



U.S. ARMY



U.S. Army Garrison-Miami

USAG Miami/SOUTHCOM Military Housing Economic Analysis
Courses of Action Overview



Background

- Military Personnel Housing does not exist on the USAG-Miami cantonment, which presents significant financial, mission readiness, security, and quality of life issues for service members.
- USAG-Miami is located in Miami-Dade County, one of the most expensive places to live in the country. The area also experiences severe traffic, compounding the challenge of finding affordable, proximate housing for soldiers and their families.
- Multiple studies completed for USAG-Miami have documented housing shortfalls in the area in terms of both cost and adequacy.
- The most recent Housing Market Analysis (HMA) conducted in 2018 determined that by 2023, USAG Miami would have a housing shortfall of 172 accompanied homes and 146 unaccompanied homes.
- USAG Miami submitted a Major Land Acquisition Waiver Proposal in 2018. This Economic Analysis was developed as to satisfy the requirements laid out in a memo that was sent to USAG Miami/SOUTHCOM by the DASA IEE in response to the proposal.





Executive Summary

Bottom Line Up Front:

The recommendation of this analysis is Course of Action (COA) 3 - FAA. This COA achieves the best overall solution for the USAG Miami housing requirement.

- ✓ **Recommended Land Acquisition Strategy: Fed-Fed Transfer**
- ✓ **Recommended Housing Procurement Strategy: Privatization**

- USAG Miami/SOUTHCOM needs affordable Military Personnel Housing local to the installation.
- Through creative land acquisition and housing procurement, the Army can avoid high upfront costs and attain the operational and mission benefits it seeks from this project.





Problem/Opportunity and Objective

Problem/Opportunity: Military Personnel Housing does not exist on the USAG-Miami cantonment, and a shortage in housing options have led to significant financial, readiness, security, and QOL challenges. There is an estimate housing shortfall of 318 dwelling units.

Objective: Provide a technically acceptable, cost efficient solution, within current directives and guidance that will provide military personnel housing to USAG Miami/SOUTHCOM personnel and their families.

- Objective 1: House mission essential personnel close to the installation to minimize potential mission interruption and provide improved security, increased affordability and cohesion for families and staff.
- Objective 2: Minimize cost
- Objective 3: Maximize efficiency

Scope of Analysis: Analyze COAs that address the 2023 USAG-Miami housing shortfall. In accordance with AR 420-1 section 3-77, USAG Miami should program for 90 percent Army Family Housing (AFH) housing shortfall and 95 percent of the Unaccompanied Personnel Housing (UPH) housing shortfall, which translates to 155 AFH and 140 UPH dwelling units (DU). This analysis includes both the land acquisition and the housing procurement strategy.





Requirements for New Military Housing

Land Acquisition

- Low/no cost of acquisition
- Accommodates 95% of the UPH and 90% of the AFH shortfall
 - 155 Army Family Housing (AFH) Units
 - 140 Unaccompanied Personnel Housing (UPH) Units
- Accommodates quality of life amenities:
 - 15,000 SF Child Development Center
 - Community/Recreation Center
 - Exercise and Recreational Facility
 - Guest Parking



Procurement

- Considers all authorities granted under USC Title 10
- Preference for simplified acquisition
- Enables public and private participation

Funding

- Little to no upfront cost for military housing
- Affordable based on military BAH and COLA allowances





Military Housing COA Development

Three Primary Factors Drive COAs:

- 1. Land Acquisition (development rights)**
 - Purchase
 - Lease
 - Transfer Agreement
- 2. Procurement (authority to engage development resources)**
 - Design-Build/Design-Bid-Build (DB/DBB)
 - Enhanced Use Lease (EUL)
 - Exchange
 - Military Housing Privatization Initiative (MHPI)
 - Intergovernmental Support Agreement (IGSA)
- 3. Funding (sources of capital)**
 - Military Construction (MILCON)
 - Operations & Maintenance (O&M)
 - Basic Allowance for Housing (BAH)
 - In-Kind Consideration





COA Overview

COAs below are identified by land parcel. Options for land acquisition, housing procurement and funding sources are outlined within the analysis of each COA.

