

***DEFENSE BASE CLOSURE AND REALIGNMENT COMMISSION  
2521 CLARK STREET, SUITE 600  
ARLINGTON, VIRGINIA 22202  
(703) 699-2950***

**MEMORANDUM OF MEETING**

**DATE:** July 8, 2005 and July 29, 2005

**MEETING WITH:** OSD BRAC DFAS Team

**SUBJECT:** To discuss military value and optimization model

**PARTICIPANTS:**

**Carla Coulson, BRAC Team Lead, (703) 696-9448, ext. 136  
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***Commission Staff:***

**\*Marilyn Wasleski  
Karl Gingrich  
Duke Tran**

**MEETING SUMMARY:**

See attached power point presentation OSD BRAC team information presented on military value and optimization model.

\* Denotes individual responsible for completing the memorandum



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# Defense Finance and Accounting Service Base Realignment and Closure 2005

HSA JCSG Analysis Team  
8 July 2005

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*Transforming Through Base Realignment and Closure*

7/8/2005 11:09 AM



# **Briefing Agenda**

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- Military Value Model**
- Sensitivity Analysis**
- Metric Questions**
- Spreadsheet MV Model**
- COBRA Questions**



# Analytical Support of HSA JCSG

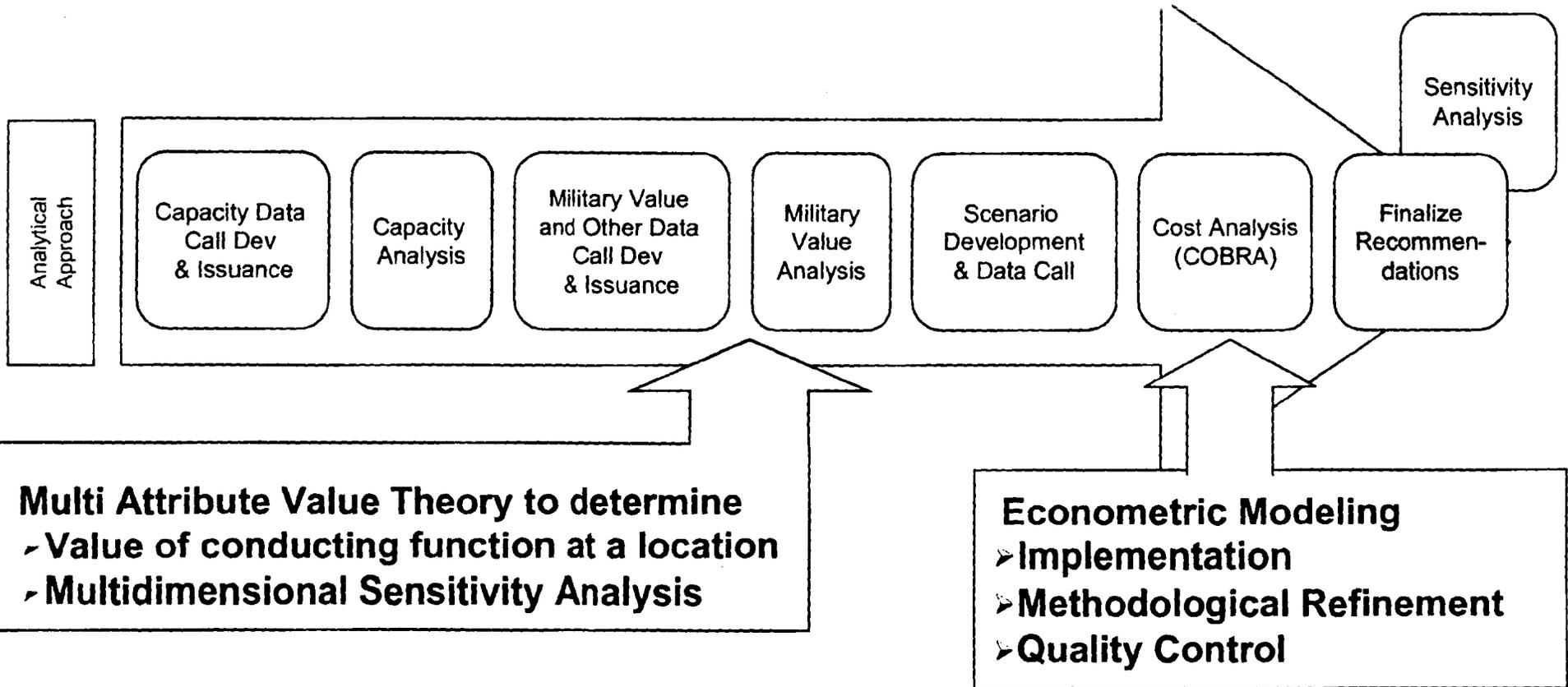
## Data Analysis to Determine:

