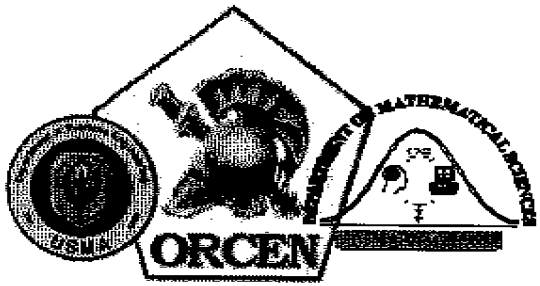


Unit Rotation Study

Prepared for

LTG John M. Le Moyne

10 July 2002

Office of Economic and Manpower Analysis

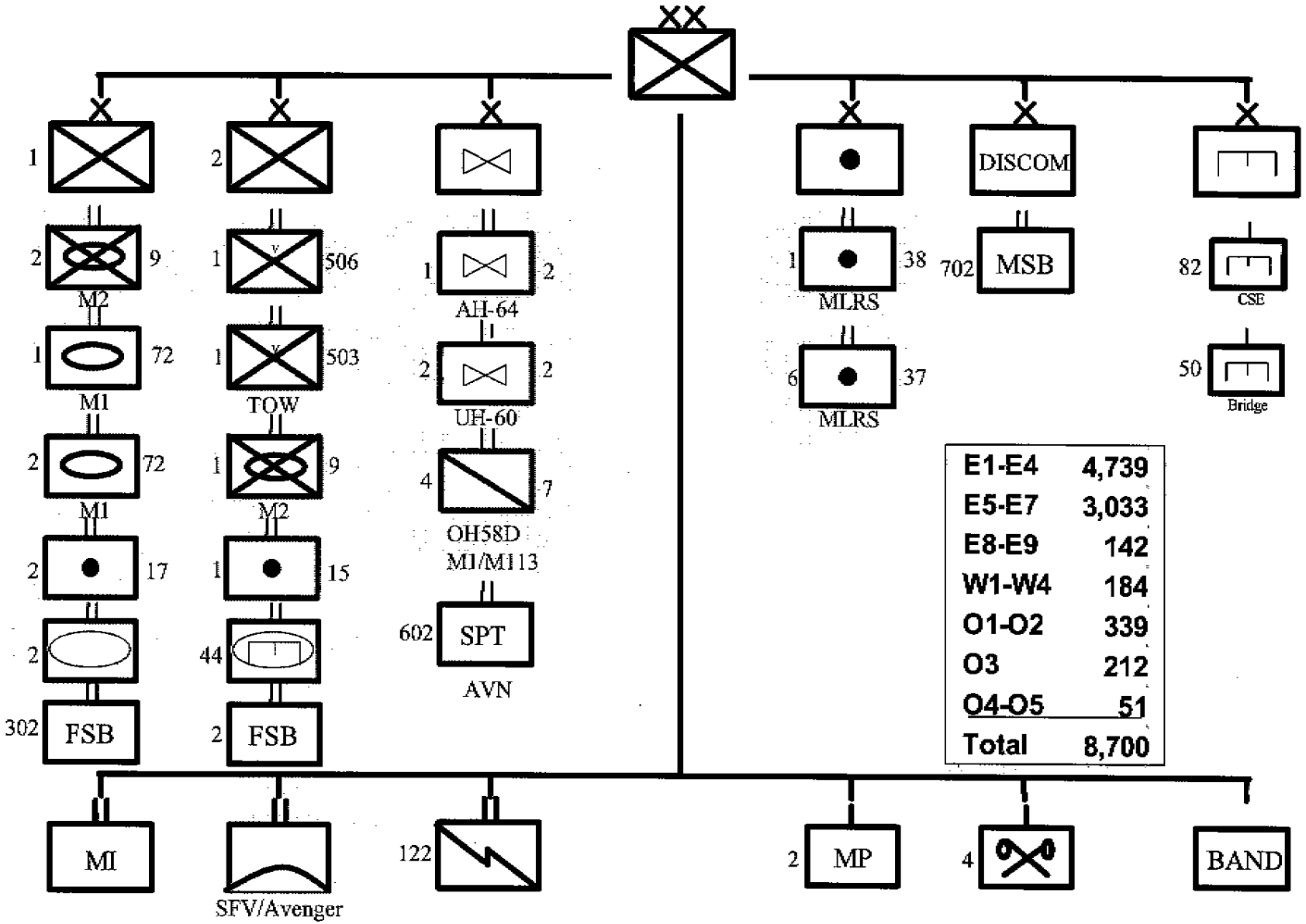
&

Operations Research Center of Excellence

Agenda

- Scope
- Sources of Turbulence
- Unit Supporting Base
- Unit Training Status
- Small Unit Cohesion
- Cost
- Findings

Based Upon their Mission and Commonality with FORSCOM Units, 16 Battalions of the 2nd ID would be Suitable Candidates for Unit Rotations

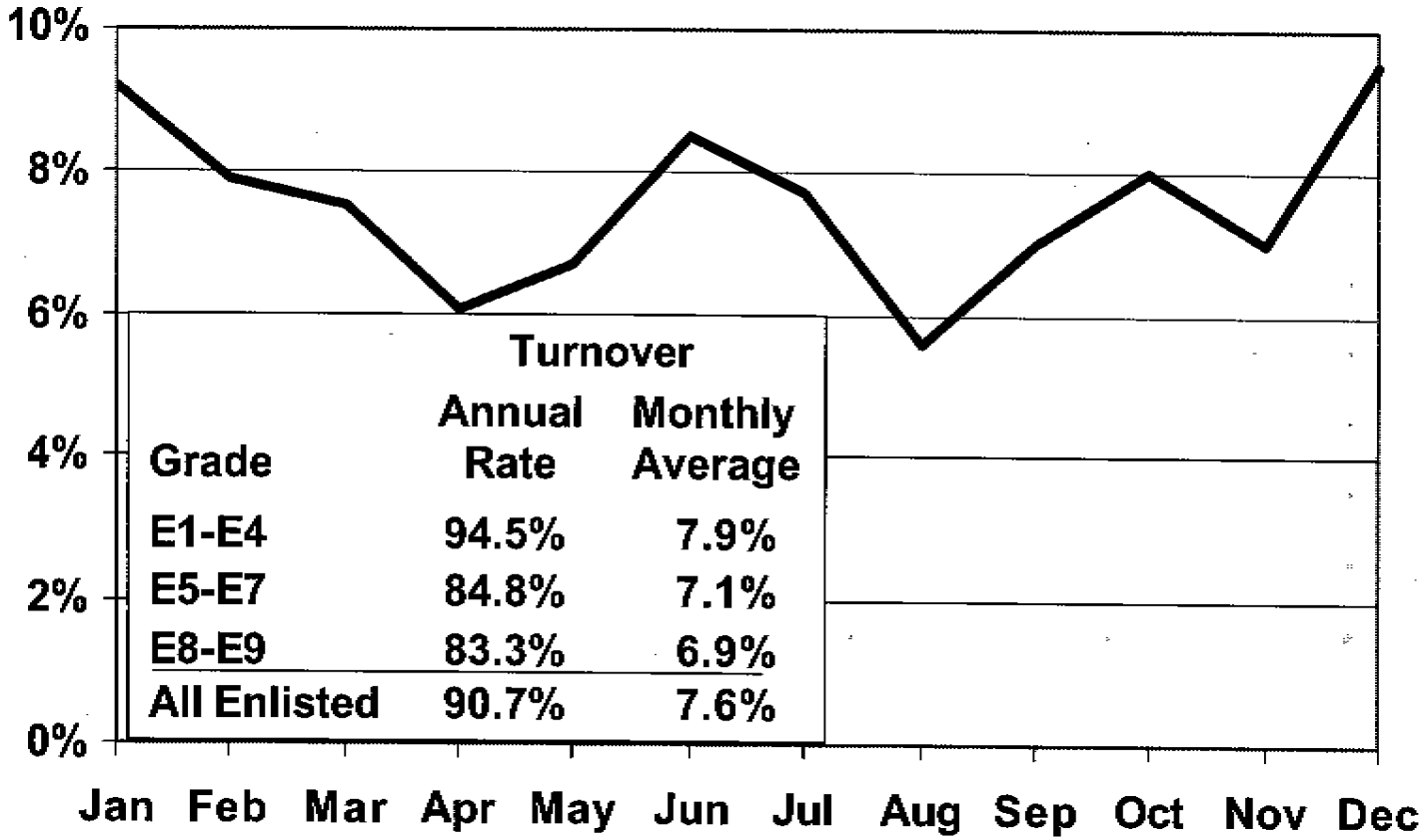


E1-E4	4,739
E5-E7	3,033
E8-E9	142
W1-W4	184
O1-O2	339
O3	212
O4-O5	51
Total	8,700

Adoption of Unit Rotations for Selected Battalions in 2ID may Reduce Turnover and thereby Increase Unit Cohesion and Readiness in Korea

Sample Space: Enlisted Personnel Assigned to Candidate Rotational Battalions of the 2ID during FY97 thru FY00

Monthly Turnover Rates for Enlisted Personnel in Candidate Rotational Battalions of 2ID

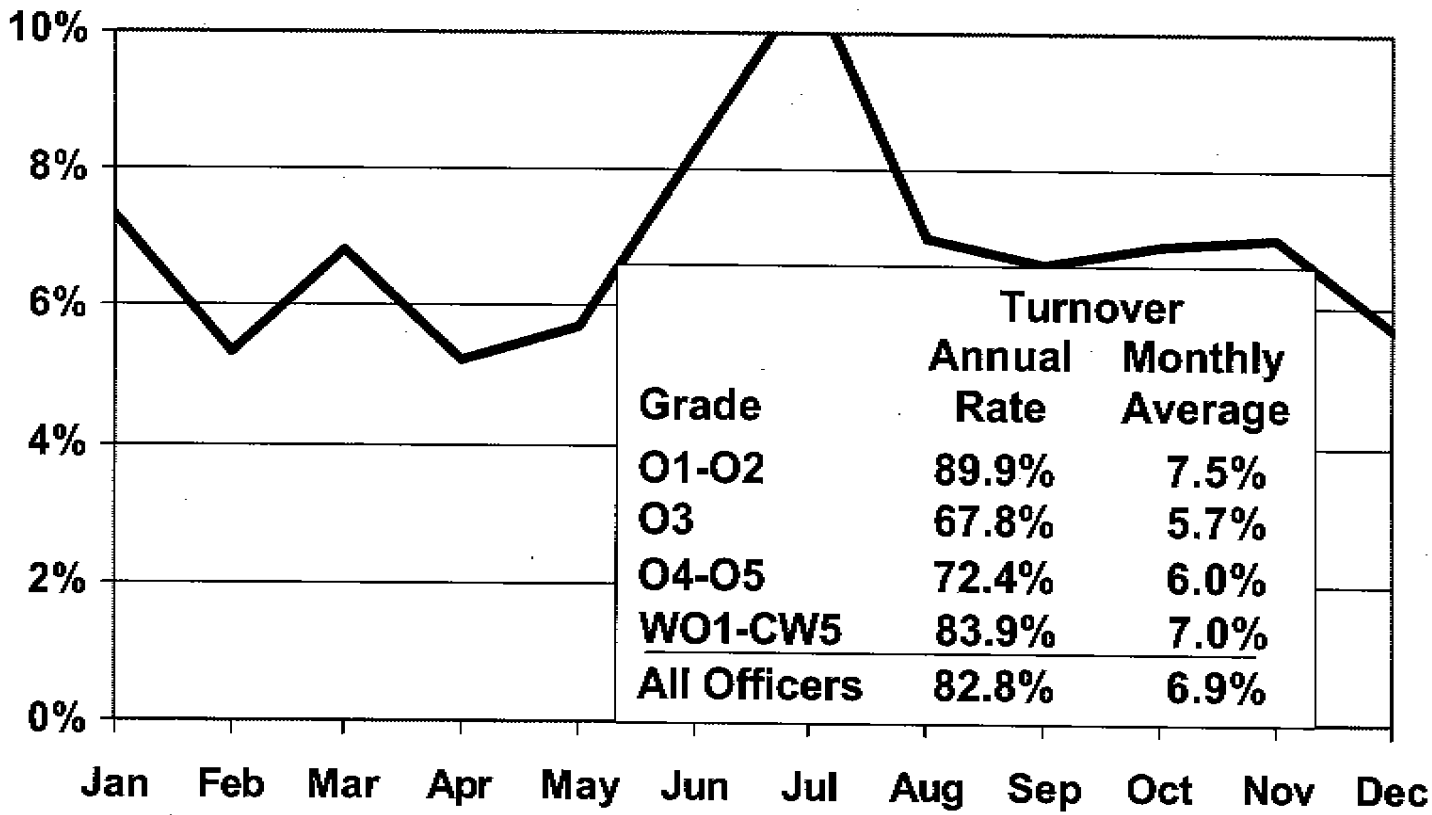


Grade	Turnover Annual Rate	Turnover Monthly Average
E1-E4	94.5%	7.9%
E5-E7	84.8%	7.1%
E8-E9	83.3%	6.9%
All Enlisted	90.7%	7.6%

