents in these communities. Table 34 contains these estimates.

Table 34. Rents for housing at specific gated communities in greater San Juan

	Estimated monthly rent for BAH anchor point unit		
Gated community	2-BR Apt.	3-BR SFD	4-BR SFD
Camino del Mar			$1,850
Mansión del Mar		$1,500	
La Mansión Sur		$1,600	
Marina Bahía		$1,100	$1,900
Pradera			$1,700
Monte Claro	$1,350	$1,600	

We calculated the median rents from the data for all six BAH anchor points. For the cases when realtors provided a range of prices for a type of home, we took the mean of that range and counted it as one data point. Table 35 contains the estimated rents for the BAH anchor points.

Table 35. Estimated rental rates for BAH anchor points in greater San Juan

Unit size	Estimated rent
1-BR apartment	$ 900
2-BR apartment	1,500
2-BR townhouse	1,600
3-BR townhouse	1,650
3-BR SFD home	1,775
4-BR SFD home	2,150

From these anchor point estimates, we generated full BAH rate schedules using the standard BAH formulas previously described in tables 2 and 3. Comparisons between the complete BAH schedule and current OHA rates are contained in tables 36 and 37 for service-members with and without dependents, respectively.

Table 36. Comparison of estimated BAH rates for greater San Juan with current OHA rates for servicemembers with dependents

PR080 San Juan, Puerto Rico
(includes PR045 Guaynabo, PR075 Sabana Seca, and PR085 Vega Baja)

With Dependents

	OHA with dependents			Estimated BAH with dependents				
Paygrade	Rental	Utilities	Total	Rental	Utilities	Insurance	Total	% Difference
E1 - E4	1,560	800	**2,360**	1,550	607	22	**2,179**	**-7.7%**
E5	1,700	800	**2,500**	1,600	607	22	**2,229**	**-10.8%**
E6	1,900	800	**2,700**	1,650	607	23	**2,280**	**-15.6%**
E7	1,900	800	**2,700**	1,695	607	23	**2,325**	**-13.9%**
E8	1,900	800	**2,700**	1,744	607	24	**2,374**	**-12.1%**
E9	2,400	800	**3,200**	1,835	607	25	**2,467**	**-22.9%**
W1	1,700	800	**2,500**	1,651	607	23	**2,281**	**-8.8%**
W2	1,900	800	**2,700**	1,715	607	23	**2,345**	**-13.1%**
W3	2,400	800	**3,200**	1,775	607	24	**2,406**	**-24.8%**
W4	2,400	800	**3,200**	1,858	607	25	**2,489**	**-22.2%**
W5	2,625	800	**3,425**	1,955	607	26	**2,588**	**-24.4%**
O1E	1,900	800	**2,700**	1,705	607	23	**2,335**	**-13.5%**
O2E	1,900	800	**2,700**	1,766	607	24	**2,397**	**-11.2%**
O3E	2,400	800	**3,200**	1,873	607	25	**2,505**	**-21.7%**
O1	1,700	800	**2,500**	1,606	607	22	**2,235**	**-10.6%**
O2	1,700	800	**2,500**	1,649	607	23	**2,279**	**-8.8%**
O3	1,900	800	**2,700**	1,773	607	24	**2,404**	**-11.0%**
O4	2,400	800	**3,200**	1,993	607	26	**2,626**	**-17.9%**
O5	2,625	800	**3,425**	2,150	607	28	**2,785**	**-18.7%**
O6	2,708	800	**3,508**	2,172	607	28	**2,807**	**-20.0%**
O7	2,708	800	**3,508**	2,193	607	28	**2,828**	**-19.4%**

Table 37. Comparison of estimated BAH rates for greater San Juan with current OHA rates for servicemembers without dependents[a]

PR080 San Juan, Puerto Rico
(includes PR045 Guaynabo, PR075 Sabana Seca, and PR085 Vega Baja)

Without Dependents

	OHA without dependents			Estimated BAH without dependents				
Paygrade	**Rental**	**Utilities**	**Total**	**Rental**	**Utilities**	**Insurance**	**Total**	**% Difference**
E1 - E4	1,404	600	**2,004**	900	455	14	**1,634**	**-18.5%**
E5	1,530	600	**2,130**	1,302	455	18	**1,775**	**-16.7%**
E6	1,710	600	**2,310**	1,507	455	20	**1,982**	**-14.2%**
E7	1,710	600	**2,310**	1,553	455	20	**2,029**	**-12.2%**
E8	1,710	600	**2,310**	1,610	455	21	**2,086**	**-9.7%**
E9	2,160	600	**2,760**	1,626	455	21	**2,102**	**-23.8%**
W1	1,530	600	**2,130**	1,531	455	20	**2,006**	**-5.8%**
W2	1,710	600	**2,310**	1,610	455	21	**2,086**	**-9.7%**
W3	2,160	600	**2,760**	1,627	455	21	**2,103**	**-23.8%**
W4	2,160	600	**2,760**	1,661	455	21	**2,138**	**-22.5%**
W5	2,363	600	**2,963**	1,706	455	22	**2,183**	**-26.3%**
O1E	1,710	600	**2,310**	1,600	455	21	**2,076**	**-10.1%**
O2E	1,710	600	**2,310**	1,622	455	21	**2,098**	**-9.2%**
O3E	2,160	600	**2,760**	1,650	455	21	**2,127**	**-23.0%**
O1	1,530	600	**2,130**	1,500	455	20	**1,975**	**-7.3%**
O2	1,530	600	**2,130**	1,583	455	21	**2,059**	**-3.3%**
O3	1,710	600	**2,310**	1,632	455	21	**2,108**	**-8.7%**
O4	2,160	600	**2,760**	1,700	455	22	**2,177**	**-21.1%**
O5	2,363	600	**2,963**	1,729	455	22	**2,206**	**-25.5%**
O6	2,437	600	**3,037**	1,775	455	23	**2,253**	**-25.8%**
O7	2,437	600	**3,037**	1,783	455	23	**2,260**	**-25.6%**

a. In some cases, the total BAH estimate listed in the table is greater than the sum of its rental, utilities, and insurance components. This is because BAH rules do not permit the without-dependents rate to be below 75 percent of the corresponding with-dependents rate. When necessary, the total rates listed are adjusted for this BAH floor.

Outlying areas of Puerto Rico

We estimated BAH rates for 7 outlying areas of Puerto Rico. We used a methodology similar to the standard one used for the BAH county cost groups. We compared HUD FMRs for these outlying areas to the FMRs for San Juan. We then prorated the estimated rents for the San Juan BAH anchor points accordingly. We assumed that the outlying areas would have utility and insurance costs similar to San Juan. Tables 38 through 44 contain the complete estimated BAH schedules for the outlying areas.

