

**Briefing
for the
National Defense Commission**

**“DARPA’s Suggestions to TRADOC
for the Army After Next”**

16 September 1997
General P.F. Gorman, USA (R)
Dr. J.V. Braddock

Concept

1

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**Build On U.S. Supremacy in
2016 in Business Related to...**

- Information technologies
- Space and exosphere
- Civil aviation
- Transmodal shipment
- Directed energy
- Bio-pharmaco-technology
- Microelectrical
Mechanical Systems

Commerce will
outpace DoD in
capacity, rate of
change. AAN
must follow that
lead, help shape
outcomes

Concept 2

In May 1996, the Director, DARPA was invited to join TRADOC for one of its meetings on AAN. Larry Lynn found indeterminate speculation on feasible politico-military scenarios unrewarding, but promised Gen. Hartzog to provide some suggestions on how to proceed. DARPA then formed a Senior Advisory Group (SAG) with membership that included representatives from industry, former DoD officials, and retired Army officers.

The SAG, while focusing as directed on requirements for land forces, assumed that these forces would be used only as part of joint expeditions to deter, to control territory and people, to secure bases for air and sea forces, to discriminate in using firepower, and to enable decisive measures to terminate conflict.

The SAG avoided “alternative futures” in favor of emphasizing what seemed certain, namely:

- **The 21st Century will be as violent and unpredictable as the 20th**
- **If the U.S. uses land forces abroad, early intervention is preferred**
- **The Army now, and that abuilding is inapt for power projection**
- **But that can be fixed by building on our commercial strengths**

The Army After Next will be ready:

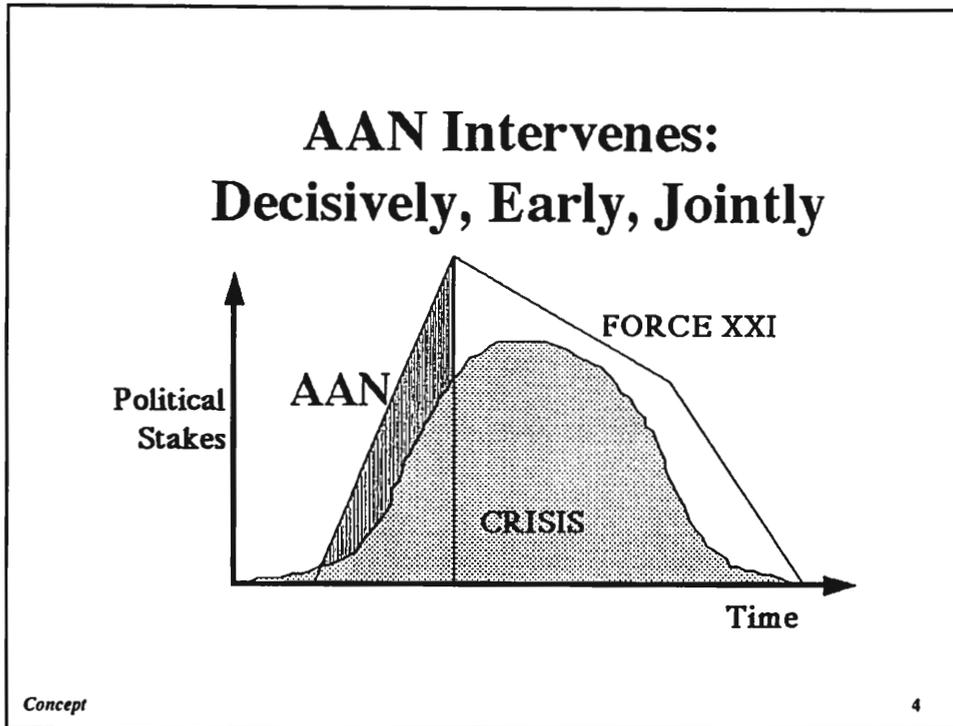
- ◆ **To project a force more powerful than a present-day corps as the land component of a joint task force**
- ◆ **Within hours of NCA decision**
- ◆ **Anywhere in the world**
- ◆ **Able to fight on arrival and to sustain**
Dominant maneuver
Decisive combat support
Efficient combat service support

Concept

3

The DARPA AAN SAG's calculations — back-of-the-envelope— indicate that we could, should we earnestly try, build a force with the efficacy of a contemporary corps that could put a division's worth of force into combat anywhere in the world within 24 hours, and a full corps of two divisions plus an air-cav regiment within 72 hours of NCA decision to deploy.

Further, with some catalytic action by the Federal government to bring into commercial use high-capacity (hundreds of tons) intercontinental airlifters, and cargo ships with sustained speed above 40 knots, we could reinforce and resupply within days, not weeks.



Our advice is to focus the AAN effort on early-entry: the high pay-off for investments in modernization. Countless studies and analytic simulations have demonstrated the strategic and tactical value of early arrival. AAN should aim at dramatic increases in present capacity for same.