- Targets
- Requirements
- Capacity

## Optimization (MLP):

- Max Military Value
- s.t. Capacity, etc.

## Sensitivity Analysis & Quality Control





## *Calculating Military Value*

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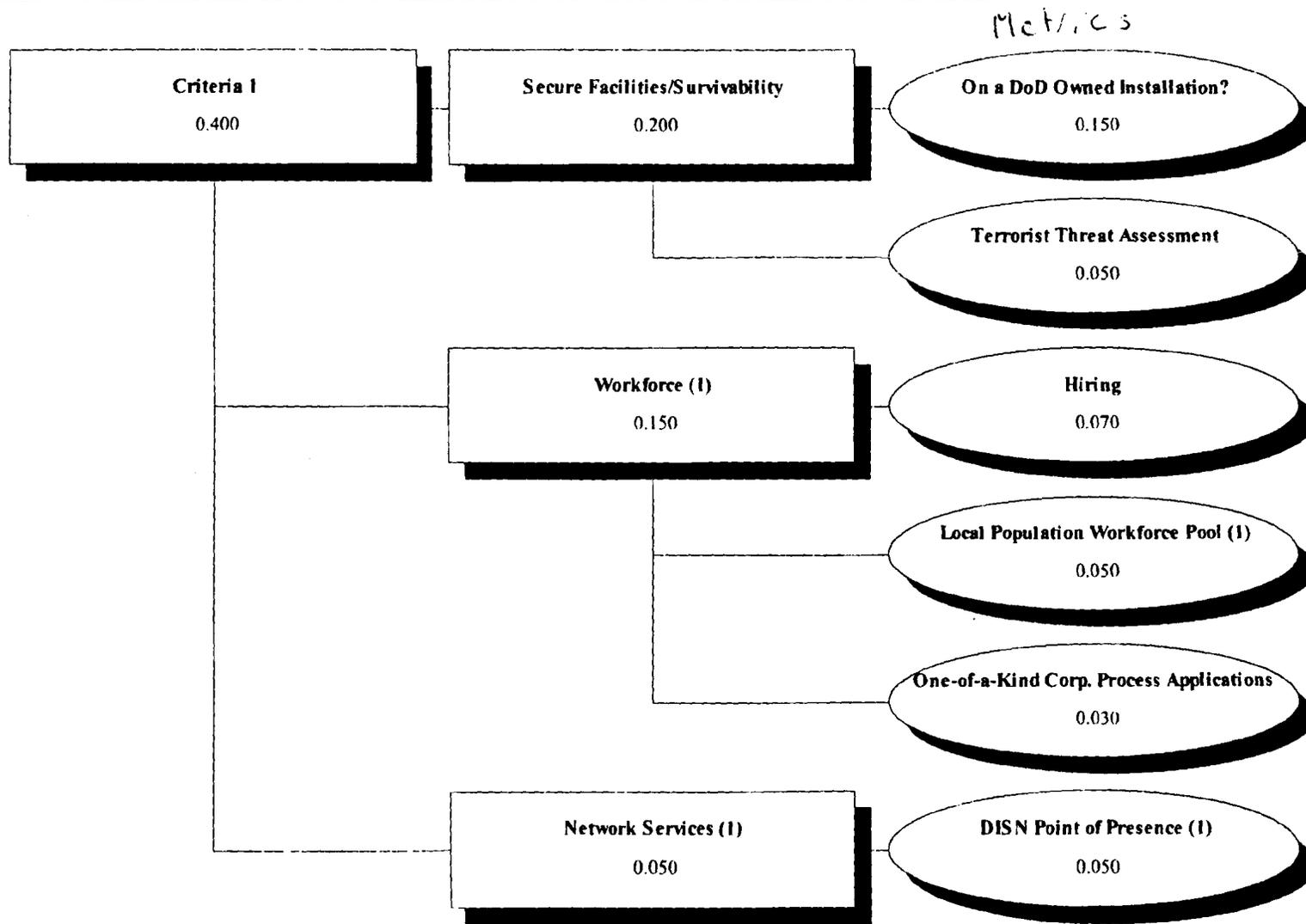
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- Prepare data for use according to documentation for each metric
- MV models are a hierarchy of metrics weighted by importance
- MV score is sum of metric input values \* weighted importance