Table 38. Comparison of estimated BAH rates with current OHA rates for Aguadilla, PR and other areas

PR001 Aguadilla, Puerto Rico
(includes PR053 Isabela and PR999 other areas)

	With Dependents			Without Dependents		
Paygrade	OHA	Estimated BAH	% Difference	OHA	Estimated BAH	% Difference
E1 - E4	2,200	1,814	-17.5%	1,860	1,361	-26.9%
E5	2,500	1,853	-25.9%	2,130	1,469	-31.1%
E6	2,500	1,892	-24.3%	2,130	1,627	-23.6%
E7	2,500	1,926	-22.9%	2,130	1,663	-21.9%
E8	2,500	1,964	-21.4%	2,130	1,707	-19.8%
E9	2,500	2,035	-18.6%	2,130	1,719	-19.3%
W1	2,500	1,892	-24.3%	2,130	1,646	-22.7%
W2	2,500	1,942	-22.3%	2,130	1,707	-19.9%
W3	2,500	1,988	-20.5%	2,130	1,720	-19.2%
W4	2,500	2,052	-17.9%	2,130	1,747	-18.0%
W5	2,500	2,128	-14.9%	2,130	1,782	-16.3%
O1E	2,500	1,934	-22.6%	2,130	1,699	-20.2%
O2E	2,500	1,982	-20.7%	2,130	1,717	-19.4%
O3E	2,500	2,064	-17.4%	2,130	1,738	-18.4%
O1	2,500	1,857	-25.7%	2,130	1,622	-23.8%
O2	2,500	1,891	-24.4%	2,130	1,686	-20.8%
O3	2,500	1,986	-20.5%	2,130	1,724	-19.0%
O4	2,500	2,157	-13.7%	2,130	1,777	-16.6%
O5	2,500	2,279	-8.8%	2,130	1,799	-15.5%
O6	2,500	2,296	-8.2%	2,130	1,835	-13.8%
O7	2,500	2,312	-7.5%	2,130	1,841	-13.6%

Table 39. Comparison of estimated BAH rates with current OHA rates for Arecibo, PR

PR005 Arecibo, Puerto Rico

	With Dependents			Without Dependents		
Paygrade	**OHA**	**Estimated BAH**	**% Difference**	**OHA**	**Estimated BAH**	**% Difference**
E1 - E4	2,200	1,929	-12.3%	1,860	1,447	-22.2%
E5	2,500	1,972	-21.1%	2,130	1,565	-26.5%
E6	2,500	2,014	-19.4%	2,130	1,740	-18.3%
E7	2,500	2,052	-17.9%	2,130	1,779	-16.5%
E8	2,500	2,094	-16.2%	2,130	1,827	-14.2%
E9	2,500	2,171	-13.1%	2,130	1,840	-13.6%
W1	2,500	2,015	-19.4%	2,130	1,760	-17.4%
W2	2,500	2,069	-17.2%	2,130	1,827	-14.2%
W3	2,500	2,120	-15.2%	2,130	1,841	-13.5%
W4	2,500	2,190	-12.4%	2,130	1,871	-12.2%
W5	2,500	2,273	-9.1%	2,130	1,909	-10.4%
O1E	2,500	2,061	-17.6%	2,130	1,819	-14.6%
O2E	2,500	2,113	-15.5%	2,130	1,837	-13.7%
O3E	2,500	2,203	-11.9%	2,130	1,861	-12.6%
O1	2,500	1,976	-20.9%	2,130	1,734	-18.6%
O2	2,500	2,013	-19.5%	2,130	1,804	-15.3%
O3	2,500	2,118	-15.3%	2,130	1,846	-13.3%
O4	2,500	2,305	-7.8%	2,130	1,903	-10.6%
O5	2,500	2,439	-2.4%	2,130	1,928	-9.5%
O6	2,500	2,457	-1.7%	2,130	1,967	-7.6%
O7	2,500	2,475	-1.0%	2,130	1,973	-7.3%

Table 40. Comparison of estimated BAH rates with current OHA rates for Caguas, PR and nearby areas

PR015 Caguas, Puerto Rico
(includes PR025 Cayey)

	With Dependents			Without Dependents		
Paygrade	**OHA**	**Estimated BAH**	**% Difference**	**OHA**	**Estimated BAH**	**% Difference**
E1 - E4	2,360	2,077	-12.0%	2,004	1,558	-22.3%
E5	2,500	2,124	-15.0%	2,130	1,690	-20.7%
E6	2,700	2,172	-19.6%	2,310	1,883	-18.5%
E7	2,700	2,214	-18.0%	2,310	1,927	-16.6%
E8	2,700	2,260	-16.3%	2,310	1,981	-14.3%
E9	3,200	2,346	-26.7%	2,760	1,995	-27.7%
W1	2,500	2,173	-13.1%	2,130	1,906	-10.5%
W2	2,700	2,233	-17.3%	2,310	1,980	-14.3%
W3	3,200	2,290	-28.4%	2,760	1,997	-27.7%
W4	3,200	2,368	-26.0%	2,760	2,029	-26.5%
W5	3,425	2,460	-28.2%	2,963	2,071	-30.1%
O1E	2,700	2,224	-17.6%	2,310	1,971	-14.7%
O2E	2,700	2,281	-15.5%	2,310	1,992	-13.8%
O3E	3,200	2,382	-25.6%	2,760	2,018	-26.9%
O1	2,500	2,130	-14.8%	2,130	1,877	-11.9%
O2	2,500	2,171	-13.2%	2,130	1,955	-8.2%
O3	2,700	2,287	-15.3%	2,310	2,001	-13.4%
O4	3,200	2,495	-22.0%	2,760	2,066	-25.2%
O5	3,425	2,644	-22.8%	2,963	2,093	-29.4%
O6	3,508	2,664	-24.1%	3,037	2,136	-29.7%
O7	3,508	2,684	-23.5%	3,037	2,143	-29.4%

Table 41. Comparison of estimated BAH rates with current OHA rates for Fajardo, PR and nearby areas

PR030 Fajardo, Puerto Rico
(includes PR050 Humacao, PR055 Luquillo, and PR070 Roosevelt Roads

	With Dependents			Without Dependents		
Paygrade	**OHA**	**Estimated BAH**	**% Difference**	**OHA**	**Estimated BAH**	**% Difference**
E1 - E4	2,444	2,174	-11.1%	2,080	1,630	-21.6%
E5	2,700	2,224	-17.6%	2,310	1,771	-23.3%
E6	2,700	2,274	-15.8%	2,310	1,977	-14.4%
E7	2,700	2,320	-14.1%	2,310	2,023	-12.4%
E8	2,700	2,369	-12.3%	2,310	2,081	-9.9%
E9	3,050	2,461	-19.3%	2,625	2,096	-20.1%
W1	2,700	2,276	-15.7%	2,310	2,001	-13.4%
W2	2,700	2,340	-13.3%	2,310	2,080	-9.9%
W3	3,050	2,400	-21.3%	2,625	2,098	-20.1%
W4	3,050	2,483	-18.6%	2,625	2,132	-18.8%
W5	3,050	2,581	-15.4%	2,625	2,178	-17.0%
O1E	2,700	2,330	-13.7%	2,310	2,071	-10.4%
O2E	2,700	2,391	-11.4%	2,310	2,093	-9.4%
O3E	3,050	2,498	-18.1%	2,625	2,121	-19.2%
O1	2,700	2,230	-17.4%	2,310	1,970	-14.7%
O2	2,700	2,273	-15.8%	2,310	2,054	-11.1%
O3	2,700	2,398	-11.2%	2,310	2,103	-9.0%
O4	3,050	2,619	-14.1%	2,625	2,171	-17.3%
O5	3,050	2,778	-8.9%	2,625	2,200	-16.2%
O6	3,150	2,799	-11.1%	2,715	2,247	-17.2%
O7	3,150	2,821	-10.4%	2,715	2,254	-17.0%