We are persuaded that, as a matter of policy, AAN modernization must exploit commercial developments, drawing upon the inherent strengths of the North Atlantic community. The concomitant is a non-standard Army, but that we will have in any event. The difference will be that AAN, tailored for early entry, will be a force-projection Army in fact as well as rhetoric.

On 2 August 1990, Iraq invaded Kuwait. By 6 August, when the President of the U.S. directed deployment of US land forces (C-Day), 6 Iraqi armored divisions with T-72 tanks were poised within 200 miles of the airfield-port complex of Saudi Arabia.

On C+6 the U.S. had one brigade deployed; on C+18, it had two additional brigades in position — a total of 12,000 light infantry. The first sea-borne troops [of the 24th Infantry Division(Mechanized)] arrived on C+ 21.

These few battalions of Americans deterred the aggressors, and emboldened the forming of the coalition that eventually ejected Iraq from Kuwait. But it was an anxious August.

"Fustest with the Mostest"

The Advantage of Early Intervention

- **The ability to intervene early and decisively is the essence of deterrence**
- **To suppress a crisis early saves blood and treasure**
- **Military capability broadens diplomacy**
- **Few crises eventuate in war, but all breed conflict**

Concept

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Lessons Learned from August '90

- **Airlift positioned the deterrent force — Aug=airlift**
- **Fast ports are as important as fast ships. Lead bde of 24th Division took more than one week to load.**
- **Defense by 82d depended on defiles through salt flats (sabkhas) and TOW-equipped HMMWVs+ Apaches**
- **Political show of unity by Arab Coalition coupled with show of US resolve gave Saddam Hussein pause**
- **Host-nation support crucial: Saudis provided ports, airfields, cantonments, water, and fuel : more than 20 million gallons per day!**

Heavy Force Deploys Slowly

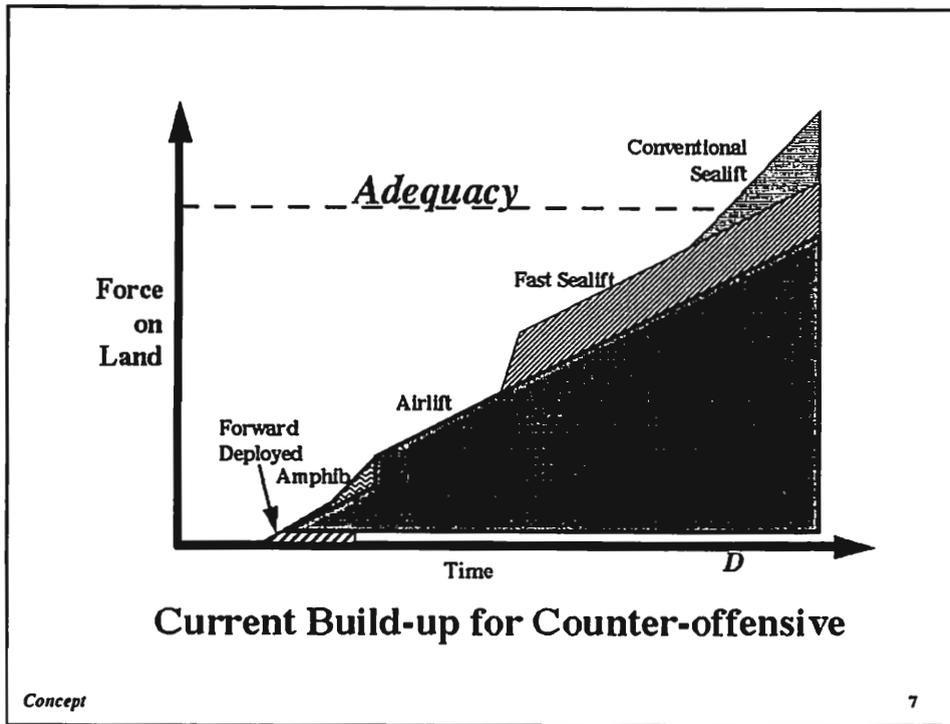
- **Division large and ship/port dependent**
 - ~100,00 tons (of which men alone ~2000 tons)
 - ~Many movers: 15,000+ soldiers, 5000 veh, 1500 tracks
 - ~65% weight in AFV, Arty, Engr tracks
 - ~ 20% weight in lift for fuel, dry cargo
- **Logistic tail no less onerous**
 - ~ 2,500 tons per day all classes of supply
 - ~50% resupply: artillery ammo
 - ~25% resupply: fuel
- **AAN must derive combat power with:**
 - Less weight and cube
 - More efficient soldiers, vehicles, and fires