Unit Rotations for Selected Battalions in 2ID may Also Benefit Readiness in Korea by Reducing Turnover Among Officers

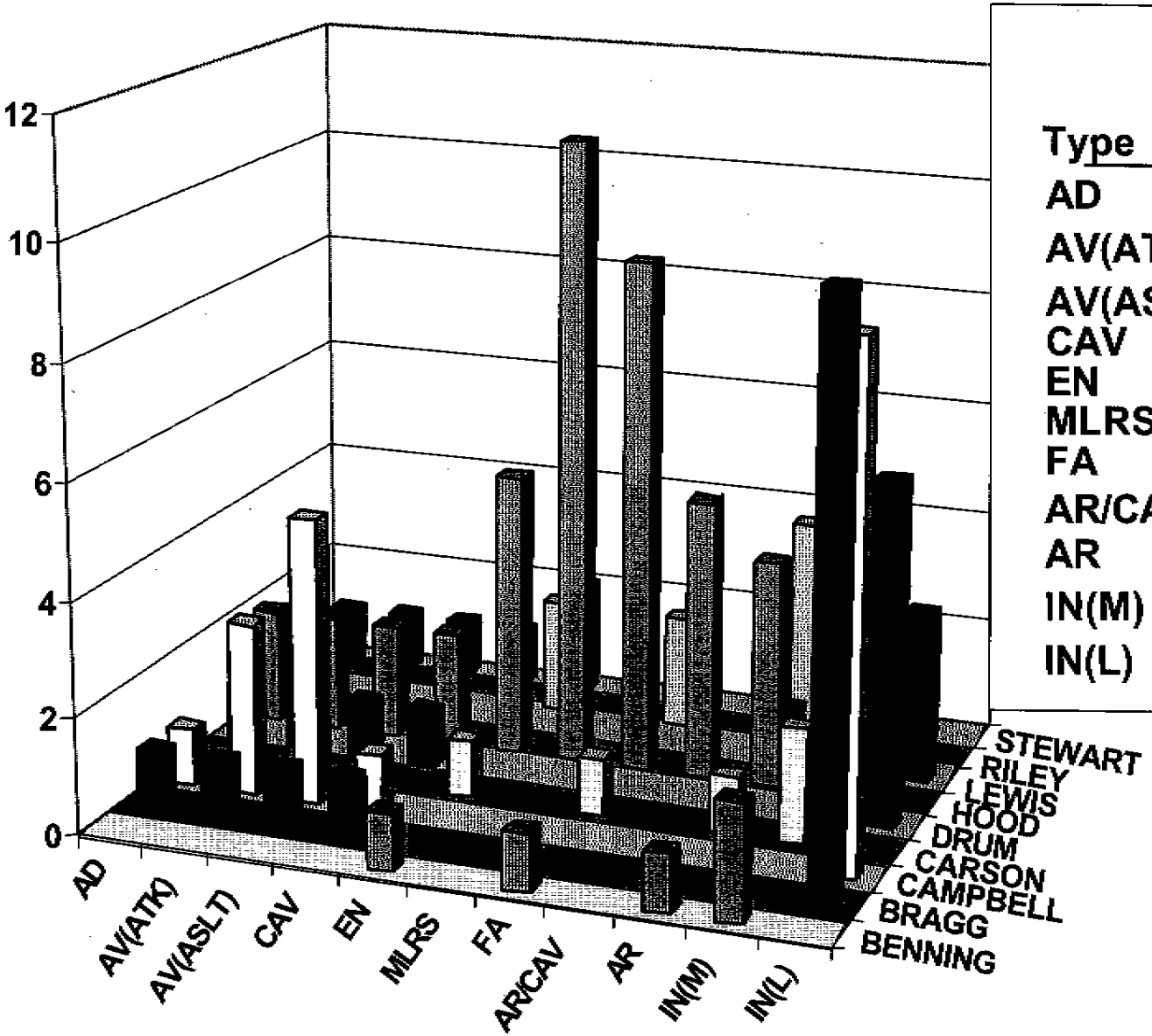
Sample Space: Officer Personnel Assigned to Candidate Rotational Battalions of the 2ID during FY97 thru FY00

Monthly Turnover Rates for Officer Personnel in Candidate Rotational Battalions of 2ID



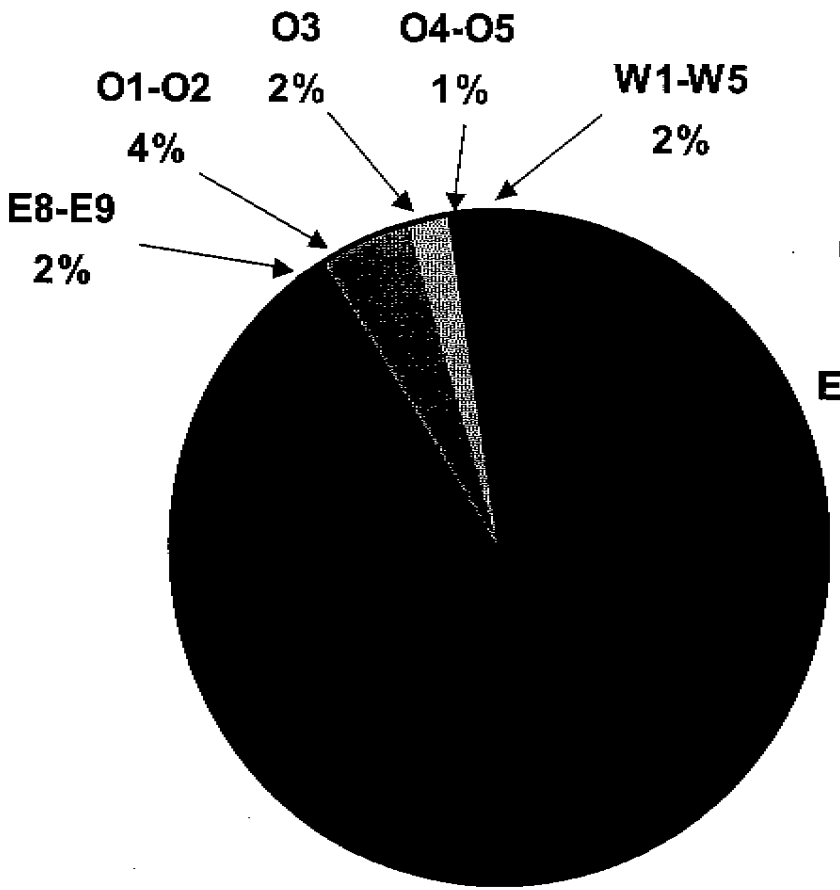
Grade	Turnover Annual Rate	Turnover Monthly Average
O1-O2	89.9%	7.5%
O3	67.8%	5.7%
O4-O5	72.4%	6.0%
WO1-CW5	83.9%	7.0%
All Officers	82.8%	6.9%

Rotational Units Could be Drawn from one of Several Major CONUS Posts

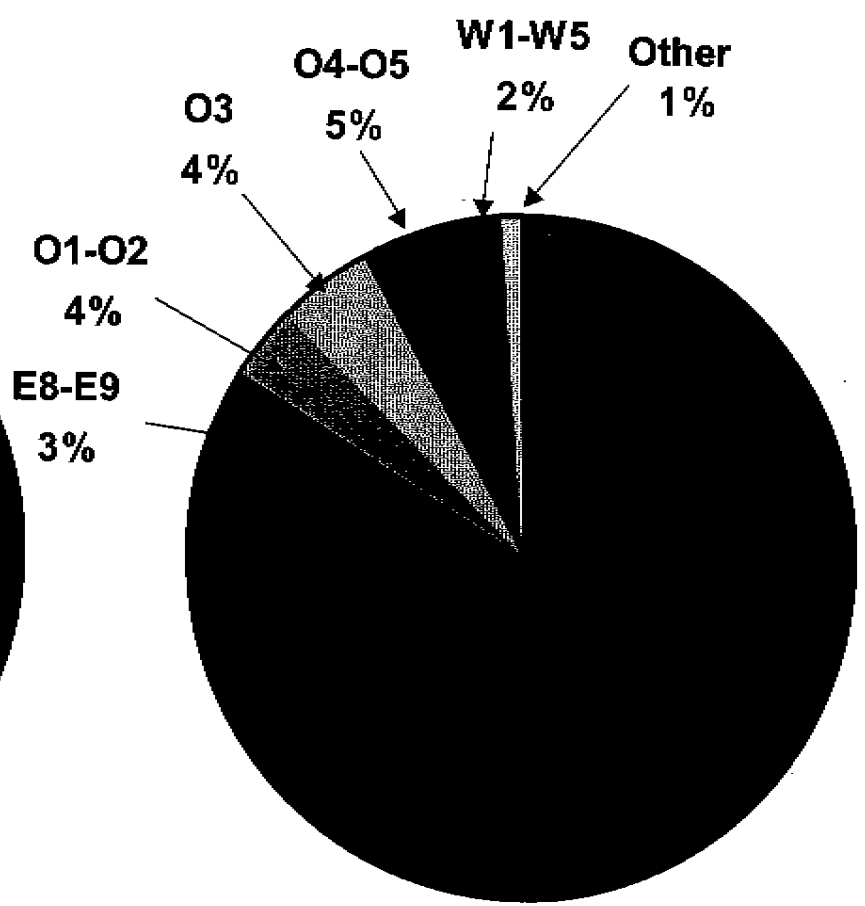


Type	Number of Battalions FC	2ID
AD	7	1
AV(ATK)	8	1
AV(ASLT)	10	1
CAV	6	1
EN	11	2
MLRS	12	2
FA	15	2
AR/CAV	5	0
AR	14	2
IN(M)	14	2
IN(L)	28	2

By Way of Understanding the Basis for Turnover, it is Important to Note that Divisional Battalions are Disproportionately Composed of Early Terms Soldiers Who Represent a Relatively High Separation Risk