Table 42. Comparison of estimated BAH rates with current OHA rates for Guayama, PR

PR040 Guayama, Puerto Rico

	With Dependents			Without Dependents		
Paygrade	**OHA**	**Estimated BAH**	**% Difference**	**OHA**	**Estimated BAH**	**% Difference**
E1 - E4	2,300	1,975	-14.1%	1,950	1,481	-24.0%
E5	2,450	2,019	-17.6%	2,085	1,604	-23.1%
E6	2,450	2,063	-15.8%	2,085	1,784	-14.4%
E7	2,450	2,103	-14.2%	2,085	1,825	-12.5%
E8	2,450	2,145	-12.4%	2,085	1,875	-10.1%
E9	2,450	2,226	-9.2%	2,085	1,888	-9.4%
W1	2,450	2,064	-15.7%	2,085	1,805	-13.4%
W2	2,450	2,120	-13.5%	2,085	1,874	-10.1%
W3	2,450	2,173	-11.3%	2,085	1,890	-9.4%
W4	2,450	2,245	-8.4%	2,085	1,920	-7.9%
W5	2,450	2,331	-4.9%	2,085	1,959	-6.0%
O1E	2,450	2,111	-13.8%	2,085	1,866	-10.5%
O2E	2,450	2,165	-11.6%	2,085	1,885	-9.6%
O3E	2,450	2,259	-7.8%	2,085	1,910	-8.4%
O1	2,450	2,024	-17.4%	2,085	1,778	-14.7%
O2	2,450	2,062	-15.8%	2,085	1,851	-11.2%
O3	2,450	2,171	-11.4%	2,085	1,894	-9.2%
O4	2,450	2,364	-3.5%	2,085	1,954	-6.3%
O5	2,450	2,502	2.1%	2,085	1,979	-5.1%
O6	2,450	2,521	2.9%	2,085	2,020	-3.1%
O7	2,450	2,540	3.7%	2,085	2,026	-2.8%

Table 43. Comparison of estimated BAH rates with current OHA rates for Mayagüez, PR

PR060 Mayagüez, Puerto Rico

	With Dependents			Without Dependents		
Paygrade	**OHA**	**Estimated BAH**	**% Difference**	**OHA**	**Estimated BAH**	**% Difference**
E1 - E4	2,301	1,997	-13.2%	1,951	1,497	-23.2%
E5	2,525	2,041	-19.2%	2,153	1,622	-24.7%
E6	2,525	2,086	-17.4%	2,153	1,805	-16.2%
E7	2,525	2,126	-15.8%	2,153	1,846	-14.2%
E8	2,525	2,169	-14.1%	2,153	1,897	-11.9%
E9	2,525	2,251	-10.9%	2,153	1,911	-11.2%
W1	2,525	2,087	-17.4%	2,153	1,826	-15.2%
W2	2,525	2,144	-15.1%	2,153	1,896	-11.9%
W3	2,525	2,197	-13.0%	2,153	1,912	-11.2%
W4	2,525	2,271	-10.1%	2,153	1,943	-9.8%
W5	2,525	2,358	-6.6%	2,153	1,983	-7.9%
O1E	2,525	2,135	-15.5%	2,153	1,888	-12.3%
O2E	2,525	2,190	-13.3%	2,153	1,907	-11.4%
O3E	2,525	2,284	-9.5%	2,153	1,932	-10.2%
O1	2,525	2,046	-19.0%	2,153	1,799	-16.4%
O2	2,525	2,085	-17.4%	2,153	1,873	-13.0%
O3	2,525	2,195	-13.1%	2,153	1,916	-11.0%
O4	2,525	2,391	-5.3%	2,153	1,977	-8.1%
O5	2,525	2,532	0.3%	2,153	2,003	-7.0%
O6	2,525	2,551	1.0%	2,153	2,044	-5.0%
O7	2,525	2,570	1.8%	2,153	2,051	-4.7%

Table 44. Comparison of estimated BAH rates with current OHA rates for Ponce, PR

PR065 Ponce, Puerto Rico

	With Dependents			Without Dependents		
Paygrade	**OHA**	**Estimated BAH**	**% Difference**	**OHA**	**Estimated BAH**	**% Difference**
E1 - E4	2,300	2,142	-6.9%	1,950	1,606	-17.6%
E5	2,450	2,191	-10.6%	2,085	1,744	-16.4%
E6	2,450	2,240	-8.6%	2,085	1,946	-6.7%
E7	2,450	2,285	-6.8%	2,085	1,991	-4.5%
E8	2,450	2,333	-4.8%	2,085	2,047	-1.8%
E9	2,450	2,423	-1.1%	2,085	2,063	-1.1%
W1	2,450	2,241	-8.5%	2,085	1,970	-5.5%
W2	2,450	2,304	-6.0%	2,085	2,047	-1.8%
W3	2,450	2,363	-3.5%	2,085	2,064	-1.0%
W4	2,450	2,445	-0.2%	2,085	2,098	0.6%
W5	2,450	2,541	3.7%	2,085	2,142	2.7%
O1E	2,450	2,294	-6.4%	2,085	2,038	-2.3%
O2E	2,450	2,355	-3.9%	2,085	2,059	-1.2%
O3E	2,450	2,460	0.4%	2,085	2,087	0.1%
O1	2,450	2,196	-10.4%	2,085	1,939	-7.0%
O2	2,450	2,239	-8.6%	2,085	2,021	-3.1%
O3	2,450	2,361	-3.6%	2,085	2,069	-0.8%
O4	2,450	2,578	5.2%	2,085	2,136	2.5%
O5	2,450	2,733	11.6%	2,085	2,164	3.8%
O6	2,450	2,754	12.4%	2,085	2,210	6.0%
O7	2,450	2,776	13.3%	2,085	2,218	6.4%

Appendix C: BAH estimates for the U.S. Virgin Islands

For the U.S. Virgin Islands, we estimated BAH rates similarly to the methodology for the outlying areas of Puerto Rico. We compared the FMR rates for St. Croix and St. Thomas with those from San Juan. We then prorated the San Juan anchor points from table 35 accordingly to derive rents for the U.S. Virgin Islands. Table 45 contains the estimated rents for BAH anchor points in St. Croix and St. Thomas.