1. Status Quo
2. USAG Miami On-Post
3. Federal Aviation Administration (FAA)
4. Florida Army National Guard (FLARNG)
5. Florida International University (FIU)
6. Doral Downtown (Codina)





Abandoned Courses of Action

The COAs identified below were deemed inadequate and are no longer being pursued in this study.

A. Homestead Air Reserve Base

- Located 26 miles from USAG Miami
- 40- to 45-minute commute without traffic and requires tolls
- No contiguous property that could be utilized for housing

B. Coast Guard - 12300 SW 152nd Street

- Endangered species identified at this location
- Potential obstruction and interference with C4 ISR mission capabilities and equipment

C. Expanded Leasing (in the City of Doral Only)

- Considered a short-term solution, but does not address long-term housing needs
- Creates a housing patchwork that is not consistent, fair, or efficient





Method of Analysis

- **Results of this study were developed in accordance with *DoDI 7041.03 Economic Analysis for Decision Making*.**

“Aggressive pursuit of alternatives is strongly encouraged so innovative and improved ways of doing business are actively considered.” – DoDI 7041.03

- **The information presented in this briefing represents a summary of quantitative and qualitative analysis results.**





Data and Method of Analysis

1. Data Collection

- 2017 the Urban Collaborative Area development plan
- 2017 USACE FAA Appraisal
- 2018 USAG Miami Housing Market Analysis
- 2018 Tetra Tech Cost-Benefit Analysis
- 2018 Major Land Acquisition Waiver
- Internal and External Stakeholder Interviews
 - US Army Deputy Chief of Staff G-9, Office of Army Partnerships and Office of Financial Management Division
 - Garrison Leadership and Technical Experts
 - Florida Army National Guard
 - Coast Guard
 - Florida Defense Support Task Force
 - City of Doral
 - Miami-Dade County, District 12 Commissioner
 - Military Housing Privatization Contractors
 - Real Estate Development Industry (Local and National)





Data and Method of Analysis

2. Development Requirements and Assumptions

- Land must be within a 20-mile commuting distance of USAG Miami
- ~60 acres needed to meet Military Housing requirements (Area Development Plan)
- Preference for improved sites (grading, roads, utilities, etc.)
- O/W, flat and cleared of major vegetation
- Easily accessible via improved roads
- Conforms to residential development standards suitable for military families
- 140 Unaccompanied Personnel Housing units
- 155 Army Family Housing units





Data and Method of Analysis

3. Quantitative Considerations

- Land Acquisition Costs
 - Market rate sales and lease rates
- Housing Development Costs
 - A/E Fees (e.g., Design, Site Civil, Stormwater, Survey, Geotechnical, etc.)
 - Market Study
 - Environmental Analysis
 - Other Legal and Design Fees
 - Cost Certification
 - Cost Contingency
 - Insurance
- Annual Sustainment Costs
 - Security
 - Operations & Maintenance
 - Additional Force Structure





Data and Method of Analysis

4. Qualitative Considerations – weighting and scoring

Summary Elements	Rating Scale	Weight	Status Quo	USAG Miami	FAA	FLARNG	FIU	CODINA
Mission Essential Personnel can Report Quickly for Duty in the Case of Natural or Manmade Disaster, Improved Readiness, Improved Productivity	1-10	10	1	7.0	9.5	7.5	8	8
Meets Housing Requirements as defined in the HMA	1-10	10	1	7	10	10	10	7
Quality of Life	1-10	5	1	6	8	6	5	9
Long Term DOD/Army Liabilities Incurred	1-10	5	6	7	5	5	5	5
Community Impacts	1-10	5	6	8	8	7	7	8
Consistency of Housing	1-10	5	1	8	9	9	9	7
Security	1-10	5	1	9	9	4	4	4
Complexity and Length of Time to Implement/Execute	1-10	1	10	5	4	2	2	4
Operational Impacts to DOD/Army and/or Others	1-10	1	2	4	8	6	7	7
Proximity to Place of Duty/Work and Other Garrison Services	1-10	1	1	8	10	5	6	7
Sense of Community	1-10	1	1	8	10	8	8	9
Morale	1-10	1	2	9	10	9	9	10
Parking Requirements	1-10	1	1	10	10	1	2	3
Walkability	1-10	1	1	10	9	2	1	6
Carbon Footprint/Vehicle Miles Traveled	1-10	1	1	8	10	5	7	7
Flexibility to Accommodate Changing Requirements	1-10	1	8	7	7	7	7	7
Unweighted Total			44	121	136.5	93.5	97	108
Weighted Total			122	399	468	375	379	375

* USAG Miami Garrison Staff identified the elements listed in this table and verified the validity of the scores.