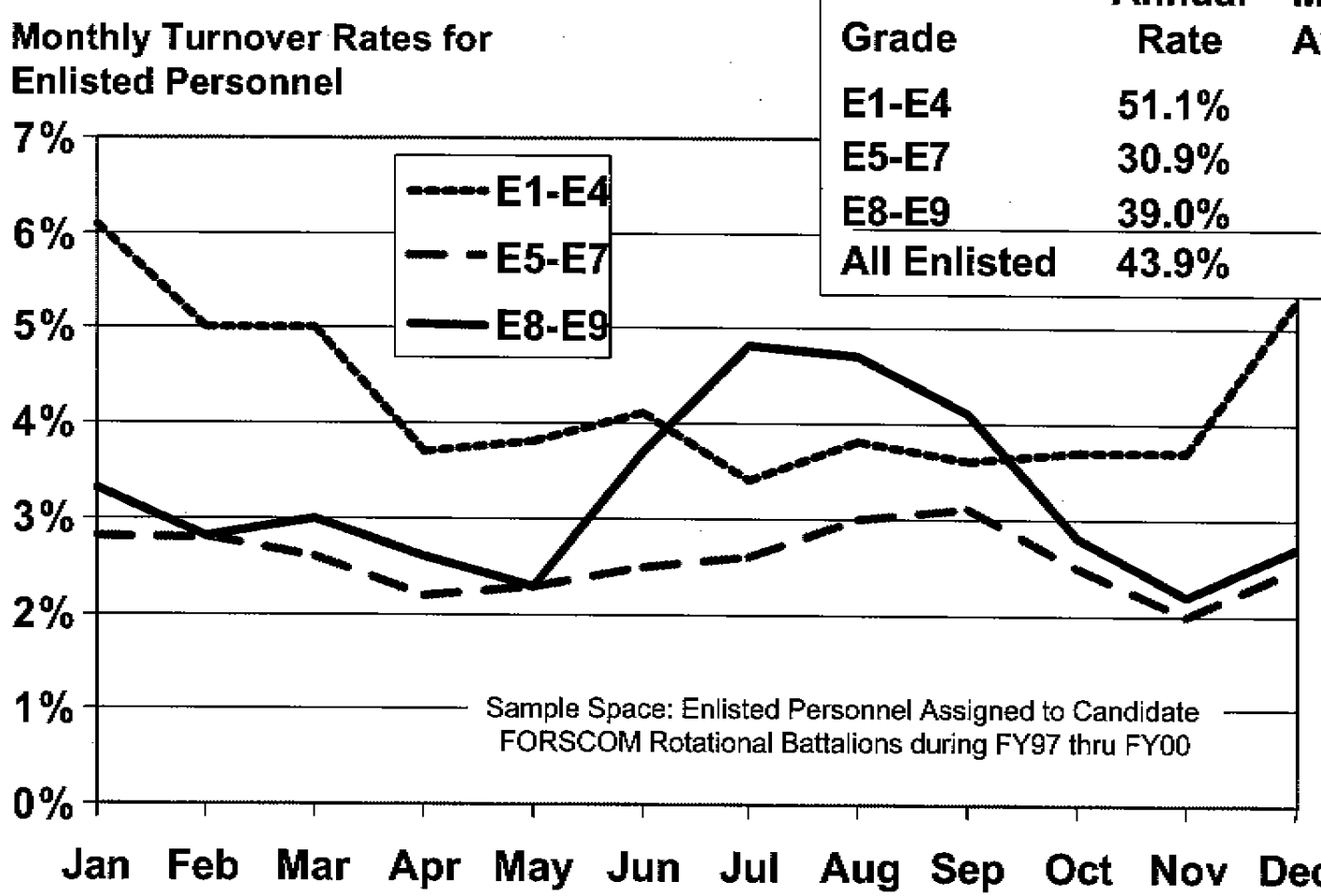
Grade Structure of FORSCOM Divisional Battalions



Army Grade Structure

As Evidenced Below, Enlisted Turnover is Relatively High Among Early Term Soldiers

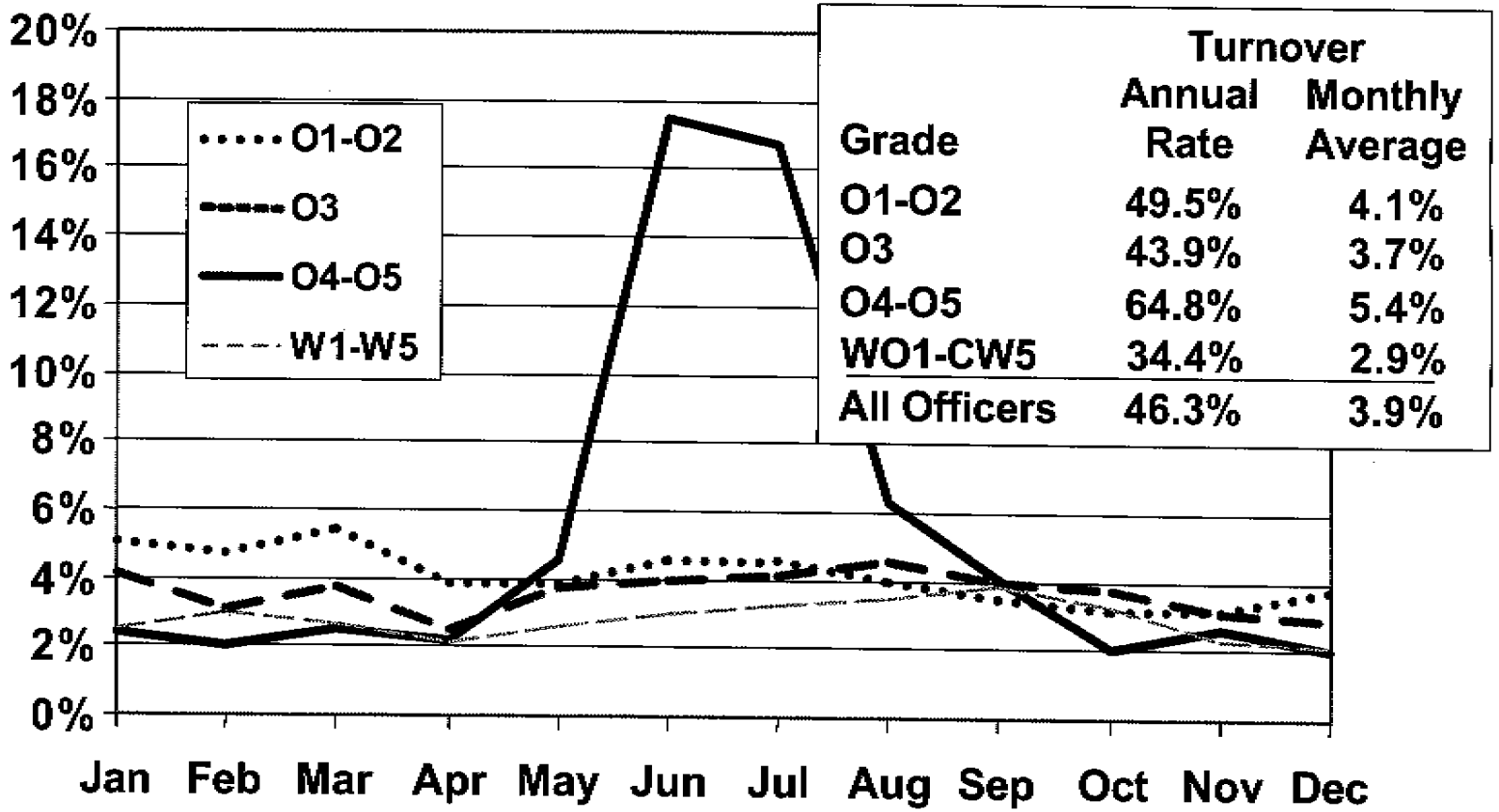
Grade	Turnover Annual Rate	Turnover Monthly Average
E1-E4	51.1%	4.3%
E5-E7	30.9%	2.6%
E8-E9	39.0%	3.3%
All Enlisted	43.9%	3.7%



Among Officers, Turnover is Highest Among Lieutenants and Field Grade Officers

Sample Space: Officer Personnel Assigned to Candidate FORSCOM Rotational Battalions during FY97 thru FY00

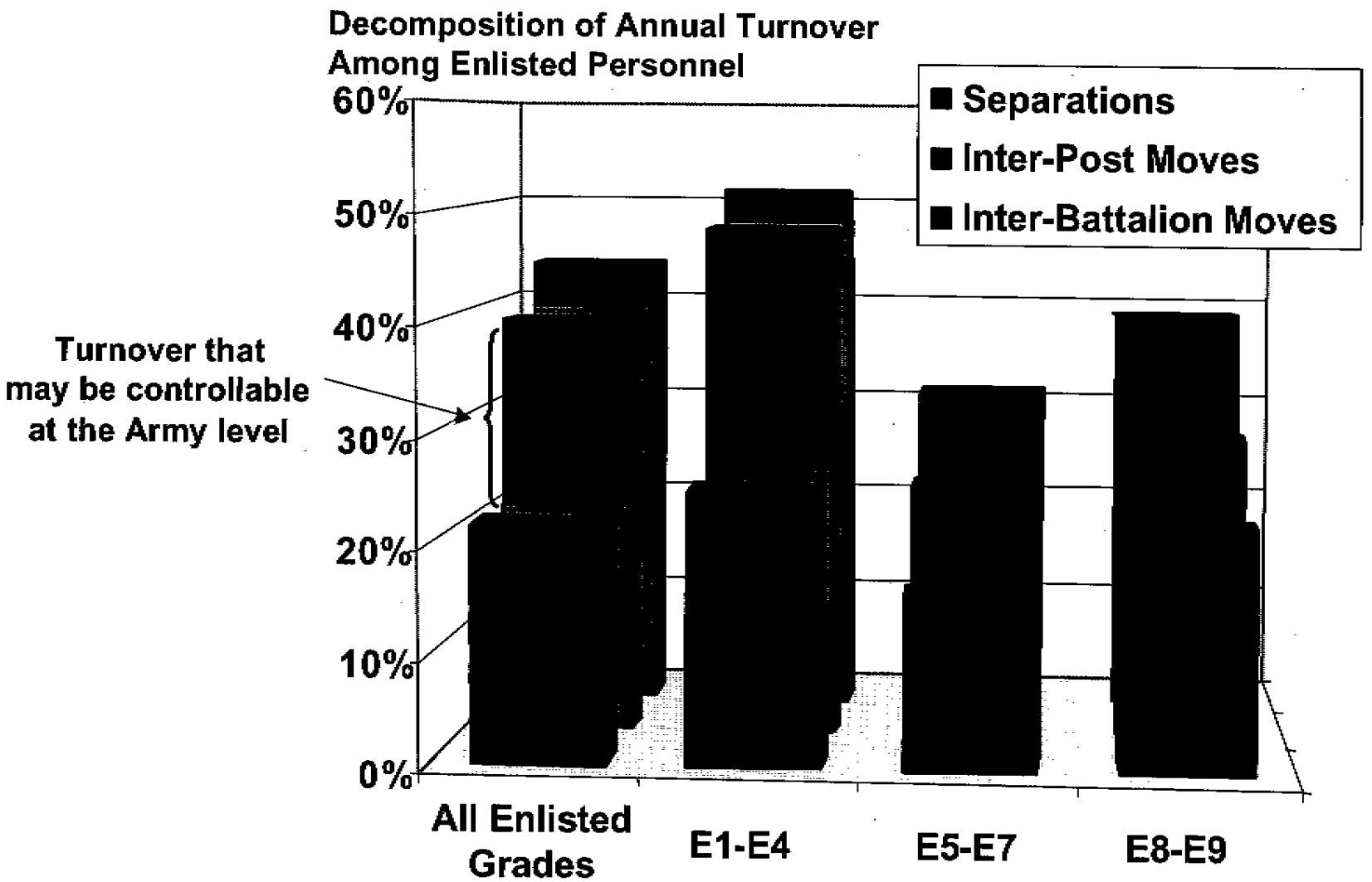
Monthly Turnover Rates for Officer Personnel



Grade	Turnover Annual Rate	Turnover Monthly Average
O1-O2	49.5%	4.1%
O3	43.9%	3.7%
O4-O5	64.8%	5.4%
WO1-CW5	34.4%	2.9%
All Officers	46.3%	3.9%