Table 45. Estimated rents for BAH anchor points on the U.S. Virgin Islands

BAH anchor point	St. Croix	St. Thomas
1-BR apartment	$1,081	$1,438
2-BR apartment	1,802	2,397
2-BR townhouse	1,922	2,557
3-BR townhouse	1,982	2,637
3-BR SFD home	2,132	2,837
4-BR SFD home	2,583	3,436

We used the estimated rents for the anchor points to generate full BAH schedules for St. Croix and St. Thomas. The utility cost estimates were derived from the OHA utility survey for the U.S. Virgin Islands. Insurance costs were assumed to be 1 percent of the total BAH rate.

Tables 46 through 49 contain the full estimated BAH schedules for St. Croix and St. Thomas, both for servicemembers with and without dependents.

Table 46. Comparison of St. Croix estimated BAH rates with current OHA rates for servicemembers with dependents

VI001 St. Croix, Virgin Islands

With Dependents

	OHA with dependents			Estimated BAH with dependents				
Paygrade	Rental	Utilities	Total	Rental	Utilities	Insurance	Total	% Difference
E1 - E4	1,944	743	**2,687**	1,862	520	24	**2,406**	**-10.5%**
E5	2,167	743	**2,910**	1,922	520	25	**2,467**	**-15.2%**
E6	2,444	743	**3,187**	1,982	520	25	**2,527**	**-20.7%**
E7	2,444	743	**3,187**	2,036	520	26	**2,582**	**-19.0%**
E8	2,444	743	**3,187**	2,095	520	26	**2,641**	**-17.1%**
E9	2,600	743	**3,343**	2,204	520	28	**2,752**	**-17.7%**
W1	2,167	743	**2,910**	1,983	520	25	**2,529**	**-13.1%**
W2	2,444	743	**3,187**	2,060	520	26	**2,606**	**-18.2%**
W3	2,600	743	**3,343**	2,132	520	27	**2,679**	**-19.9%**
W4	2,600	743	**3,343**	2,231	520	28	**2,779**	**-16.9%**
W5	2,600	743	**3,343**	2,348	520	29	**2,897**	**-13.3%**
O1E	2,444	743	**3,187**	2,048	520	26	**2,594**	**-18.6%**
O2E	2,444	743	**3,187**	2,122	520	27	**2,668**	**-16.3%**
O3E	2,600	743	**3,343**	2,249	520	28	**2,797**	**-16.3%**
O1	2,167	743	**2,910**	1,929	520	25	**2,473**	**-15.0%**
O2	2,167	743	**2,910**	1,981	520	25	**2,526**	**-13.2%**
O3	2,444	743	**3,187**	2,129	520	27	**2,676**	**-16.0%**
O4	2,600	743	**3,343**	2,393	520	29	**2,943**	**-12.0%**
O5	2,600	743	**3,343**	2,583	520	31	**3,134**	**-6.3%**
O6	2,600	743	**3,343**	2,608	520	32	**3,160**	**-5.5%**
O7	2,600	743	**3,343**	2,634	520	32	**3,186**	**-4.7%**

Table 47. Comparison of St. Croix estimated BAH rates with current OHA rates for servicemembers without dependents[a]

VI001 St. Croix, Virgin Islands

Without Dependents

	OHA without dependents			Estimated BAH without dependents				
Paygrade	**Rental**	**Utilities**	**Total**	**Rental**	**Utilities**	**Insurance**	**Total**	**% Difference**
E1 - E4	1,750	557	**2,307**	1,081	390	15	**1,804**	**-21.8%**
E5	1,950	557	**2,508**	1,564	390	20	**1,974**	**-21.3%**
E6	2,200	557	**2,757**	1,810	390	22	**2,222**	**-19.4%**
E7	2,200	557	**2,757**	1,865	390	23	**2,278**	**-17.4%**
E8	2,200	557	**2,757**	1,934	390	23	**2,347**	**-14.9%**
E9	2,340	557	**2,897**	1,953	390	24	**2,366**	**-18.3%**
W1	1,950	557	**2,508**	1,839	390	23	**2,252**	**-10.2%**
W2	2,200	557	**2,757**	1,933	390	23	**2,347**	**-14.9%**
W3	2,340	557	**2,897**	1,954	390	24	**2,368**	**-18.3%**
W4	2,340	557	**2,897**	1,996	390	24	**2,410**	**-16.8%**
W5	2,340	557	**2,897**	2,050	390	25	**2,464**	**-14.9%**
O1E	2,200	557	**2,757**	1,922	390	23	**2,335**	**-15.3%**
O2E	2,200	557	**2,757**	1,948	390	24	**2,362**	**-14.3%**
O3E	2,340	557	**2,897**	1,982	390	24	**2,396**	**-17.3%**
O1	1,950	557	**2,508**	1,802	390	22	**2,214**	**-11.7%**
O2	1,950	557	**2,508**	1,902	390	23	**2,315**	**-7.7%**
O3	2,200	557	**2,757**	1,960	390	24	**2,374**	**-13.9%**
O4	2,340	557	**2,897**	2,042	390	25	**2,457**	**-15.2%**
O5	2,340	557	**2,897**	2,077	390	25	**2,492**	**-14.0%**
O6	2,340	557	**2,897**	2,132	390	25	**2,548**	**-12.1%**
O7	2,340	557	**2,897**	2,141	390	26	**2,557**	**-11.8%**

a. In some cases, the total BAH estimate listed in the table is greater than the sum of its rental, utilities, and insurance components. This is because BAH rules do not permit the without-dependents rate to be below 75 percent of the corresponding with-dependents rate. When necessary, the total rates listed are adjusted for this BAH floor.

Table 48. Comparison of St. Thomas estimated BAH rates with current OHA rates for service-members with dependents

VI005 St. Thomas, Virgin Islands

With Dependents

	OHA with dependents			Estimated BAH with dependents				
Paygrade	**Rental**	**Utilities**	**Total**	**Rental**	**Utilities**	**Insurance**	**Total**	**% Difference**
E1 - E4	2,333	743	**3,076**	2,477	520	30	**3,028**	**-1.6%**
E5	2,556	743	**3,299**	2,557	520	31	**3,108**	**-5.8%**
E6	2,556	743	**3,299**	2,637	520	32	**3,189**	**-3.3%**
E7	2,556	743	**3,299**	2,709	520	33	**3,262**	**-1.1%**
E8	2,556	743	**3,299**	2,787	520	33	**3,340**	**1.3%**
E9	2,556	743	**3,299**	2,933	520	35	**3,488**	**5.7%**
W1	2,556	743	**3,299**	2,639	520	32	**3,191**	**-3.3%**
W2	2,556	743	**3,299**	2,741	520	33	**3,294**	**-0.2%**
W3	2,556	743	**3,299**	2,837	520	34	**3,391**	**2.8%**
W4	2,556	743	**3,299**	2,969	520	35	**3,524**	**6.8%**
W5	2,556	743	**3,299**	3,125	520	37	**3,682**	**11.6%**
O1E	2,556	743	**3,299**	2,725	520	33	**3,278**	**-0.6%**
O2E	2,556	743	**3,299**	2,823	520	34	**3,377**	**2.4%**
O3E	2,556	743	**3,299**	2,993	520	35	**3,548**	**7.6%**
O1	2,556	743	**3,299**	2,566	520	31	**3,117**	**-5.5%**
O2	2,556	743	**3,299**	2,636	520	32	**3,187**	**-3.4%**
O3	2,556	743	**3,299**	2,833	520	34	**3,387**	**2.7%**
O4	2,556	743	**3,299**	3,185	520	37	**3,742**	**13.4%**
O5	2,556	743	**3,299**	3,436	520	40	**3,996**	**21.1%**
O6	2,556	743	**3,299**	3,471	520	40	**4,031**	**22.2%**
O7	2,556	743	**3,299**	3,505	520	41	**4,066**	**23.2%**