$$MV = \sum (metric\_value) * (metric\_weight)$$

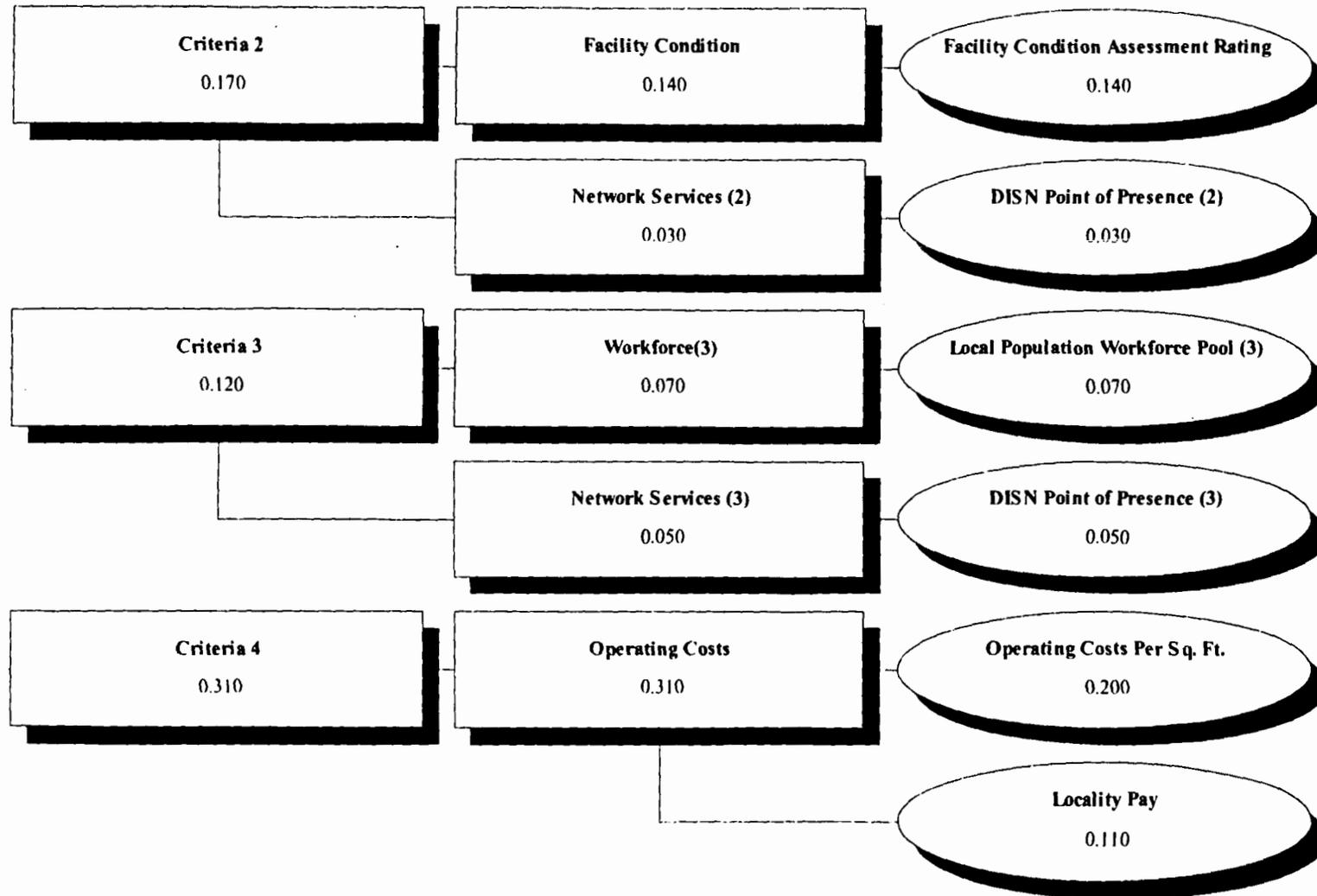


# Background





# Background





# Evolution of DFAS MV Model

- Metrics and Attributes developed in an evolutionary manner
- Weights
  - Group Input
  - Smarter Method (rank order centroid)
- Approval and Coordination—HSA Members, MILDEPS, OSD BRAC, ISG
- Final version has 12 metrics (9 unique types)