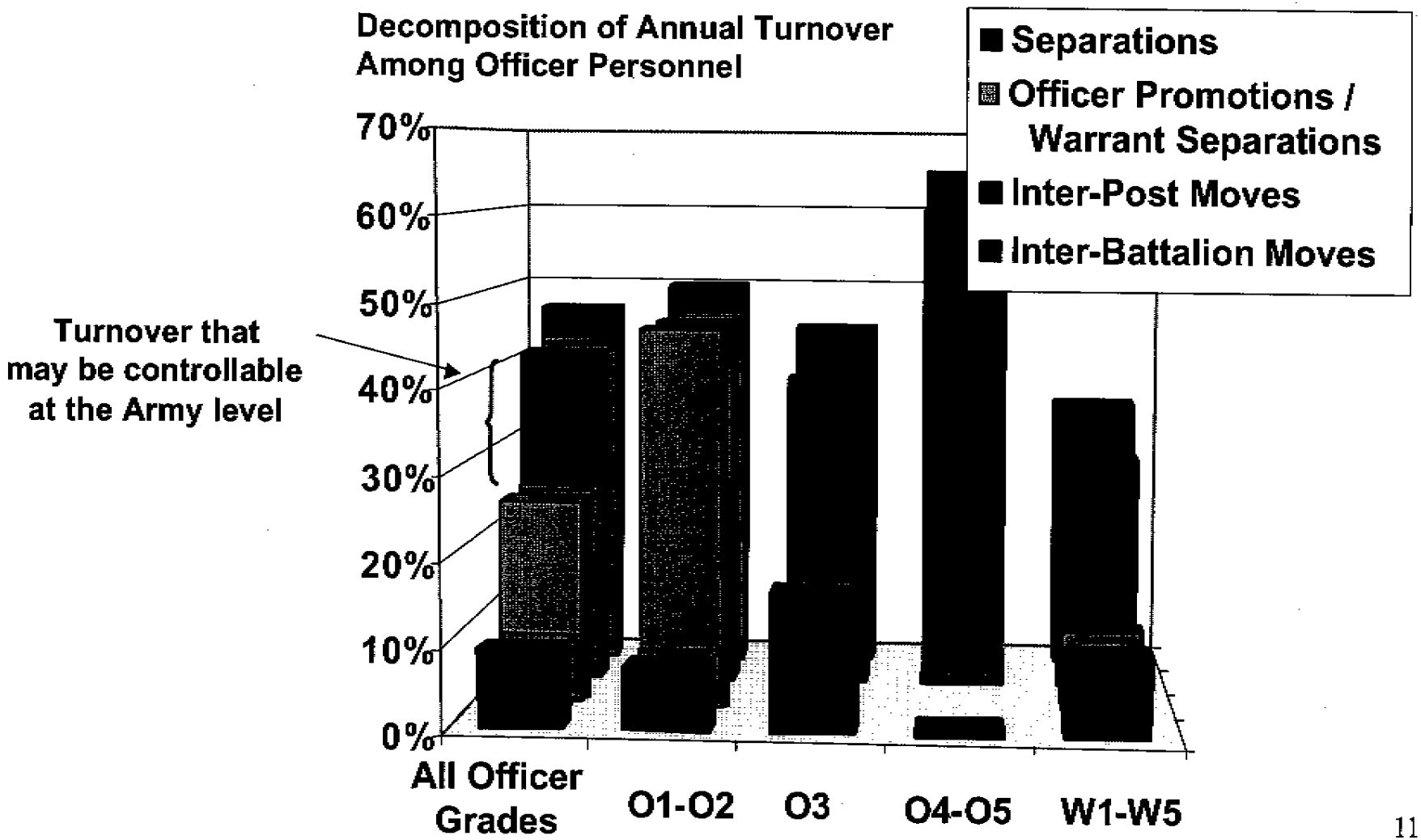
The Majority of Enlisted Turnover in FORSCOM "Unit Rotation Candidate" Battalions Accrues from Separations and Intra-Post Moves

Sample Space: Enlisted Personnel Assigned to Candidate FORSCOM Rotational Battalions during FY97 thru FY00



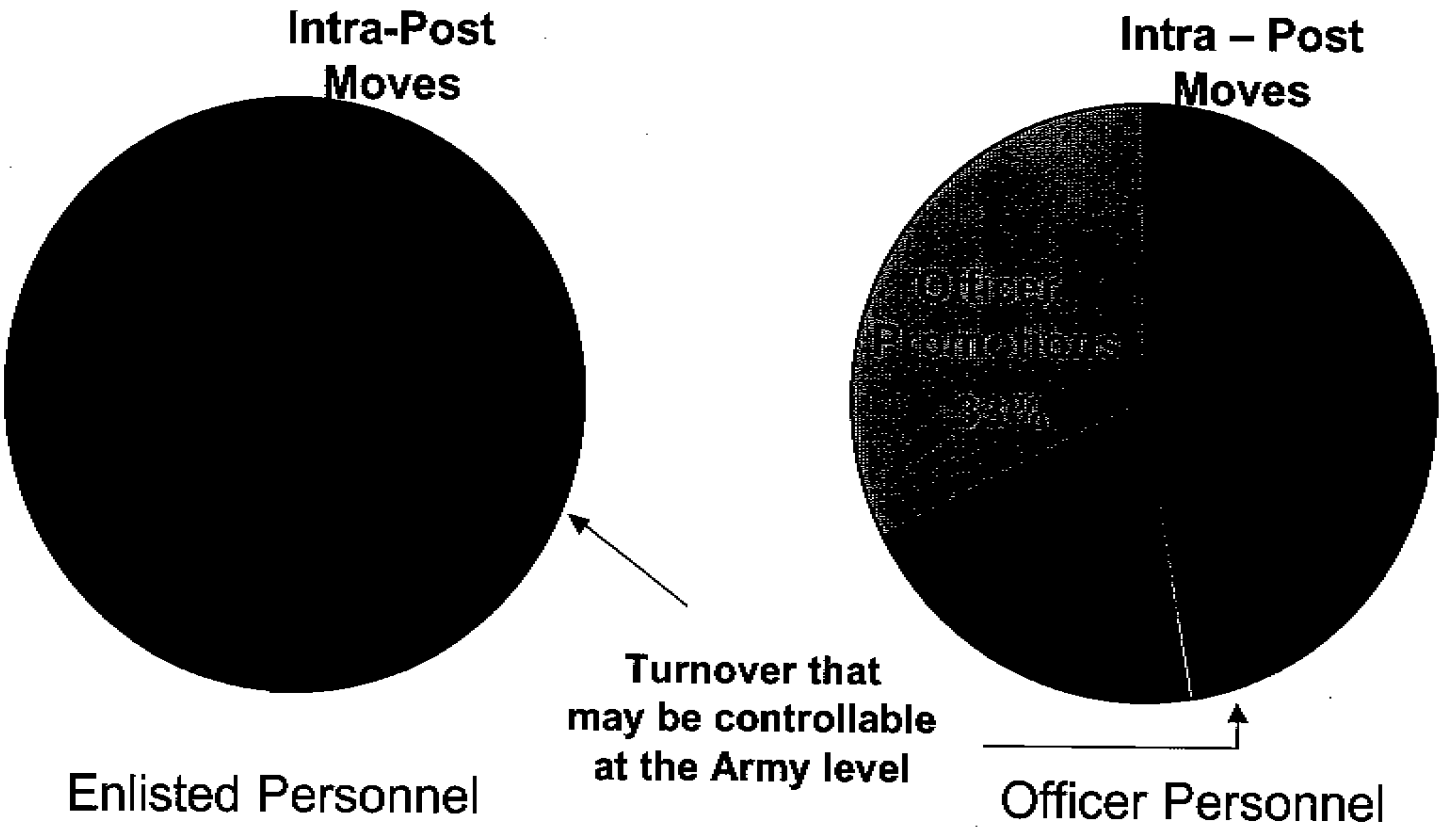
The Majority of Turnover Among Officers in FORSCOM "Unit Rotation Candidate" Battalions Accrues from factors other than DA Ordered PCS Moves

Sample Space: Officer Personnel Assigned to Candidate FORSCOM Rotational Battalions during FY97 thru FY00

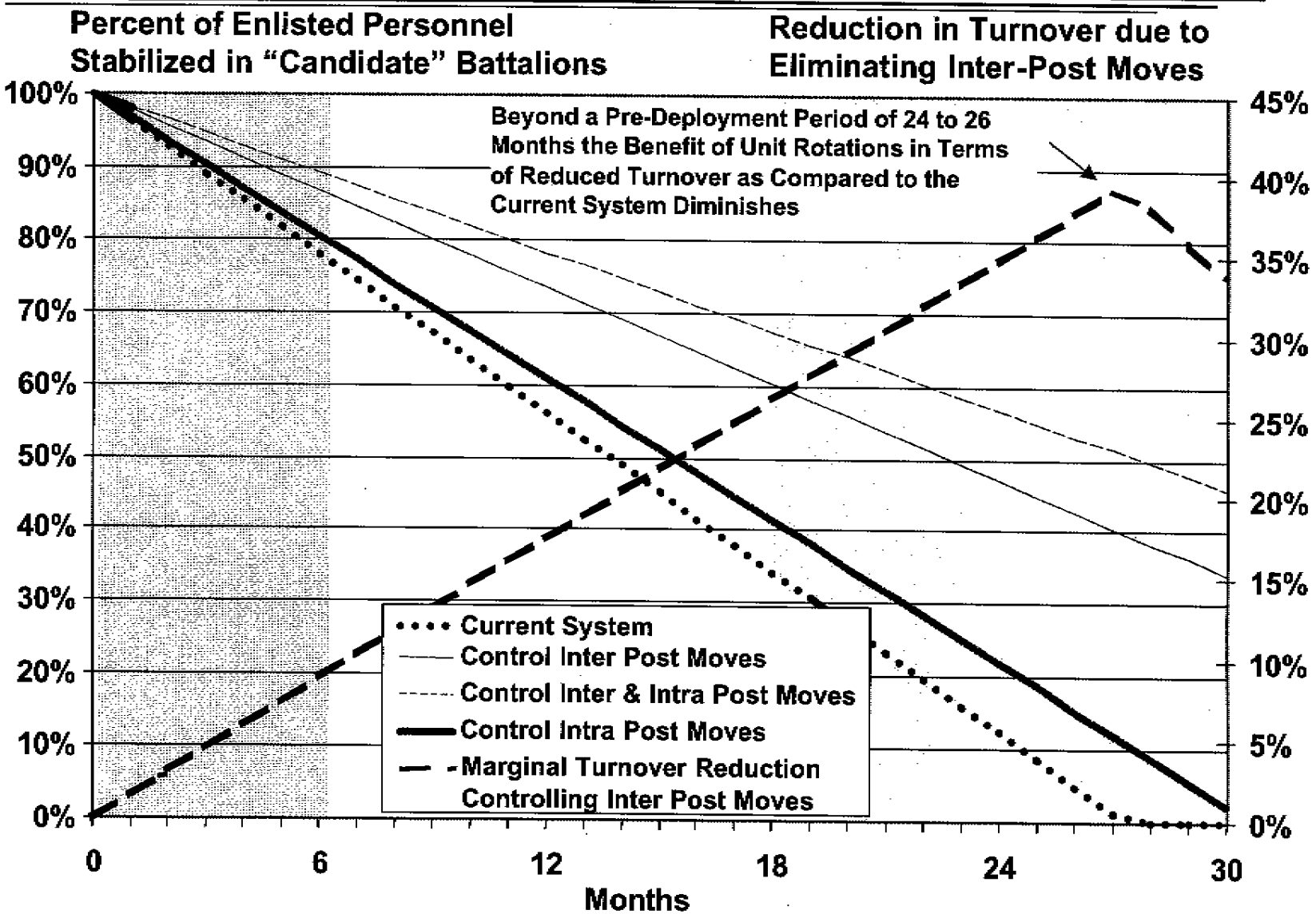


About 40 Percent of the Turnover Found within FORSCOM Battalions that would be Candidates for Unit Rotation to Korea is Due to DA Ordered PCS Moves

Sample Space: Personnel Assigned to Candidate FORSCOM Rotational Battalions during FY97 thru FY00



In Terms of Reducing Enlisted Turnover, the Benefits of Unit Rotations Peek at About 24-26 Months