Table 49. Comparison of St. Thomas estimated BAH rates with current OHA rates for service-members without dependents[a]

VI005 St. Thomas, Virgin Islands

Without Dependents

	OHA without dependents			Estimated BAH without dependents				
Paygrade	**Rental**	**Utilities**	**Total**	**Rental**	**Utilities**	**Insurance**	**Total**	**% Difference**
E1 - E4	2,100	557	**2,657**	1,438	390	18	**2,271**	**-14.5%**
E5	2,300	557	**2,858**	2,081	390	25	**2,496**	**-12.7%**
E6	2,300	557	**2,858**	2,409	390	28	**2,827**	**-1.1%**
E7	2,300	557	**2,858**	2,482	390	29	**2,901**	**1.5%**
E8	2,300	557	**2,858**	2,573	390	30	**2,993**	**4.7%**
E9	2,300	557	**2,858**	2,598	390	30	**3,018**	**5.6%**
W1	2,300	557	**2,858**	2,447	390	29	**2,866**	**0.3%**
W2	2,300	557	**2,858**	2,572	390	30	**2,992**	**4.7%**
W3	2,300	557	**2,858**	2,600	390	30	**3,021**	**5.7%**
W4	2,300	557	**2,858**	2,655	390	31	**3,076**	**7.6%**
W5	2,300	557	**2,858**	2,727	390	31	**3,149**	**10.2%**
O1E	2,300	557	**2,858**	2,557	390	30	**2,977**	**4.2%**
O2E	2,300	557	**2,858**	2,592	390	30	**3,013**	**5.4%**
O3E	2,300	557	**2,858**	2,637	390	31	**3,058**	**7.0%**
O1	2,300	557	**2,858**	2,397	390	28	**2,816**	**-1.5%**
O2	2,300	557	**2,858**	2,530	390	29	**2,950**	**3.2%**
O3	2,300	557	**2,858**	2,608	390	30	**3,029**	**6.0%**
O4	2,300	557	**2,858**	2,717	390	31	**3,139**	**9.8%**
O5	2,300	557	**2,858**	2,763	390	32	**3,185**	**11.5%**
O6	2,300	557	**2,858**	2,837	390	33	**3,260**	**14.1%**
O7	2,300	557	**2,858**	2,849	390	33	**3,272**	**14.5%**

a. In some cases, the total BAH estimate listed in the table is greater than the sum of its rental, utilities, and insurance components. This is because BAH rules do not permit the without-dependents rate to be below 75 percent of the corresponding with-dependents rate. When necessary, the total rates listed are adjusted for this BAH floor.

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Appendix D: BAH estimates for Guam

To estimate BAH rates for Guam, we obtained rental data from the Guam Association of Realtors MLS [5]. To ensure that the listings would only include homes likely to be appropriate for military servicemembers, we removed all listings with rents below the HUD FMR levels.

As discussed in the main text, the current Guam housing market has significant anomalies. The MLS data highlighted some of the anomalies. The median rental price for a 1-BR apartment was greater than the median rental prices for a 2-BR apartment or 2-BR townhouse. Therefore, to be conservative when estimating the rental rates for the BAH anchor points, we imposed a floor at the rent of a 1-BR apartment. Table 50 lists the estimated rental rates for the BAH anchor points with the imposed rental floor.

Table 50. Estimated rental rates for BAH anchor points in Guam

Unit size	Estimated rent
1-BR apartment	$1,980
2-BR apartment	1,980
2-BR townhouse	1,980
3-BR apartment or townhouse[a]	2,200
3-BR SFD home	2,200
4-BR SFD home	2,450

a. On Guam, 3-BR apartments are often along the beachfront and may be more desirable than townhouses inland. Therefore, we include appropriately-priced 3-BR apartments as part of the 3-BR townhouse anchor point.

We used the estimated rental rates for the anchor points to generate full BAH rate schedules. Tables 51 and 52 compare these estimated BAH schedules to current OHA rates for servicemembers with and without dependents, respectively.

Table 51. Comparison of Guam estimated BAH rates with current OHA rates for servicemembers with dependents

GU001 Guam
Estimated BAH rates from MLS with entries below FMR removed

With Dependents

	OHA with dependents			Estimated BAH with dependents				
Paygrade	Rental	Utilities	Total	Rental	Utilities	Insurance	Total	% Difference
E1 - E4	2,200	809	**3,009**	1,980	653	27	**2,660**	**-11.6%**
E5	2,450	809	**3,259**	1,980	653	27	**2,660**	**-18.4%**
E6	2,450	809	**3,259**	2,200	653	29	**2,882**	**-11.6%**
E7	2,450	809	**3,259**	2,200	653	29	**2,882**	**-11.6%**
E8	2,450	809	**3,259**	2,200	653	29	**2,882**	**-11.6%**
E9	2,600	809	**3,409**	2,240	653	29	**2,922**	**-14.3%**
W1	2,450	809	**3,259**	2,200	653	29	**2,882**	**-11.6%**
W2	2,450	809	**3,259**	2,200	653	29	**2,882**	**-11.6%**
W3	2,600	809	**3,409**	2,200	653	29	**2,882**	**-15.5%**
W4	2,600	809	**3,409**	2,255	653	29	**2,937**	**-13.8%**
W5	2,800	809	**3,609**	2,320	653	30	**3,003**	**-16.8%**
O1E	2,450	809	**3,259**	2,200	653	29	**2,882**	**-11.6%**
O2E	2,450	809	**3,259**	2,200	653	29	**2,882**	**-11.6%**
O3E	2,600	809	**3,409**	2,265	653	29	**2,947**	**-13.5%**
O1	2,450	809	**3,259**	2,004	653	27	**2,684**	**-17.6%**
O2	2,450	809	**3,259**	2,196	653	29	**2,877**	**-11.7%**
O3	2,450	809	**3,259**	2,200	653	29	**2,882**	**-11.6%**
O4	2,600	809	**3,409**	2,345	653	30	**3,028**	**-11.2%**
O5	2,800	809	**3,609**	2,450	653	31	**3,134**	**-13.2%**
O6	2,900	809	**3,709**	2,475	653	32	**3,159**	**-14.8%**
O7	2,900	809	**3,709**	2,499	653	32	**3,184**	**-14.2%**