Metric Name	Weight	Rank ← <u>Richard experts</u>
Operating Costs Per Sq. Ft. On a DoD Owned Installation	0.20	1
FCC	0.15	2
DISN POP (3)	0.14	3
Local Population Workforce (2)	0.13	4
Locality Pay	0.12	5
Hiring	0.11	6
Terrorist Threat Assessment	0.07	7
One-of-a-Kind	0.05	8
	0.03	9
<b>Total:</b>	<b>1</b>	



# Military Results and Rankings

Rank	<sup>Corrected</sup> MV Score 14 Jun 05	Location	MV Score Final Report	Rank	Delta
1	0.856	Denver	0.803	3	2
2	0.853	Rock Island	0.846	1	-1
3	0.821	Norfolk Naval Station	0.787	4	1
4	0.813	Pensacola Saufley Field	0.805	2	-2
5	0.789	Lawton	0.787	5	0
6	0.727	Pensacola Naval Air Station	0.72	6	0
7	0.725	Columbus	0.688	7	0
8	0.690	Omaha	0.673	8	0
9	0.688	Indianapolis	0.651	9	0
10	0.670	St Louis	0.612	11	1
11	0.644	Dayton	0.625	10	-1
12	0.633	Cleveland	0.587	12	0
13	0.631	San Diego	0.569	14	1
14	0.621	San Antonio	0.586	13	-1
15	0.587	Pacific Ford Island	0.569	15	0
16	0.581	Orlando	0.54	20	4
17	0.565	Patuxent River	0.565	16	-1
18	0.559	Charleston	0.546	18	0
19	0.548	Limestone	0.548	17	-2
20	0.547	Rome	0.542	19	-1
21	0.543	Lexington	0.532	21	0
22	0.500	San Bernardino	0.429	24	2
23	0.493	Kansas City	0.451	22	-1
24	0.441	Seaside	0.433	23	-1
25	0.433	Arlington	0.313	25	0
26	0.295	Oakland	0.243	26	0

Transforming Through Base Realignment and Closure



# Sensitivity Analysis

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- Considered significant drivers
  - Operating Costs—20% 16
  - On DOD Installation—15% 12
  - Locality Pay—11% 19
  - DISN PoP—13% 10
  
- No issues affecting candidate recommendations
  
- Some sensitivity
  - Primarily in the lower half of the location rankings, but not significant
  - Pacific Ford Island and Lexington had some sensitivity



# DFAS Sensitivity

	Operating Cost		On DoD Installation		Locality Pay		DISN PoP	
	-20%	20%	-20%	20%	-20%	20%	-20%	20%
Rank Deviations <=2	2	3	1	0	2	3	1	1
Rank Deviations > 2	0	1	1	1	1	0	1	0
Highest Deviation	1	-3	-5	3	3	-2	4	1
High Deviation ID		Patuxent River	Pacific Ford Island	Pacific Ford Island	Pacific Ford Island		Lexington	

- Most rank deviations were minimal
- Top and bottom of list were very stable
- Quartile groupings were very consistent