COA Analysis





COA 1 – Status Quo

Concept: USAG Miami obtains AFH and UPH housing via local leases and purchases by government personnel. Most personnel are required to find housing “on the economy”.

Satisfies Requirement? No

Land Acquisition	N/A
Procurement	N/A
Funding	BAH and O&M
30-YR NPV	\$ 67M

Pros

- Flexibility when mission needs change
- No long-term liability for the Army

Cons

- USAG Miami currently has no on-post housing and there is a housing market shortfall of 318 homes for UPH and AFH
- Challenges with local housing stock quality, cost and proximity
 - Most personnel are unable to find affordable housing within a 20-mile commuting radius
- K&E Housing obtained through local leases paid for by USAG Miami
- USAG Miami must pay for additional security for COCOM commander, and leases do not allow for security (e.g. access control points)





COA 2 - USAG Miami

Concept: USAG Miami would procure military constructed Unaccompanied Personnel Housing (UPH) and some Army Family Housing (AFH) on the cantonment utilizing excess parking areas to the east of the USSOUTHCOM HQ building.

Satisfies Requirement? No (Does not meet AFH requirement)



Pros

- Located on USAG Miami (no commute)
- Does not require land acquisition
- Establishes military community for personnel and some families at USAG Miami

Cons

- K&E Housing obtained through local leases paid for by USAG Miami
- USAG Miami must pay for additional security for COCOM commander, and leases do not allow for security (e.g. access control points)
- If DB/DBB
 - Time to get funding will have upfront cost to Army
 - Long-term maintenance costs
- If IGSA
 - Would require significant coordination with and buy-in from the State to be appropriately structured

Transaction Alternatives

Land Acquisition Options	N/A	
Procurement Options	DB/DBB – DB/DBB	IGSA
Funding Options	MILCON	Alternative Financing

Alternatives Cost Comparison (30 Year NPV)

30-YR NPV	No Land Acquisition Required
DB/DBB	\$290M
IGSA	\$388M





COA 3 – Federal Aviation Administration (FAA)

Concept: USAG Miami procures ~295 military constructed AFH and UPH units, with required amenities, on approximately 60-90 acres of the FAA site, south of 33rd Street.

Satisfies Requirement? Yes

Pros

- Directly adjacent to USAG Miami (walkable commute)
- Meets housing requirement
- Provides military community for personnel and family
- If MHPI, EUL, Exchange
 - Provides opportunity for in-kind or other revenue generation, which could reduce Army costs.
- If DB/DBB
 - Less costly over 30-year term.



Cons

- Requires Land Acquisition through Purchase, Lease, or Transfer
- If MHPI, EUL, Exchange
 - Requires additional upfront land purchase for in-kind or other types of revenue that could bring down annual cost.
- If DB/DBB
 - Time to get MILCON Funding
 - High upfront cost to the Army



Transaction Alternatives

Land Acquisition Options	FMV Purchase	FMV Lease	Fed-Fed Xfer	
Procurement Options	FAR – DB/DBB	MHPI	EUL	Exchange
Funding Options	MILCON	Alternative Financing		

Alternatives Cost Comparison (30 Year NPV)

30-YR NPV	FMV Purchase	FMV Lease	Fed-Fed Xfer
DB/DBB	\$305M	\$348M	\$274M
MHPI	\$469M	\$511M	\$418M
EUL	\$469M	\$511M	\$418M
Exchange	\$469M	\$511M	\$418M



COA 4 – Florida Army National Guard (FLARNG)

Concept: USAG Miami acquires development rights to approximately 100 acres of ARNG land located south of Ronald Reagan Turnpike on portion currently owned by GSA and licensed to FLARNG. Engages private developer to construct, own and operate ~295 military constructed AFH and UPH units at no upfront cost to the Army.