Table 52. Comparison of Guam estimated BAH rates with current OHA rates for servicemembers without dependents

GU001 Guam
Estimated BAH rates from MLS with entries below FMR removed

Without Dependents

	OHA without dependents			Estimated BAH without dependents				
Paygrade	**Rental**	**Utilities**	**Total**	**Rental**	**Utilities**	**Insurance**	**Total**	**% Difference**
E1 - E4	1,980	607	**2,587**	1,980	490	25	**2,495**	**-3.6%**
E5	2,205	607	**2,812**	1,980	490	25	**2,495**	**-11.3%**
E6	2,205	607	**2,812**	1,980	490	25	**2,495**	**-11.3%**
E7	2,205	607	**2,812**	1,980	490	25	**2,495**	**-11.3%**
E8	2,205	607	**2,812**	2,024	490	25	**2,539**	**-9.7%**
E9	2,340	607	**2,947**	2,092	490	26	**2,608**	**-11.5%**
W1	2,205	607	**2,812**	1,980	490	25	**2,495**	**-11.3%**
W2	2,205	607	**2,812**	2,022	490	25	**2,537**	**-9.8%**
W3	2,340	607	**2,947**	2,099	490	26	**2,615**	**-11.3%**
W4	2,340	607	**2,947**	2,200	490	27	**2,717**	**-7.8%**
W5	2,520	607	**3,127**	2,200	490	27	**2,717**	**-13.1%**
O1E	2,205	607	**2,812**	1,980	490	25	**2,495**	**-11.3%**
O2E	2,205	607	**2,812**	2,077	490	26	**2,592**	**-7.8%**
O3E	2,340	607	**2,947**	2,200	490	27	**2,717**	**-7.8%**
O1	2,205	607	**2,812**	1,980	490	25	**2,495**	**-11.3%**
O2	2,205	607	**2,812**	1,980	490	25	**2,495**	**-11.3%**
O3	2,205	607	**2,812**	2,121	490	26	**2,637**	**-6.2%**
O4	2,340	607	**2,947**	2,200	490	27	**2,717**	**-7.8%**
O5	2,520	607	**3,127**	2,200	490	27	**2,717**	**-13.1%**
O6	2,610	607	**3,217**	2,200	490	27	**2,717**	**-15.5%**
O7	2,610	607	**3,217**	2,205	490	27	**2,722**	**-15.4%**

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Appendix E: Alternative transition strategy for Guam

Because of the anomalies in the Guam housing market, a true market price for military-appropriate units may not exist. This will be a major challenge for transitioning to BAH. The normal BAH process will ultimately converge to a market equilibrium rate, but the process may take years and cost DOD more than it should.

In a simple transition to BAH, there will be great uncertainty regarding what the initial rates should be. Setting initial rates too high or too low could disrupt on-base housing or local housing markets.

If the initial rates are too high, it will be very costly to DOD. Servicemembers might leave on-base housing to take advantage of the high rates. DOD would also be locked into paying these rates for several years to many servicemembers due to BAH rate protection rules.

The standard BAH process does not account for these considerations. The simple transition strategy described in the paper only adjusts for the grandfathering of servicemembers already receiving OHA. A better transition strategy for Guam should:

- Ease the creation of a true market price for military-appropriate housing,
- Minimize transition and long-term costs for DOD,
- Avoid increasing on-base vacancy rates, and
- Ease disruptions to the Guam housing market.

An alternative strategy to meet these goals would be to run both allowance systems simultaneously. A low initial BAH rate could be set and then raised slowly until the right level is found. For a period of time,

all servicemembers, both currently on Guam and new arrivals, could be given their choice of receiving either OHA or a low BAH.

Some servicemembers may choose the low BAH rate because they prefer less expensive housing and the ability to keep the savings. However, if most servicemembers choose OHA, that would indicate that BAH rates need to be raised. The BAH rates could be slowly raised, even more than once a year, until servicemember preferences are known and a market equilibrium price is reached. At that point, a standard transition to BAH could begin.

The initial BAH rates should be set so they do not increase vacancies in base housing. Two possible approaches for setting the initial alternative BAH rate are:

- Setting rates based on the appraised rental value of on-base housing
- Setting rates based on HUD Fair Market Rents (FMRs)

Setting BAH from appraised rents for on-base housing

Because of the large number of vacancies in military housing, some DOD civilian personnel are permitted to pay rent and live on base.[39] The rents charged are set by a market-based appraisal of the rental value of the housing. The most recent appraisal was conducted in March 2012 [11].

We used the appraised on-base rents to estimate rents for the BAH anchor points. On-base family housing consists of only 2, 3, and 4-bedroom units, so some adjustments to the normal BAH methodology were required. We assumed that the 2-bedroom rent would be a floor for all military personnel. Townhouses were assumed to rent for amounts similar to SFD homes. The estimates are based on the median appraised rental prices for all on-base family housing units.

39. DOD civilian personnel transferred to Guam with a transportation agreement are eligible for this privilege.

Table 53 contains the estimated rents for the BAH anchor point homes.

Table 53. Alternative rent estimates for BAH anchor points based on appraisals for Guam military housing

Unit size	Estimated rent
1-BR apartment	$1,100
2-BR apartment	1,100
2-BR townhouse	1,100
3-BR townhouse	1,300
3-BR SFD home	1,300
4-BR SFD home	1,360

We used the rental rates for the anchor points to generate full BAH rate schedules. Since these estimated initial BAH rates are based on the appraised rents for on-base housing, they should not increase vacancies. Tables 54 and 55 compare these estimated BAH schedules to current OHA rates for servicemembers with and without dependents, respectively.

During this alternative transition period, all servicemembers would be given their choice of OHA or BAH. Therefore, we would expect somewhat higher initial costs until the correct BAH rates are discovered. Using the December 2012 DMDC data, we estimate that this alternative BAH transition rate schedule would cost an additional $20,000 per month or $240,000 annually over current OHA costs.[40]

These estimates assume that only servicemembers currently receiving OHA allowances lower than the new BAH rates will switch.

40. These estimates depend critically on allowances paid to activated National and Air Guard servicemembers. Recently, 600 National Guard troops from Guam were deployed for Afghanistan. We were only able to obtain limited OHA data for these servicemembers. The total cost for the alternative transition strategy could increase greatly with large-scale activations of Guard and Reserve servicemembers. We recommend that DOD analyze complete Guard and Reserve data before a final decision regarding a transition is made.