# *Workforce Population*

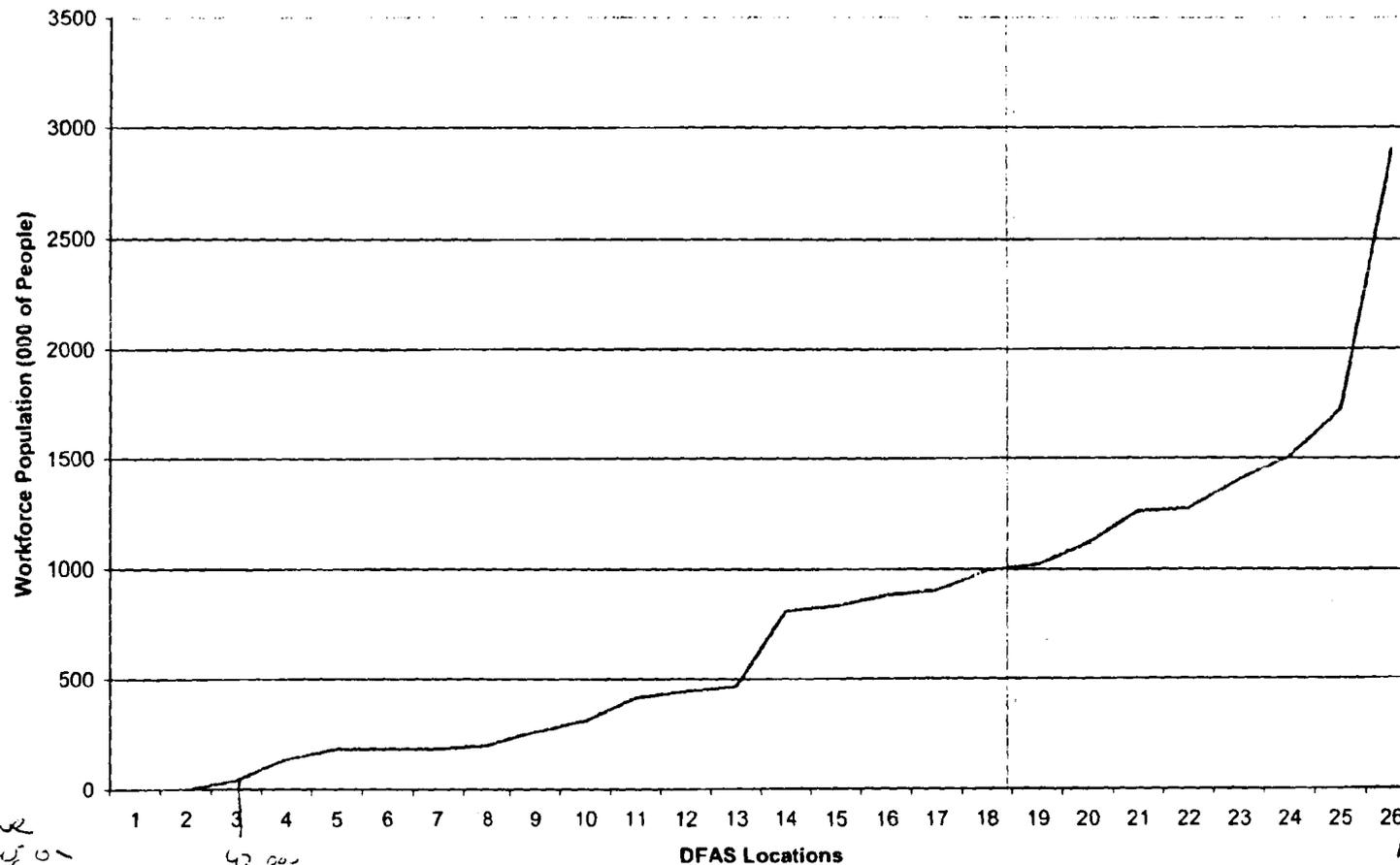
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- Limestone & Patuxent River locations valued as described in scoring plan and associated memorandum
- Statistical Areas define an area with a substantial population nucleus, combined with adjacent communities having a high degree of economic and social integration
- MSA/PMSA definitions as January 2002 were used to match data sources
  - The Office of Management and Budget (OMB) issued new definitions in June 2003, but there is no data to support the new definitions.
- Workforce populations for the counties where these sites are located for the May 2004 timeframe:
  - Limestone                    38,104
  - Patuxent River            59,487