Satisfies Requirement? Yes



Pros

- Meets housing requirement
- Provides military community for personnel and family
- Could address mission capability for FLARNG
- If MHPI, EUL, Exchange
 - Provides opportunity for in-kind or other revenue generation, which could reduce Army costs.
- If DB/DBB
 - Less costly over 30-year term

Cons

- Distance to USAG Miami
- Requires Land Acquisition through Purchase, Lease, or Transfer
- If MHPI, EUL, Exchange
 - Requires land purchase for in-kind or other types of revenue that could bring down annual cost
- If DB/DBB
 - Time to get MILCON Funding
 - High upfront cost to the Army

Transaction Alternatives

Land Acquisition Options	FMV Purchase	FMV Lease	Fed-Fed Xfer	
Procurement Options	FAR – DB/DBB	MHPI	EUL	Exchange
Funding Options	MILCON	Alternative Financing		

Alternatives Cost Comparison (30 Year NPV)

30-YR NPV	FMV Purchase	FMV Lease	Fed-State Xfer
DB/DBB	\$296M	\$312M	\$254M
MHPI	\$459M	\$502M	\$407M
EUL	\$459M	\$502M	\$407M
Exchange	\$459M	\$502M	\$407M






COA 5 – Florida International University (FIU)

Concept: USAG Miami acquires development rights 70 acres of land located west of the installation on NW 41st street currently owned by FIU. USAG Miami partners with State & Local Gov and FIU to acquire development rights of 70-acre FIU parcel at discounted FMV rate for Military Housing.

Satisfies Requirement? Yes

Pros

- In close proximity to USAG Miami
- Meets housing requirement 
- Provides military community for personnel and family
- If MHPI, EUL, Exchange
 - Provides opportunity for in-kind or other revenue generation, which could reduce Army costs
- If DB/DBB
 - Less costly over 30-year term

Cons

- Close proximity to prison and active quarry
- Requires Land Acquisition through Purchase, or Lease in order to do MHPI, EUL, or Exchange.
- If MHPI, EUL, Exchange
 - Likely not enough land for significant in-kind or other revenue generation
- If DB/DBB
 - Time to get MILCON Funding
 - High upfront cost to the Army

Transaction Alternatives

Land Acquisition Options	FMV Purchase		FMV Lease		
Procurement Options	FAR – DB/DBB	MHPI	EUL	IGSA	Exchange
Funding Options	MILCON		Alternative Financing		

Alternatives Cost Comparison (30 Year NPV)

30-YR NPV	FMV Purchase	FMV Lease	IGSA
DB/DBB	\$292M	\$304M	N/A
MHPI	\$438M	\$429M	
EUL	\$438M	\$429M	
Exchange	\$438M	\$429M	
IGSA	N/A		\$395





COA 6 – Downtown Doral (CODINA)

Concept: USAG Miami acquires development rights on approximately 2 acres of land in Downtown Doral.

Satisfies Requirement? No (Does not meet AFH requirement)

Transaction Alternatives

Land Acquisition Options	FMV Lease				
Procurement Options	FAR – DB/DBB	MHPI	EUL	IGSA	Exchange
Funding Options	MILCON	Alternative Financing			

Alternatives Cost Comparison (30 Year NPV)

30-YR NPV	FMV Lease	N/A
DB/DBB	\$304M	N/A
MHPI	\$439M	
EUL	\$439M	
Exchange	\$439M	
IGSA	N/A	\$438M

Pros

- Located in downtown Doral 3 miles from the installation (short commute)
- Establishes military community for personnel and some families at USAG Miami

Cons

- K&E Housing obtained through local leases paid for by USAG Miami
- USAG Miami must pay for additional security for COCOM commander, and leases do not allow for security (e.g. access control points).
- If DB/DBB
 - Time to get funding will have upfront cost to Army
- If IGSA
 - Would require significant coordination with City of Doral