Table 54. Comparison of alternative BAH rates estimated from on-base housing appraisals with current OHA rates for servicemembers with dependents

GU001 Guam
Estimated BAH rates from appraised rents for on-base housing

With Dependents

	OHA with dependents			Estimated BAH with dependents				
Paygrade	**Rental**	**Utilities**	**Total**	**Rental**	**Utilities**	**Insurance**	**Total**	**% Difference**
E1 - E4	2,200	809	**3,009**	1,100	653	18	**1,771**	**-41.2%**
E5	2,450	809	**3,259**	1,100	653	18	**1,771**	**-45.7%**
E6	2,450	809	**3,259**	1,300	653	20	**1,973**	**-39.5%**
E7	2,450	809	**3,259**	1,300	653	20	**1,973**	**-39.5%**
E8	2,450	809	**3,259**	1,300	653	20	**1,973**	**-39.5%**
E9	2,600	809	**3,409**	1,310	653	20	**1,982**	**-41.8%**
W1	2,450	809	**3,259**	1,300	653	20	**1,973**	**-39.5%**
W2	2,450	809	**3,259**	1,300	653	20	**1,973**	**-39.5%**
W3	2,600	809	**3,409**	1,300	653	20	**1,973**	**-42.1%**
W4	2,600	809	**3,409**	1,313	653	20	**1,986**	**-41.7%**
W5	2,800	809	**3,609**	1,329	653	20	**2,002**	**-44.5%**
O1E	2,450	809	**3,259**	1,300	653	20	**1,973**	**-39.5%**
O2E	2,450	809	**3,259**	1,300	653	20	**1,973**	**-39.5%**
O3E	2,600	809	**3,409**	1,316	653	20	**1,988**	**-41.7%**
O1	2,450	809	**3,259**	1,122	653	18	**1,793**	**-45.0%**
O2	2,450	809	**3,259**	1,296	653	20	**1,969**	**-39.6%**
O3	2,450	809	**3,259**	1,300	653	20	**1,973**	**-39.5%**
O4	2,600	809	**3,409**	1,335	653	20	**2,008**	**-41.1%**
O5	2,800	809	**3,609**	1,360	653	20	**2,033**	**-43.7%**
O6	2,900	809	**3,709**	1,374	653	20	**2,047**	**-44.8%**
O7	2,900	809	**3,709**	1,387	653	21	**2,061**	**-44.4%**

Table 55. Comparison of alternative BAH rates estimated from on-base housing appraisals with current OHA rates for servicemembers without dependents[a]

GU001 Guam
Estimated BAH rates from appraised rents for on-base housing

Without Dependents

	OHA without dependents			Estimated BAH without dependents				
Paygrade	**Rental**	**Utilities**	**Total**	**Rental**	**Utilities**	**Insurance**	**Total**	**% Difference**
E1 - E4	1,980	607	**2,587**	1,100	490	16	**1,606**	**-37.9%**
E5	2,205	607	**2,812**	1,100	490	16	**1,606**	**-42.9%**
E6	2,205	607	**2,812**	1,100	490	16	**1,606**	**-42.9%**
E7	2,205	607	**2,812**	1,100	490	16	**1,606**	**-42.9%**
E8	2,205	607	**2,812**	1,140	490	16	**1,646**	**-41.5%**
E9	2,340	607	**2,947**	1,202	490	17	**1,709**	**-42.0%**
W1	2,205	607	**2,812**	1,100	490	16	**1,606**	**-42.9%**
W2	2,205	607	**2,812**	1,138	490	16	**1,644**	**-41.5%**
W3	2,340	607	**2,947**	1,208	490	17	**1,715**	**-41.8%**
W4	2,340	607	**2,947**	1,300	490	18	**1,808**	**-38.7%**
W5	2,520	607	**3,127**	1,300	490	18	**1,808**	**-42.2%**
O1E	2,205	607	**2,812**	1,100	490	16	**1,606**	**-42.9%**
O2E	2,205	607	**2,812**	1,188	490	17	**1,695**	**-39.7%**
O3E	2,340	607	**2,947**	1,300	490	18	**1,808**	**-38.7%**
O1	2,205	607	**2,812**	1,100	490	16	**1,606**	**-42.9%**
O2	2,205	607	**2,812**	1,100	490	16	**1,606**	**-42.9%**
O3	2,205	607	**2,812**	1,228	490	17	**1,735**	**-38.3%**
O4	2,340	607	**2,947**	1,300	490	18	**1,808**	**-38.7%**
O5	2,520	607	**3,127**	1,300	490	18	**1,808**	**-42.2%**
O6	2,610	607	**3,217**	1,300	490	18	**1,808**	**-43.8%**
O7	2,610	607	**3,217**	1,301	490	18	**1,809**	**-43.8%**

a. In some cases, the total BAH estimate listed in the table is greater than the sum of its rental, utilities, and insurance components. This is because BAH rules do not permit the without-dependents rate to be below 75 percent of the corresponding with-dependents rate. When necessary, the total rates listed are adjusted for this BAH floor.

Setting BAH from HUD FMRs

A second approach for setting initial alternative BAH rates would be to use HUD FMRs. HUD FMRs are estimated annually for homes of different sizes. HUD FMRs only identify the number of bedrooms, not whether they are houses, townhouses, or apartments. Therefore, these estimates only use the number of bedrooms to determine rents for the BAH anchor point. Table 56 contains the rent estimates for the BAH anchor points based on HUD FMR data for the Pacific Islands.[41]

Table 56. Alternative rent estimates for BAH anchor points based on HUD FMRs for the Pacific Islands

Unit size	Estimated rent
1-BR apartment	$867
2-BR apartment	1,058
2-BR townhouse	1,058
3-BR townhouse	1,542
3-BR SFD home	1,542
4-BR SFD home	1,843

We used the estimated rental rates for the anchor points to generate full BAH rate schedules. Tables 57 and 58 compare these estimated BAH schedules to current OHA rates for servicemembers with and without dependents, respectively.

The alternative transition period will have somewhat higher initial costs until the correct BAH rates are discovered. Using the December 2012 DMDC data, we estimate that this BAH transition rate schedule would cost an additional $31,000 per month or $372,000 annually over current OHA costs.[42]

41. HUD does not publish FMR rates just for Guam.

42. All cost estimates for the alternative transition strategy depend critically on data for activated National and Air Guard servicemembers. The concerns expressed in footnote 40 on p. 97 are equally applicable here.

Table 57. Comparison of alternative BAH rates estimated from HUD FMRs with current OHA rates for servicemembers with dependents