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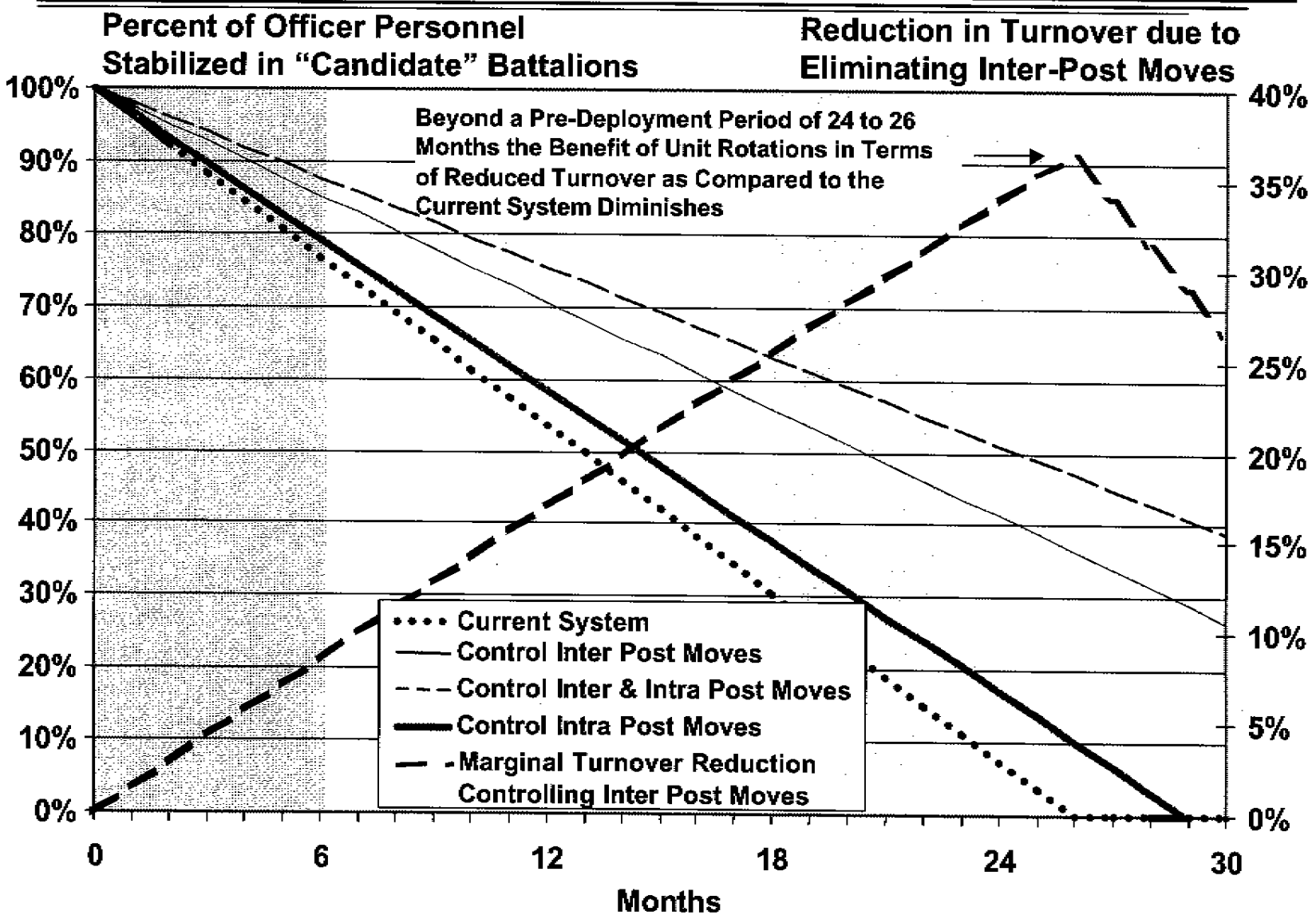


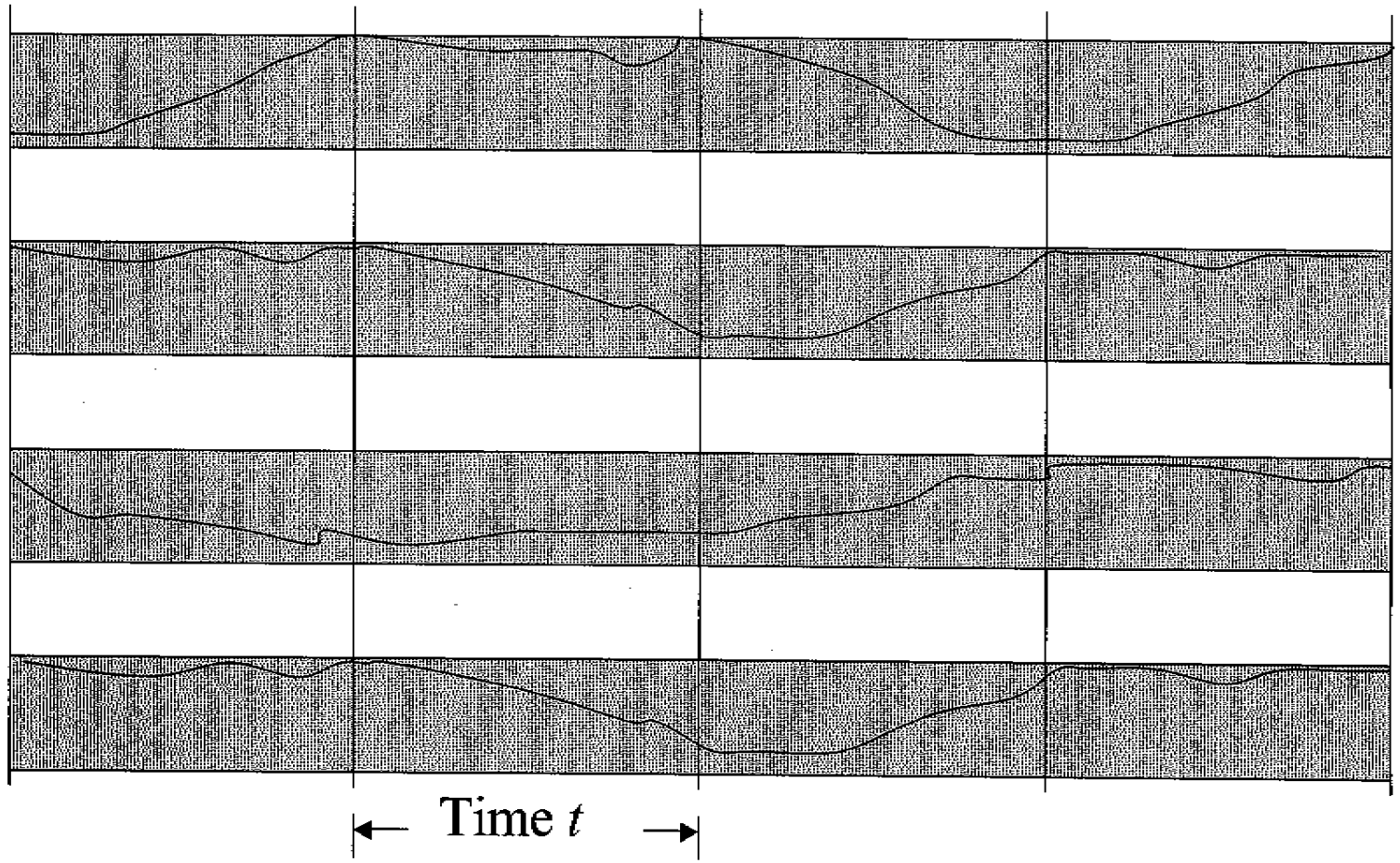
Rotation Alternatives Considered

- Examined rotation for various levels
  - Division
  - BDE TF
  - BN
  - BN TF
  - Current
- Considered both POMCUS & non-POMCUS equipment options
- Readiness model developed which considered Training, Equipment, Manning, and Availability
- Battalion-level rotations best

Number of Battalions Required to Support Pre-Deployment Training Cycles of 6 – 18 Months Length

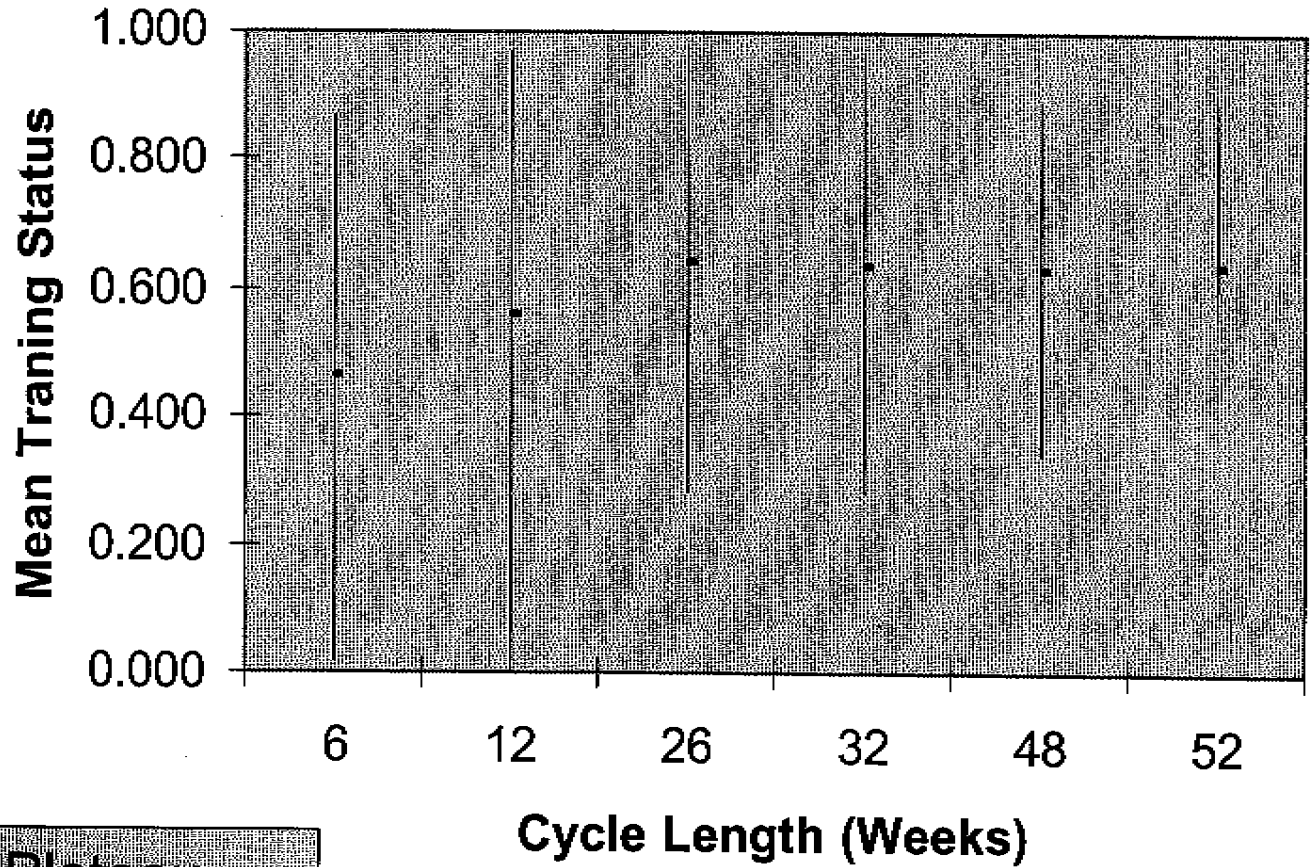
		Pre-Deployment Period Lengths (Months)			
Type	2ID Qty	6 Mo	12 Mo	18 Mo	FORSCOM Qty
ADA	1	2	3	4	7
AV(ATK)	1	2	3	4	8
AV(ASLT)	1	2	3	4	10
CAV	1	2	3	4	6
EN	2	4	6	8	11
MLRS	2	4	6	8	12
FA	2	4	6	8	15
AR/CAV	0	0	0	0	5
AR	2	4	6	8	14
IN(M)	2	4	6	8	14
IN(L)	2	4	6	8	28
Total	16	32	48	64	130