Decision Matrix

COA	Rank	Meets Req.	Total COA Cost	NPV	Weighted Qualitative Score
COA 1: Status Quo	6	NO	\$98M	\$67M	122
COA 2: USAG Miami	4	NO	\$326M-\$568M	\$290M – \$388M	399
COA 3: Federal Aviation Administration (FAA)	1	YES	\$303M-\$738M	\$274M – \$511M	468
COA 4: Florida Army National Guard (FLARNG)	2	YES	\$283M-723M	\$254M – \$502M	375
COA 5: Florida International University (FIU)	3	YES	\$316M-\$625M	\$292M – \$438M	379
COA 6: Downtown Doral (CODINA)	5	NO	\$347M-\$643M	\$304M – \$439M	375





Sensitivity Analysis - Methodology

Normalizing Cost and Qualitative Scores to obtain a Total Score that takes both cost and qualitative attributes into account.

- Min-Max Feature Scaling Approach: Normalizing the Cost (in \$) and the Qualitative Score (Quality Points) to be values between [0,1]. This approach is scale invariant and independent of units.
- Standard Deviation Approach: Normalizing the Cost (in \$) and the Qualitative Score (Quality Points) to have a unit variance, independent of scale and units.
- In both approaches, we call the normalized qualitative points the “Qualitative Score” (this is considered a positive attribute), and the normalized cost the “Cost Score” (this is considered a negative attribute). To obtain a “Total Score” that allows us to compare various Courses of Action, we add the Cost Score and Qualitative Scores.

Qualitative Scoring and Weighting

- Varying the weighting scheme
 - Unequal weights (identified by USAG Miami)
 - Equal weights (all weights set to 1).

Limitation: The qualitative analysis scored the overarching COA locations. It does not take specific land acquisition or housing procurement approaches into account, but provides a score for the Timeline/Complexity of the COA as whole.



Sensitivity Analysis – Summary of Results



COAs with the Lowest NPV*

		Status Quo**	USAG Miami**	FAA	FLARNG	FIU	Codina**
Land Acquisition Strategy		N/A	N/A	Fed-Fed Transfer	State-Fed Transfer	FMV Purchase	N/A
Procurement Strategy		N/A	DB/DBB	DB/DBB	DB/DBB	DB/DBB	DB/DBB
Costs (NPV)		\$ 67 M	\$ 290 M	\$ 274 M	\$ 255 M	\$ 292 M	\$ 304 M
Min-Max	Total Score (Weighted)	0.00	0.3	0.53	0.31	0.24	0.20
	Total Score (Unweighted)	0.00	0.33	0.53	0.11	0.07	0.16
Standard Deviation	Total Score (Weighted)	0.37	0.45	1.26	0.62	0.24	0.07
	Total Score (Unweighted)	0.77	0.94	1.65	0.35	0.09	0.34

**indicates the COA does not address the full housing requirement.

Highest Score and Second Highest Score

- Highest Score (weighted): COA 3 FAA
 - Land Acquisition: Fed-Fed Transfer
 - Procurement Strategy: DB/DBB
- Second Highest Score (weighted): COA 4 FLARNG
 - Land Acquisition: State-Fed Transfer
 - Procurement Strategy: DB/DBB
- Highest Score (unweighted): COA 3 FAA
 - Land Acquisition: Fed-Fed Transfer
 - Procurement Strategy: DB/DBB
- Highest Score (weighted): COA 2 USAG Miami
 - Land Acquisition: Not required
 - Procurement Strategy: DB/DBB



Sensitivity Analysis – Summary of Results



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Top 5 DB/DBB Options (Weighted)*

	FAA	FAA	FLARNG	USAG Miami**	FAA
Land Acquisition Strategy	Fed-Fed Transfer	FMV Purchase	State-Fed Transfer	N/A	FMV Lease
Procurement Strategy	DB/DBB	DB/DBB	DB/DBB	DB/DBB	DB/DBB
Costs (NPV)	\$ 274 M	\$ 305 M	\$ 255 M	\$ 290 M	\$ 349 M
Total Score (Min-Max)	0.53	0.46	0.31	0.3	0.37
Total Score (Standard Deviation)	1.26	0.91	0.62	0.45	0.43