Concept

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Desert Storm

- **Army shipped 2.2 million tons dry**
- **60% total was ammo, mainly arty**
- **Army returned 1.6 million tons dry**
- **Not clear what was fired at enemy**
- **USAF delivered 70,000 tons of ordnance; 40 tons of fuel per ton delivered**

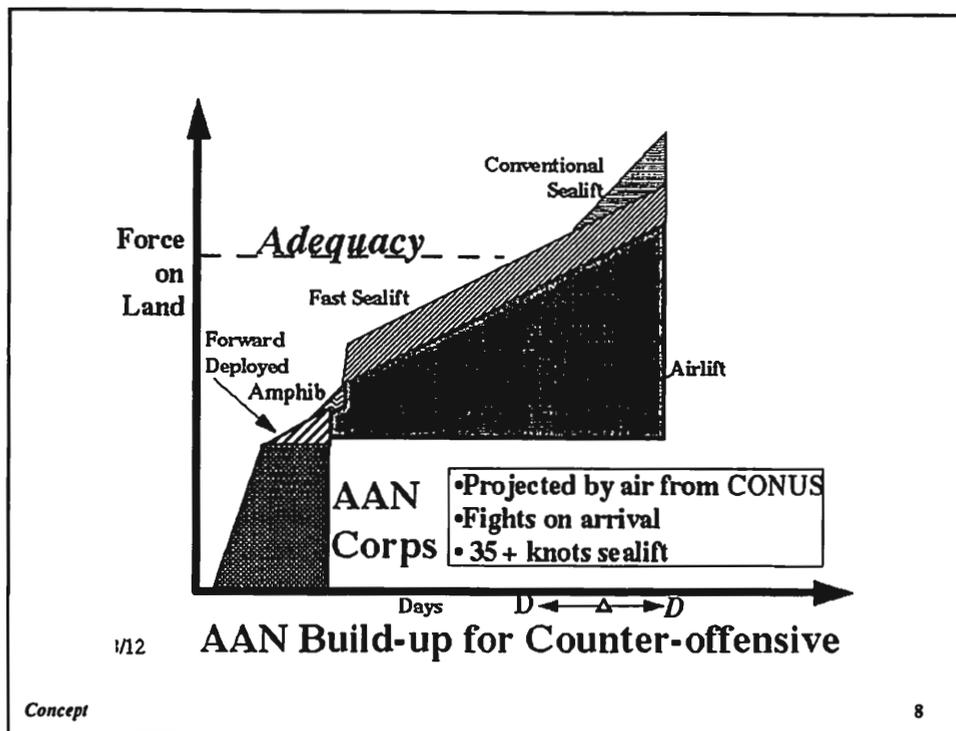


The Department of Defense has underway a \$44B program to build prepositioned unit sets of equipment and strategic lift toward a goal of projecting five and one-third heavy divisions 8700 nautical miles in 75 days. While the statistics below re airlift do not indicate much added capacity, the plan provides for retiring the aging C-141, replacing it with the more versatile and capable C-17.

AIRLIFT	
FY 96	48.9 M ton/miles per day
FY 06	49.4 M ton miles per day

The sealift program doubles current capacity to carry equipment and sustainment loads, largely through acquisition of 19 large medium speed RO/RO ships (LMSR).

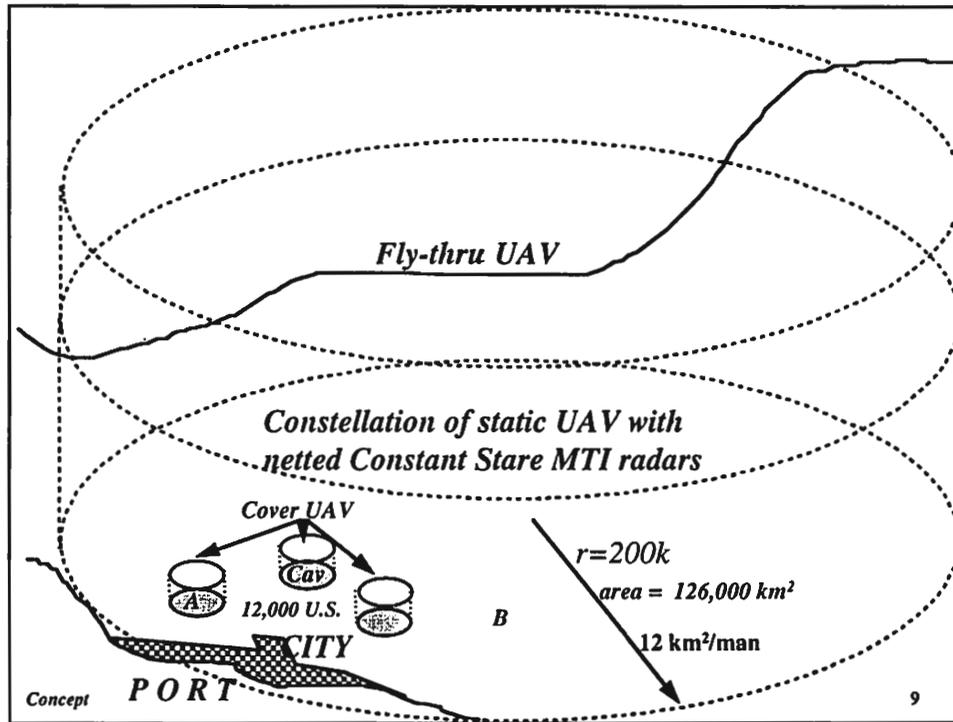
SEALIFT	
FY 96	4.1 M square feet
FY 02	9.3 M square feet