Unit Training Status Varies with Activities within Training Cycles

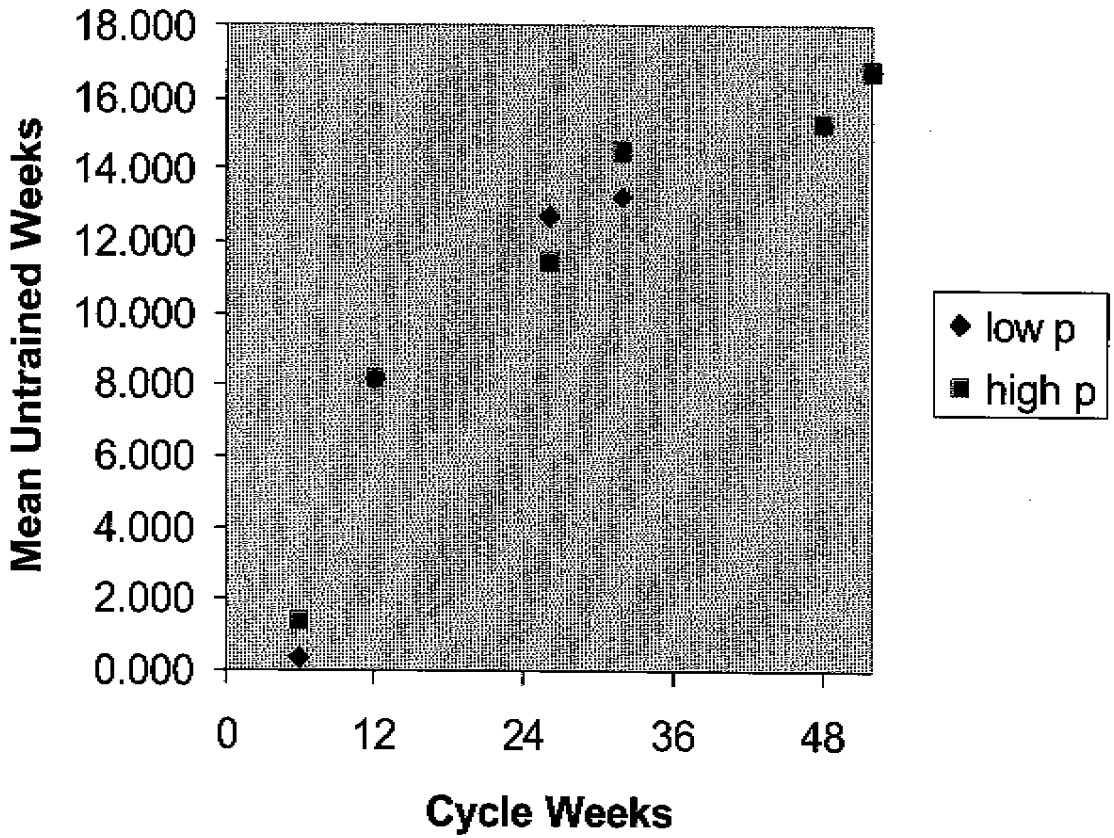


Want to keep as many units in the "Band of Excellence" as possible

Average Unit Training Status for Various Cycle Lengths



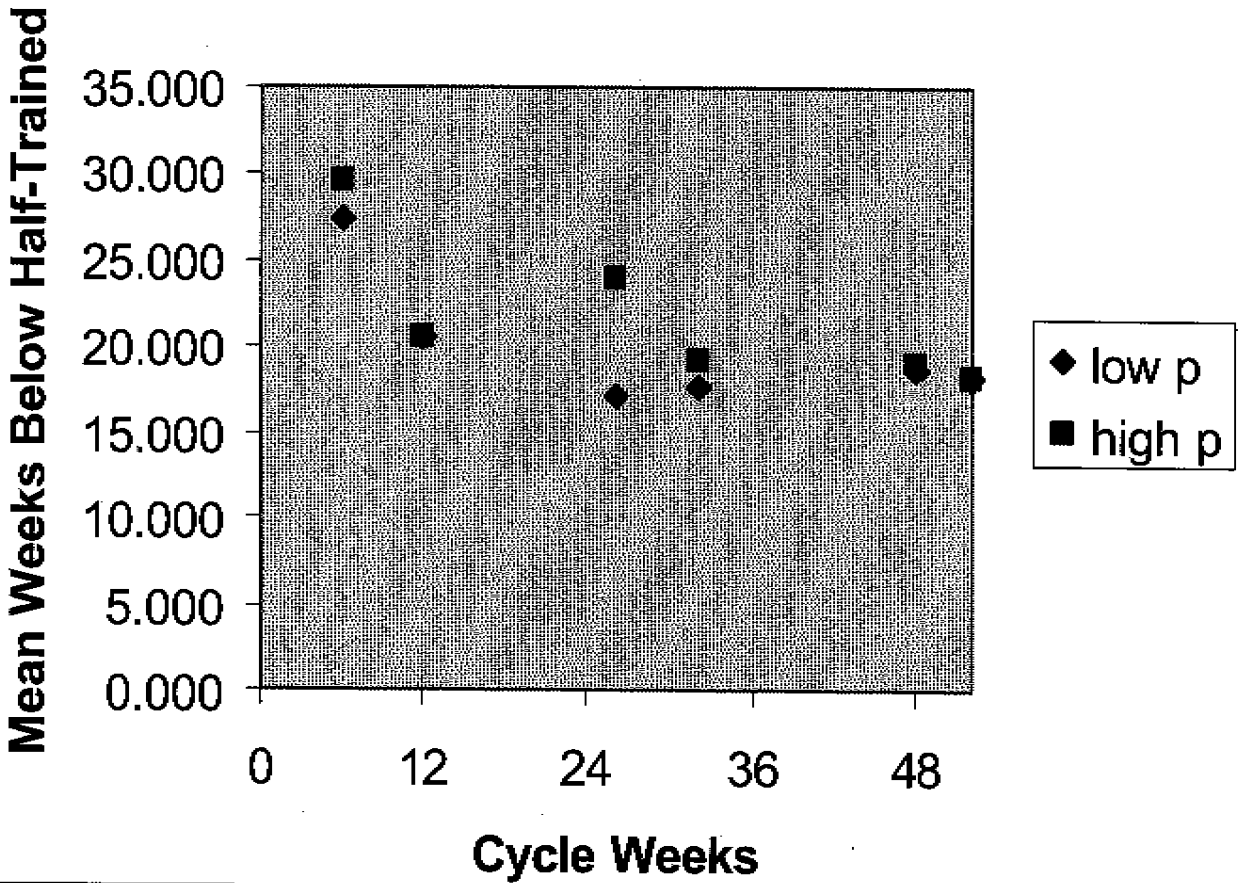
Average Unit Untrained Status for Various Cycle Lengths



Longer cycle lengths make a smaller number of units be the bill payer for the entire force

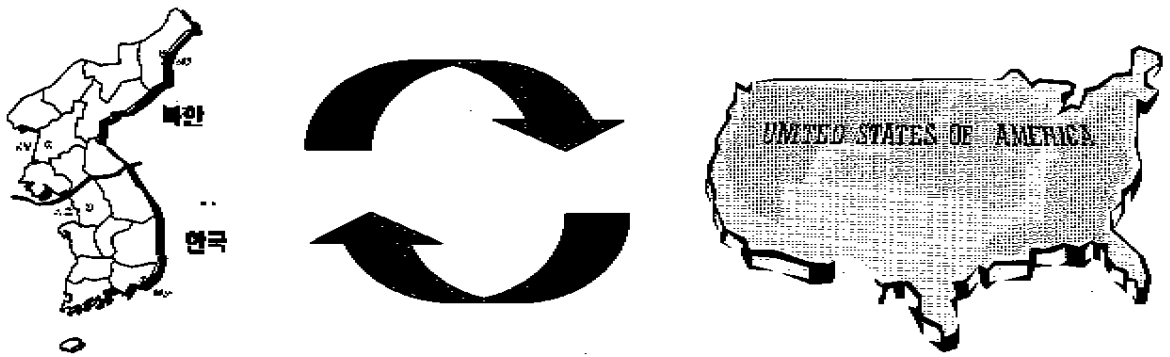
Two probabilities of deploying on operations for a mission cycle, 0.03 and 0.10, were examined

Average Unit Untrained Status for Various Cycle Lengths



For the middle of the pack, 26 weeks shows a plateau also.

Examining the Cohesion of Squads in the AASLT BNs



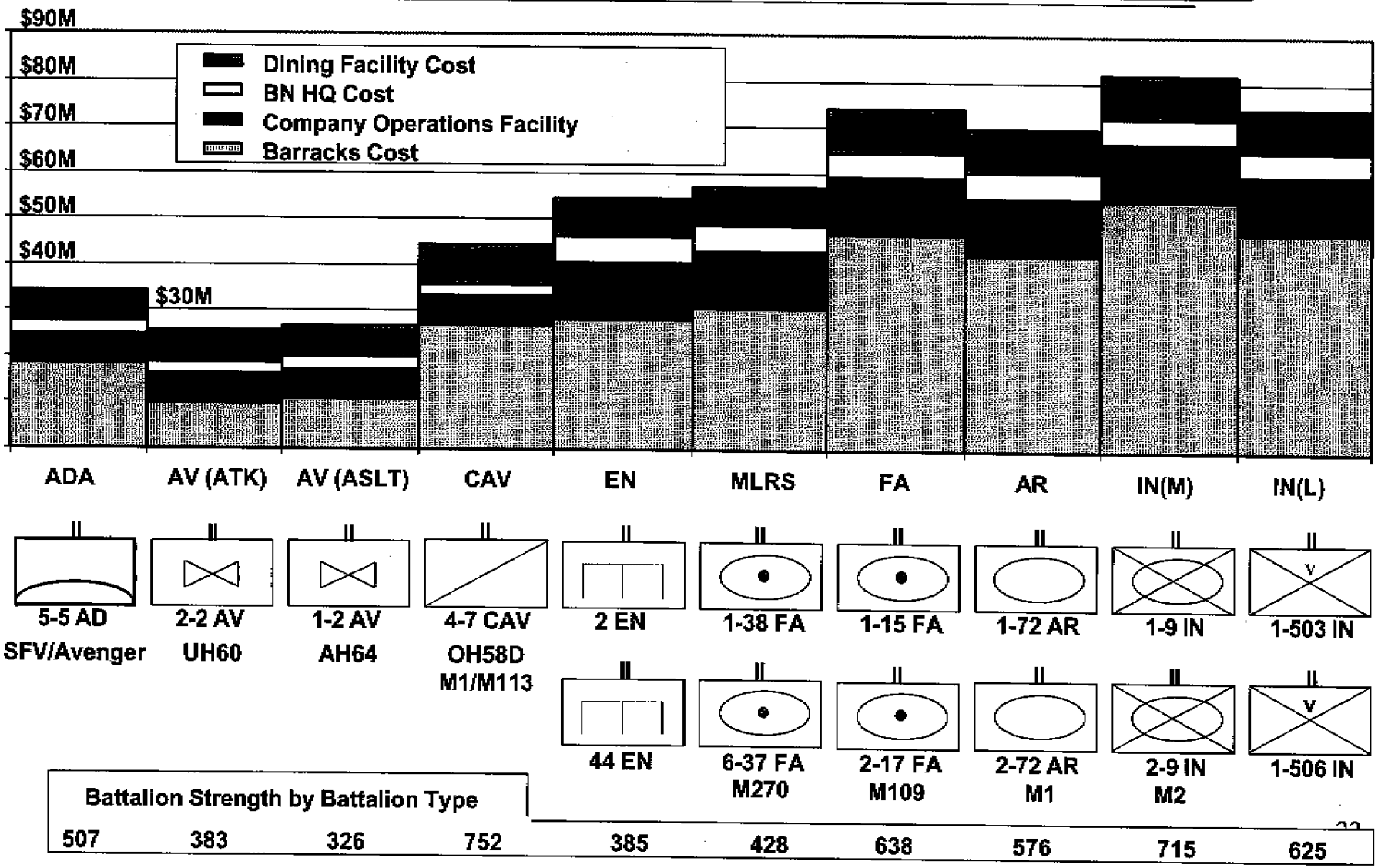
Cohesion effects for 2ID AASLT SQDs for a 12-moth period:

Loss 1st, 2nd, … SQD member		1	2	3	4	5
Week of Loss	Current	7	13	20	24	29
% SQD Without Any Loss		0	0	0	0	0
Week of Loss	Unit Rot	22	29	34	38	44
% SQD Without Any Loss		17	50	77	83	87

A Unit Rotation Plan Greatly Increases Small Unit Cohesion.