# Workforce Population



Responses to workforce population question arrayed in order

Metrics accounts for 12% of MV model



# ***Local Population Sensitivity Analysis***

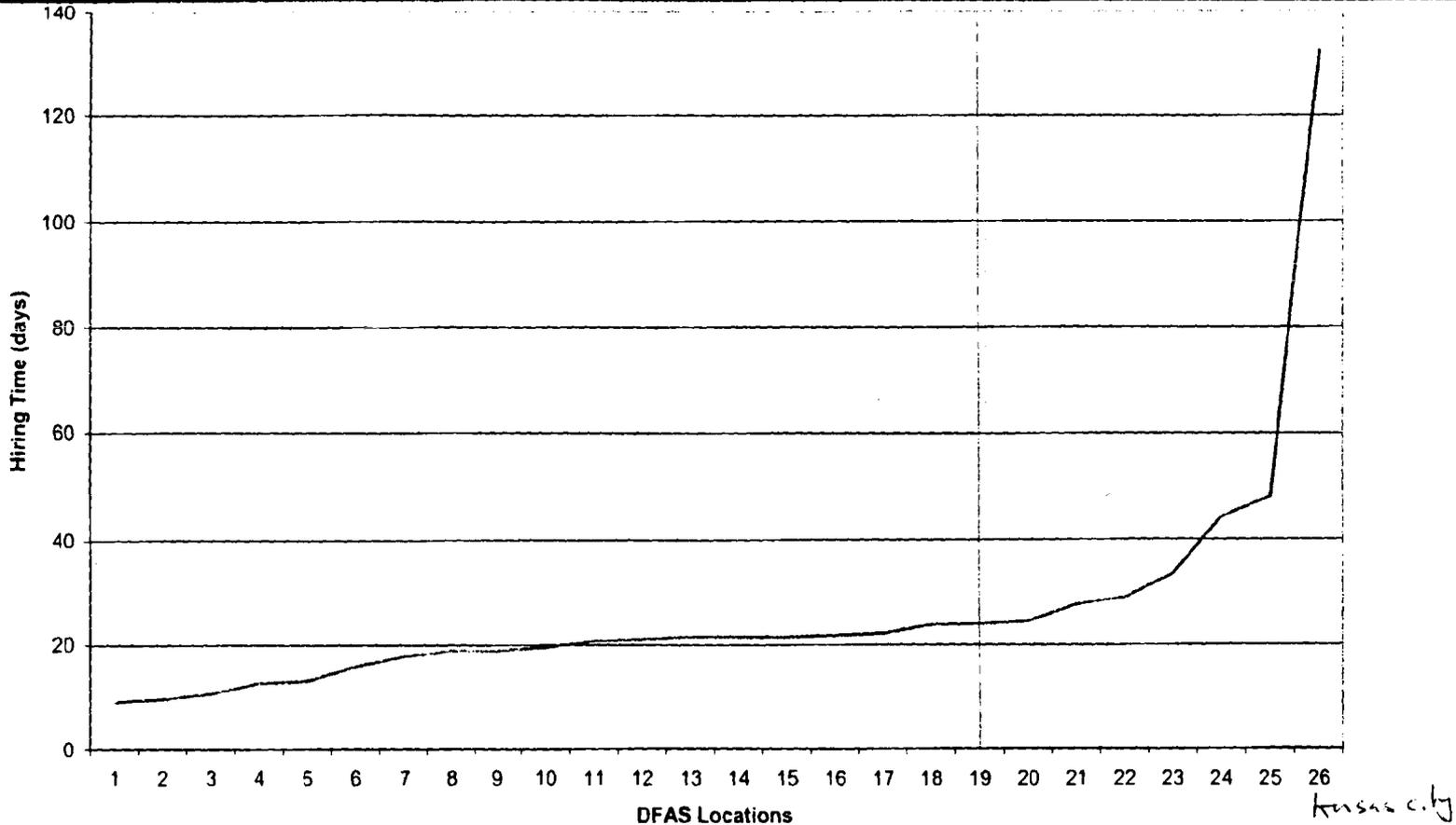
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- Contrived data—changing from 0.0 to county population**
  - **Limestone**
    - ✓ **Population—38,104**
    - ✓ **No change in MV rank (0.002 increase in MV score)**
  - **Patuxent River**
    - ✓ **Population—59,487**
    - ✓ **No change in MV rank (0.002 increase in MV score)**
  
- 20 percent weight swing**
  - **2.6 percent—one rank deviation**
  - **5.6 percent—five rank deviations of one position**
  - **Limestone drops one position in 5.6 percent case**
  
- The metric is not sensitive**



# Hiring Time Data



- Responses to question on hiring time arrayed in order
- Metric accounts for 7% of MV model