GU001 Guam
Estimated BAH rates from HUD FMR rates for the Pacific Islands

With Dependents

	OHA with dependents			Estimated BAH with dependents				
Paygrade	Rental	Utilities	Total	Rental	Utilities	Insurance	Total	% Difference
E1 - E4	2,200	809	**3,009**	1,058	653	17	**1,728**	**-42.6%**
E5	2,450	809	**3,259**	1,058	653	17	**1,728**	**-47.0%**
E6	2,450	809	**3,259**	1,542	653	22	**2,217**	**-32.0%**
E7	2,450	809	**3,259**	1,542	653	22	**2,217**	**-32.0%**
E8	2,450	809	**3,259**	1,542	653	22	**2,217**	**-32.0%**
E9	2,600	809	**3,409**	1,590	653	23	**2,266**	**-33.5%**
W1	2,450	809	**3,259**	1,542	653	22	**2,217**	**-32.0%**
W2	2,450	809	**3,259**	1,542	653	22	**2,217**	**-32.0%**
W3	2,600	809	**3,409**	1,542	653	22	**2,217**	**-35.0%**
W4	2,600	809	**3,409**	1,608	653	23	**2,284**	**-33.0%**
W5	2,800	809	**3,609**	1,686	653	24	**2,363**	**-34.5%**
O1E	2,450	809	**3,259**	1,542	653	22	**2,217**	**-32.0%**
O2E	2,450	809	**3,259**	1,542	653	22	**2,217**	**-32.0%**
O3E	2,600	809	**3,409**	1,620	653	23	**2,296**	**-32.6%**
O1	2,450	809	**3,259**	1,111	653	18	**1,782**	**-45.3%**
O2	2,450	809	**3,259**	1,532	653	22	**2,207**	**-32.3%**
O3	2,450	809	**3,259**	1,542	653	22	**2,217**	**-32.0%**
O4	2,600	809	**3,409**	1,717	653	24	**2,394**	**-29.8%**
O5	2,800	809	**3,609**	1,843	653	25	**2,521**	**-30.1%**
O6	2,900	809	**3,709**	1,861	653	25	**2,540**	**-31.5%**
O7	2,900	809	**3,709**	1,880	653	26	**2,558**	**-31.0%**

Table 58. Comparison of alternative BAH rates estimated from HUD FMRs with current OHA rates for servicemembers without dependents[a]

GU001 Guam
Estimated BAH rates from HUD FMR rates for the Pacific Islands

Without Dependents

	OHA without dependents			Estimated BAH without dependents				
Paygrade	**Rental**	**Utilities**	**Total**	**Rental**	**Utilities**	**Insurance**	**Total**	**% Difference**
E1 - E4	1,980	607	**2,587**	867	490	14	**1,370**	**-47.0%**
E5	2,205	607	**2,812**	995	490	15	**1,500**	**-46.7%**
E6	2,205	607	**2,812**	1,058	490	16	**1,663**	**-40.9%**
E7	2,205	607	**2,812**	1,058	490	16	**1,663**	**-40.9%**
E8	2,205	607	**2,812**	1,155	490	17	**1,663**	**-40.9%**
E9	2,340	607	**2,947**	1,305	490	18	**1,813**	**-38.5%**
W1	2,205	607	**2,812**	1,058	490	16	**1,663**	**-40.9%**
W2	2,205	607	**2,812**	1,150	490	17	**1,663**	**-40.9%**
W3	2,340	607	**2,947**	1,319	490	18	**1,827**	**-38.0%**
W4	2,340	607	**2,947**	1,542	490	21	**2,052**	**-30.4%**
W5	2,520	607	**3,127**	1,542	490	21	**2,052**	**-34.4%**
O1E	2,205	607	**2,812**	1,058	490	16	**1,663**	**-40.9%**
O2E	2,205	607	**2,812**	1,271	490	18	**1,778**	**-36.7%**
O3E	2,340	607	**2,947**	1,542	490	21	**2,052**	**-30.4%**
O1	2,205	607	**2,812**	1,058	490	16	**1,563**	**-44.4%**
O2	2,205	607	**2,812**	1,058	490	16	**1,656**	**-41.1%**
O3	2,205	607	**2,812**	1,368	490	19	**1,876**	**-33.3%**
O4	2,340	607	**2,947**	1,542	490	21	**2,052**	**-30.4%**
O5	2,520	607	**3,127**	1,542	490	21	**2,052**	**-34.4%**
O6	2,610	607	**3,217**	1,542	490	21	**2,052**	**-36.2%**
O7	2,610	607	**3,217**	1,548	490	21	**2,058**	**-36.0%**

a. In some cases, the total BAH estimate listed in the table is greater than the sum of its rental, utilities, and insurance components. This is because BAH rules do not permit the without-dependents rate to be below 75 percent of the corresponding with-dependents rate. When necessary, the total rates listed are adjusted for this BAH floor.

Glossary

ACS American Community Survey

ADOS Active Duty for Operational Support

AGR Active Guard Reserve

BAH Basic Allowance for Housing

BR Bedroom

DMDC Defense Manpower Data Center

DOD Department of Defense

DODEA Department of Defense Education Activity

DTMO Defense Travel Management Office

FMR Fair Market Rent

HUD Department of Housing and Urban Development

JRM Joint Region Marianas

MHA Military Housing Area

MHO Military Housing Office

MLS Multiple Listing Service

NBG Navy Base Guam

OHA Overseas Housing Allowance

PCS Permanent change of station

QOL Quality of life

SFD Single family detached

TH Townhouse

VIARNG Virgin Islands Army National Guard

References

[1] U.S. House of Representatives Committee on Armed Services. *National Defense Authorization Act for Fiscal Year 2013, Report of the Committee on Armed Services, House of Representatives on H.R. 4310 together with Additional and Dissenting Views*, House of Representatives Report 112-479, May 11, 2012.

[2] Defense Travel Management Office. *A Primer on Basic Allowance for Housing (BAH) For the Uniformed Services 2011*, 2011, last accessed Feb. 28, 2013 at http://www.defensetravel.dod.mil/Docs/perdiem/BAH-Primer.pdf.

[3] R. Sammarco. *Information Paper, Overseas Housing Allowance (OHA) Program & Privatization*. Defense Travel Management Office. 2010.

[4] *Guam Comprehensive Housing Study, 2009*. Guam Housing and Urban Renewal Authority, GHURA-RP&E-08-002, prepared by PCR Environmental, Inc. in association with SMS Research & Marketing Services, Inc. Aug. 31, 2009.

[5] *Public MLS Search*, last accessed Feb. 19, 2013, at http://www.flexmls.com/cgi-bin/mainmenu.cgi?cmd=url+other/createlink/link_receiver.html&no_html_header=true&i=wvquaw6xiur,8

[6] *Guam Statistical Yearbook 2011*. Bureau of Statistics and Plans, Office of the Governor of Guam, 2012.

[7] "Find A Home, Cost of Renting on Guam." *Island Realty Guam*, last accessed March 5, 2013, at http://www.guamrentals.com/find-a-home/cost-of-renting-on-guam

[8] *Military Housing Privatization Initiative, Program Evaluation Plan, Executive Report*. Department of Defense, Office of the

Deputy Under Secretary of Defense (Installations and Environment), March 31 2012.

[9] "Browse Allowances Tables and Regulations Files, Appendix_K_OHA_Tables." *Defense Travel Management Office*, last accessed on March 7, 2013, at http://www.defensetravel.dod.mil/site/pdcFiles.cfm?dir=/Allowances/BAH/PDF/

[10] U.S. Census Bureau. *Statistical Abstract of the United States: 2012*. 2012, last accessed Feb 28, 2013, at http://www.census.gov/prod/2011pubs/12statab/outlying.pdf.

[11] *Review Certificate, Contract Appraisal Covering Estimated Market Rent for Residential Housing Units Contained Within Military Family Housing Projects Located in Various Municipalities of the Territory of Guam*. Department of the Navy, Naval Facilities Engineering Command, Pacific, March 2012.

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