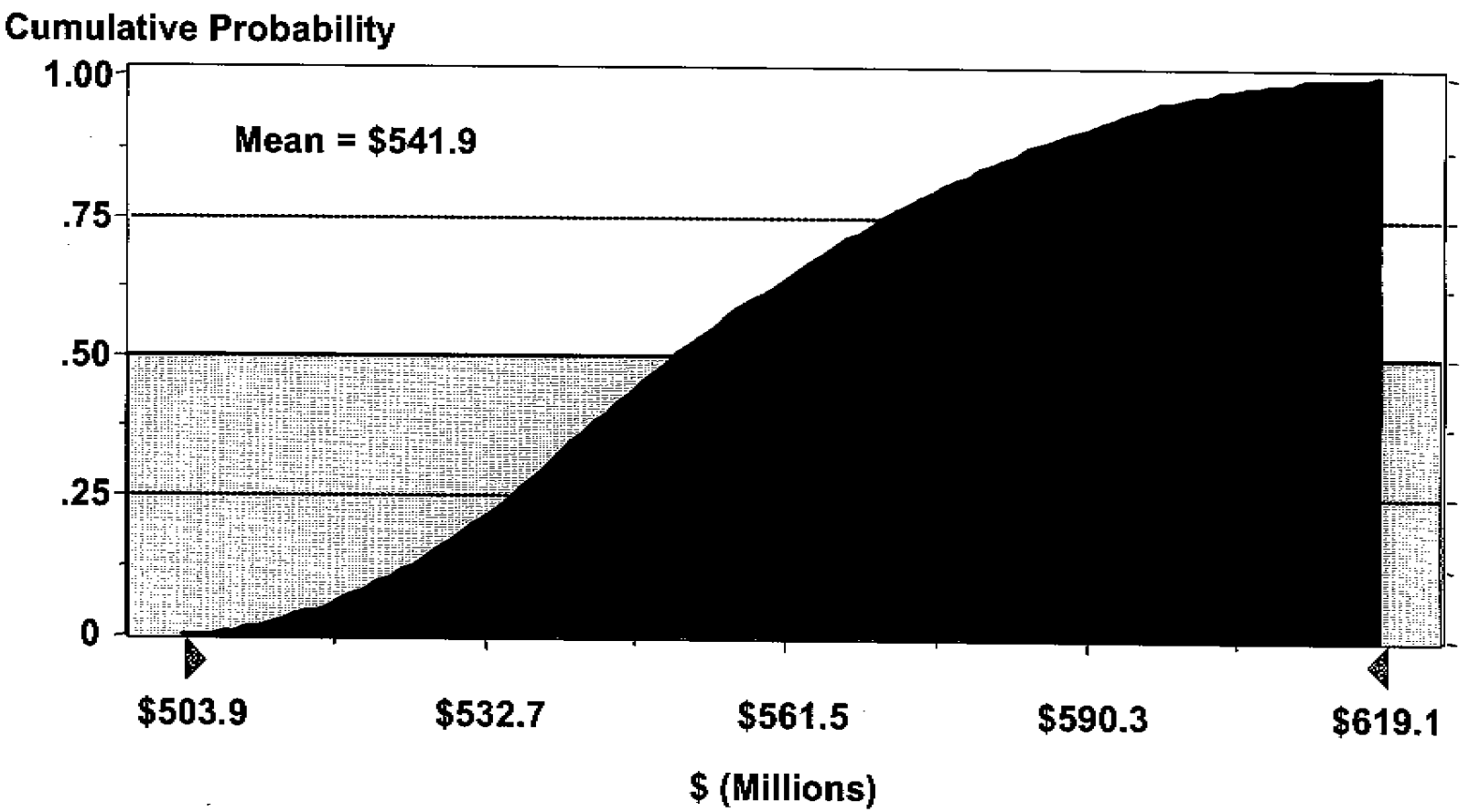
Unit Rotations to Korea would Entail Substantial Investment Costs to Create Infrastructure for 2ID Units Returning to the U.S.

(New construction would be required at Forts Benning, Bragg, Campbell, Drum, Hood, Lewis, Riley since there is no excess barracks capacity on these installations)



Using New Construction, the Total Infrastructure Investment Cost for Unit Rotations to Korea Would be $542million. This Infrastructure would also Entail Substantial Recurring O&M Costs.

Infrastructure Investment Cost

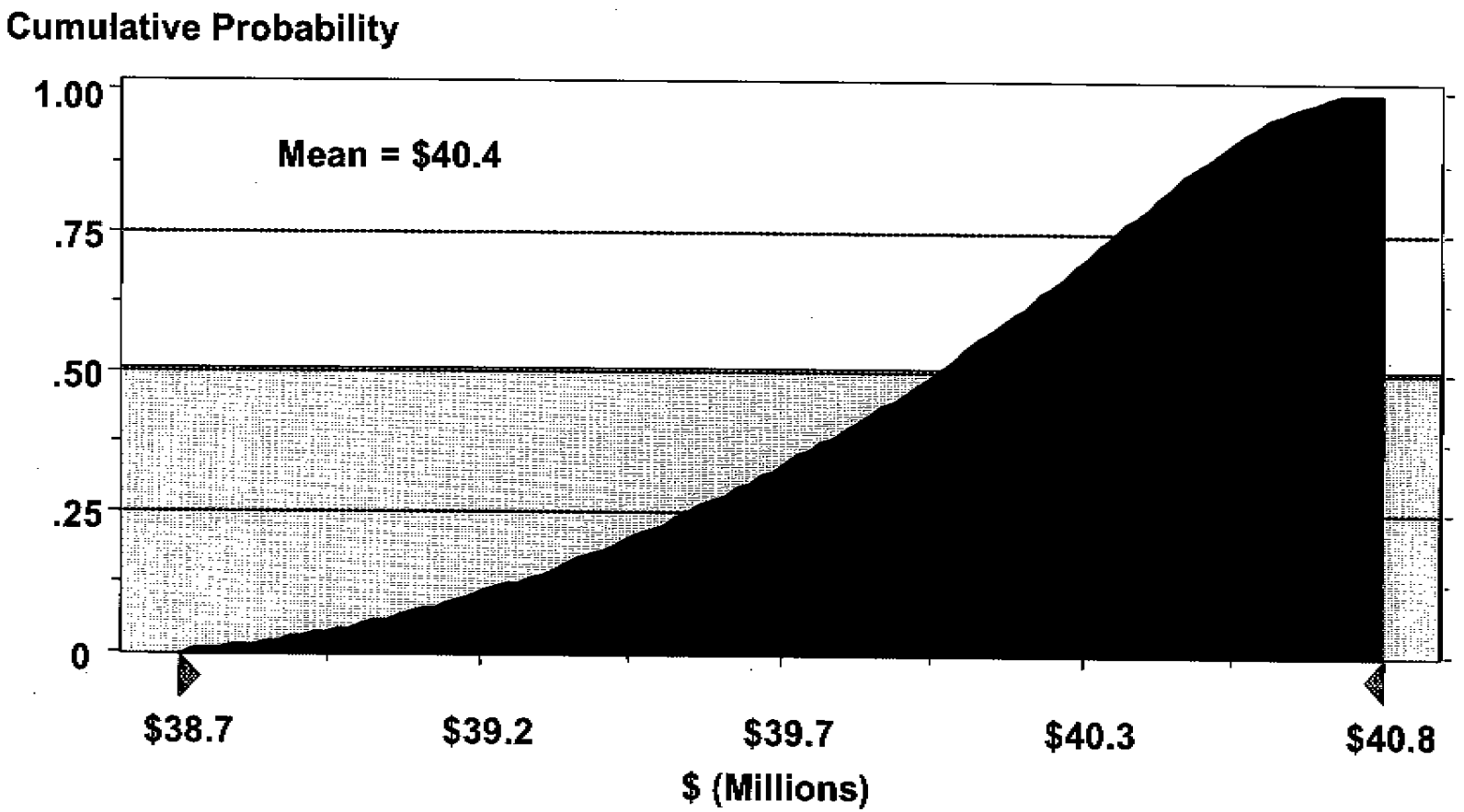


Use of Existing Barracks Fort Bliss and Fort Polk Could Lower the Infrastructure Cost of Unit Rotations

- In 1996 DoD adopted the 1+1 Standard for new barracks construction. Existing barracks are being renovated to a two person room standard.
  - Based upon engineering and economic considerations 1950s era barracks will not be renovated and will be demolished.
  - Based upon engineering and economic considerations 1960s era barracks are either being renovated or demolished.
  - 1970s era barracks are being upgraded.
- Stationing additional battalions at Forts Benning, Bragg, Campbell, Drum, Hood, Lewis, Riley would require new barracks construction.
- There are approximately 1,000 excess barracks spaces at Fort Bliss and 2,300 spaces at Fort Polk that would require renovation.
  - Depending upon the number of battalions requiring renovated barracks at Fort Polk, the infrastructure cost would approach $70million.

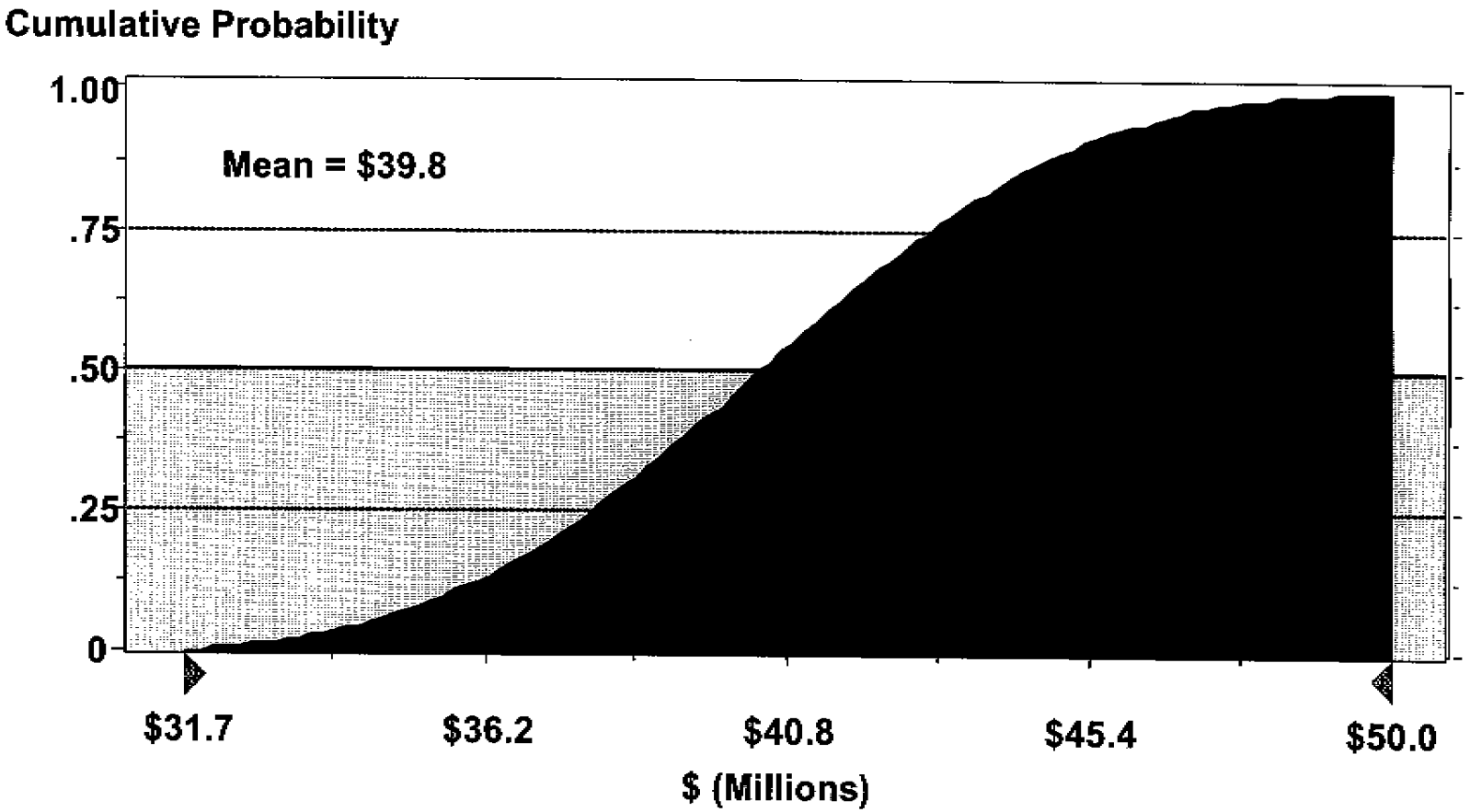
The Movement Cost for Troops with TAT for Two Round-Trip Rotations to Korea per year would be $40million