# ***Hiring Sensitivity Analysis***

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- Contrived data change for Kansas City**
  - **From 132.5 to 48.2**
  - **Changes rank from 23 to 22 (+1)**
  
- 20 percent weight swing**
  - **8.4 percent—one rank deviation of one position**
  - **5.6 percent—two rank deviations of one position**
  
- This metric is not sensitive**

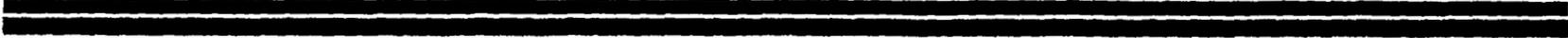


# ***Basic Steps—Military Value Calculation***

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- Review Scoring Plan and Methodology documentation
- Retrieve data according to documentation
- Prepare data for MV analysis according to documentation
- Run MV application
- Scoring Plans and Methodology Documentation are available in the BRAC Reading Room or from the BRAC website
- Data sources are identified in the documentation for each metric and are available in the BRAC Reading Room or from the BRAC website



# **COBRA**





# Assumptions

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- ❑ **HSA0115 Scenario is the base for the current Proforma COBRA runs**
  - **Eliminations and new impacts at NNMC Bethesda (due to USUHS not closing) were added**
  
- ❑ **Eliminations**
  - **Collocations assumes 7% cut from AF Med, BUMED and OTSG**
  - **Consolidations assume 14% cut from all organizations involved**
  - **Both MJCSG and individual organizations do not support eliminations**
  - **Eliminations affect all personnel types; officers, enlisted, civilians and contractors**
    - ✓ **Contractors assumed to cost \$200,000 per year on average**
  
- ❑ **Impacts at NNMC Bethesda are not certified**
  - **We have rough estimates from DON BRAC office**
  - **Current estimates will likely change if more formal analysis is done**



# Joint Medical Command Options

	HSA0115 as is	Collocation - 7%	Consolidation - 14%
One-Time Costs	\$108.322M	\$106.677M	\$103.087M
Net Implementation Costs / Savings	\$91.756M (Cost)	\$70.302M (Cost)	\$22.532M (Cost)
Annual Recurring Savings	\$5.983M	\$17.101M	\$41.450M
Payback Period / Year	24 Years (2034)	6 Years (2016)	2 Years (2012)
NPV	\$25.580M (Cost)	\$102.565M (Savings)	\$383.895M (Savings)
Eliminations (Off / Enl / Civ / Ctr)	None, Total Realigned = 1,881	78 Total (26 / 4 / 20 / 28)	249 Total (67 / 9 / 74 / 99)
	HSA0115 with new AF Data	Collocation - 7%	Consolidation - 14%
One-Time Costs	\$111.657M	\$110.054M	\$106,370M
Net Implementation Costs / Savings	\$91.392M (Cost)	\$71.213M (Cost)	\$23.592M (Cost)
Annual Recurring Savings	\$7.315M	\$18.142M	\$42.723M
Payback Period / Year	19 Years (2029)	6 Years (2016)	2 Years (2012)
NPV	\$12.306M (Cost)	\$111.856M (Savings)	\$395.348M (Savings)
Eliminations (Off / Enl / Civ / Ctr)	None, Total Realigned = 1,963	81 Total (34 / 6 / 22 / 19)	258 Total (84 / 13 / 78 / 83)

Transforming Through Base Realignment and Closure

The following is an explanation of the DFAS Optimization Model developed by CNA.

The objective of the model is to maximize the military value of facilities retained, while reducing excess capacity, discouraging (but allowing for) construction of new capacity, and encouraging concentration of business line into centers of excellence. The model's parameters included: (1) military values of each facility; (2) existing capacity; (3) potential for expansion of capacity; and (3) future staff requirements by functional area.

The optimization model was used to generate alternatives. Because of substantial excess capacity relative to future staff requirements, the configuration analysis runs all suggested the possibility of multiple site closures. While there were minor differences among alternatives (depending on the degree to which expansion of capacity at existing facilities was allowed), all results were similar in their concentration of business lines at a few larger sites. Between two and four primary sites is all that is needed to house the expected future work force. The proposed closures do not result from specific constraints but rather are a reflection of existing excess capacity. The larger site proposed for retention offer higher than average military values and will have sufficient capacity to support the expected space requirements.

CNA