Top 5 DB/DBB Options (Unweighted)*

	FAA	FAA	FAA	USAG Miami**	Codina**
Land Acquisition Strategy	Fed-Fed Transfer	FMV Purchase	FMV Lease	N/A	FMV Lease
Procurement Strategy	DB/DBB	DB/DBB	DB/DBB	DB/DBB	DB/DBB
Costs (NPV)	\$ 274 M	\$ 305 M	\$ 255 M	\$ 290 M	\$ 292 M
Total Score (Min-Max)	0.53	0.46	0.37	0.33	.16
Total Score (Standard Deviation)	1.65	1.31	.82	.94	.38

**indicates the COA does not address the full housing requirement.

Highest Score and Second Highest Score

- The FAA has the highest score among COAs with DB/DBB procurement strategies when the land is purchased or transferred.
- When qualitative weights are set to 1, the ranking for DB/DBB options changes, with FAA (Lease) and Codina (Lease) replacing FLARNG (State-Fed Transfer) and FIU (FMV Purchase).





Sensitivity Analysis – Summary of Results

Top 5 Non-DB/DBB Options

	COA	FAA	USAG Miami **	FIU	FAA	FAA
	Land Acquisition Strategy	Fed-Fed Transfer	FMV Lease	N/A	FMV Lease	FMV Purchase
	Procurement Strategy	Privatized	IGSA	IGSA	Privatized	Privatized
	Costs (NPV)	\$ 417 M	\$ 388 M	\$ 396 M	\$ 511 M	\$ 459 M
Min-Max	Total Score (Weighted)	.21	0.08	0.00	0.00	0.10
	Total Score (Unweighted)	0.21	0.11	-0.17	0.38	.1
Standard Deviation	Total Score (Weighted)	-0.34	-0.65	-0.92	-0.92	-1.0
	Total Score (Unweighted)	.05	-0.15	-1.07	-1.00	-0.52

**indicates the COA does not address the full housing requirement.

Highest Score and Second Highest Score

- FAA has the highest score among COAs with like housing procurement strategies that meet the housing requirements.
- When qualitative weights are equalized at one (1), FAA remains the highest scoring COA.





Sensitivity Analysis – Summary of Results

- ✓ Highest Total Score Overall (weighted and unweighted): **COA 3 FAA**
- ✓ Highest Score When Grouped by Housing Procurement Strategy (weighted and unweighted): **COA 3 FAA**
- ✓ Fed-Fed Transfer land acquisition strategy consistently ranks highest regardless of procurement strategy.
- ✓ COAs that utilize upfront MILCON funding score higher because they are relatively less expensive over the project lifecycle, however implementing these COAs can have a potentially longer procurement and acquisition timeline.





Recommendation

COA 3 – FAA

- **This COA achieves the best overall solution for the USAG Miami housing requirement and achieves the highest total score throughout the analysis.**
- **COA Highlights**
 - Proximity to the installation
 - Improves quality of life and security for military personnel/families
 - Optimizes Army resources (return on investment)
 - Engagement with FAA has already started.
- **Recommended Land Acquisition Strategy: Fed-Fed Transfer**
 - Potential low to no cost of land acquisition (depending on land acquisition strategy)
 - Reduces total lifecycle COA cost
- **Recommended Housing Procurement Strategy: Privatization**
 - Accelerated transaction timeline as compared with other COAs that address housing shortfall
 - No upfront construction costs, if privatization procurement strategy is utilized
- **Funding: Various sources of capital were considered; MILCON appears unlikely; alternative funding options remain viable**





Next Steps

- ✓ **Approve recommended COA**
- ✓ **Develop execution plan and milestone schedule**
- ✓ **Identify critical stakeholders; begin engagement**
- ✓ **Develop value proposition to FAA**
- ✓ **Refine acquisition and development strategies**
- ✓ **Verify market analysis**
- ✓ **Coordinate and complete environmental condition of property and NEPA analysis**
- ✓ **Initiate Fed-Fed Transfer**
- ✓ **Solicit development and construction contracts**