Unit Rotation Costs per Year

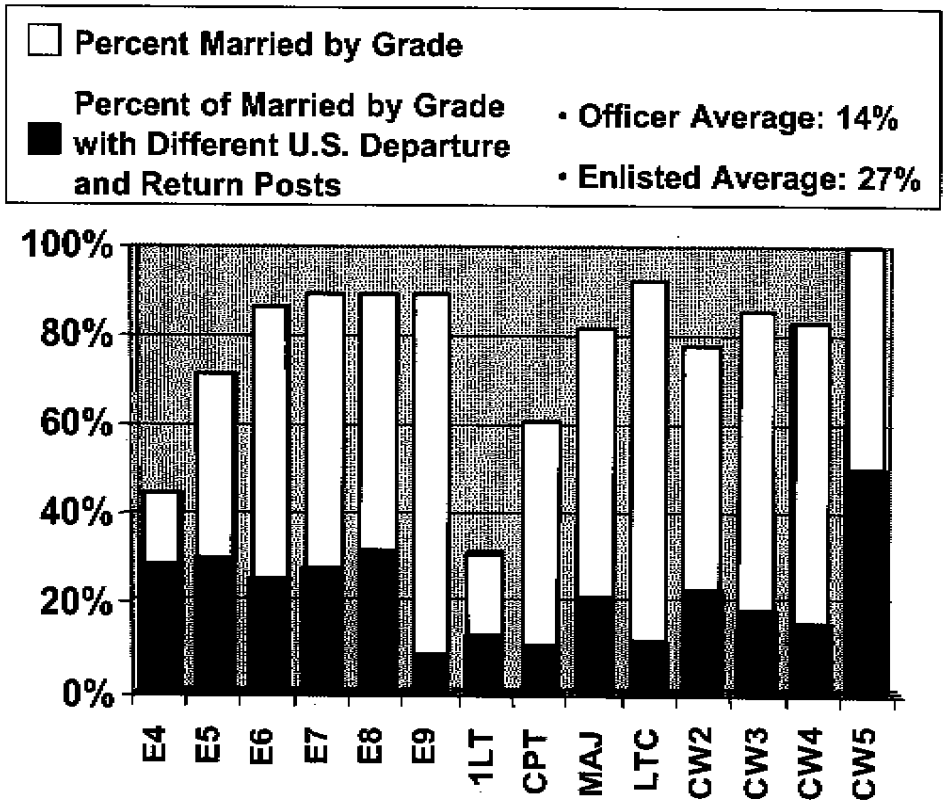


Unit Rotations to Korea would Accrue Offsetting PCS Cost Savings of About $40million per year

Current PCS Costs per Year to Korea for "Rotating" 2ID Units



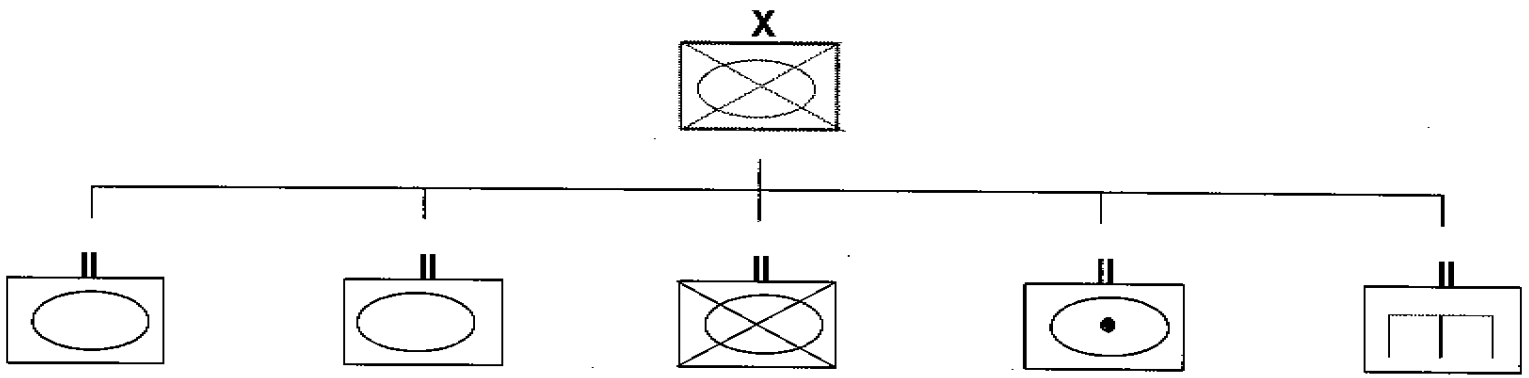
Aside from Adopting Unit Rotations, the Army Could Save Approximately $12million Annually by Returning Married Soldiers to their U.S. Post of Origin After Serving in Korea



•Of Soldiers serving in Korea who are married, about 14-27% by pay class return to a post in the U.S. that is different from the post they departed from enroute to Korea. This situation entails a PCS move for the family members of these Soldiers.

•The cost of such PCS moves could be avoided by implementing a policy to return Soldiers in short-tour areas to the U.S. post from whence they departed.

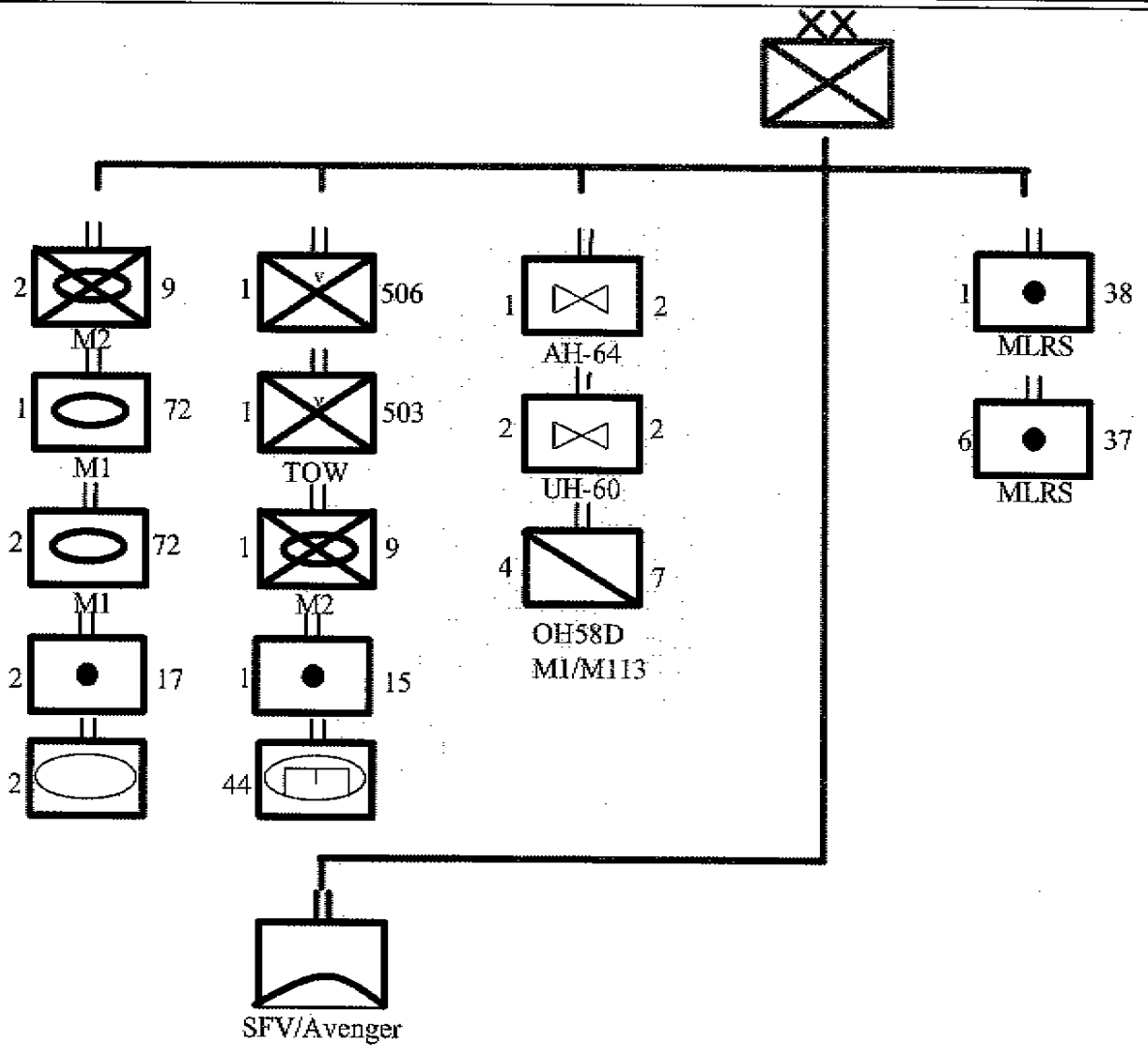
The APS-4 Brigade Equipment Set for Korea could Facilitate Unit Rotations for Armor, Mech, Cannon FA and Engineer Battalions



96% Fill for Reportable Systems

- Forward stationing of MLRS, Aviation, Air Defense and Light Infantry Equipment Might be Required to Support Transition of Rotating Units.
- Establishment of Such Equipment Would Represent an Incremental Investment and O&M Cost

The Cost of Establishing Unit Equipment Sets In the U.S. for 2ID Battalions is as of Yet Unquantified



Findings

- The dominant share of turnover within battalions is due to separations and therefore cannot be addressed directly with unit stationing polices.

- The optimum rotating unit size is the battalion level..

- Implementing a unit rotation policy would entail substantial investment costs for barracks, unit infrastructure and unit equipment.

    - Unit equipment and infrastructure would also entail recurring O&M costs well above those presented in the current system.

- The difference in unit cohesion between the current individual replacement system and unit rotations (as measured by reduced turnover) reaches a peak at pre-deployment period of about 24 months.

    - Unit rotations do provide substantial small unit cohesion in the ROK.

    - Unit rotation length of 26 weeks appears optimum from a unit training standpoint.

    - As the pre-deployment period increases the number of FORSCOM battalions incorporated into the unit rotation system rises rapidly.