The proposal for AAN is to configure it as the precursor force, the strategic means to gain the advantages of early entry. We should aim at arrival in the decisive area in days, vice weeks and months.

To do so, we must **move fast, fight light, and support smart**. Hence, we need to change:

- Deployment means: airlift and sealift, POE and POD, throughput from fort to foxhole
- Size of the projected force: weight, cube, and numbers of personnel
- Management mechanisms and methods for moving and sustaining the force.



This chart depicts the organic RSTA capabilities organic to units of the corps— adaptation of sensors like those presently on Comanche, plus light-weight MTI radar, on UAV linked (or even tethered) to SU team vehicles, forming a fixed-position constellation of surveillance platforms. These “stare” at any object that moves on the ground continuously, managed by a “tracker” computer that “tags” each moving object, or group of objects, and amplifies information in each tag from all-source intelligence — e.g., above or below this constellation, fly-thru observation vehicles supplement the Constant Stare data. The Situational Awareness that proceeds from these means multiplies the “control efficiency” of the AAN units: As the table suggests, the AAN Corps, in terms of area controlled per man, is more than 25 times that of the conventional infantry battalion.

	Strength	Area Controlled	Control Efficiency
Current Infantry Bn	800	348 km ²	0.44 km ² /man
AAN Infantry Bn	400	553 km ²	1.4 km ² /man
AAN Corps	10500	126,000 km ²	12 km ² /man

Our Vision: in 20 Years...

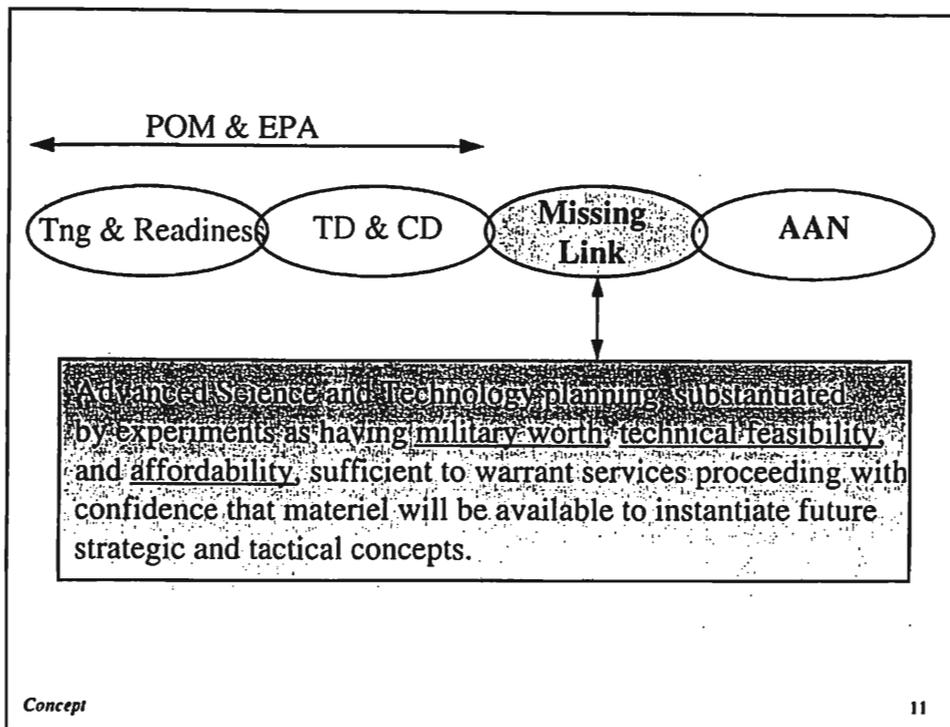
- **Early Entry Forces 33% of current manning**
“Depopulate the zone of vulnerability...”
- **Firepower 100% that of present force**
“Situational understanding, precision fires...”
- **Teeth-to-tail ratio (in-theater) > 1.0**
“Less vulnerability to asymmetric counters...”
- **Logistics just-in-time vice just-in-case**
“Total asset visibility, precision delivery...”
- **Maintenance by need vice schedule**
“Detect, remove, replace, as tele-coached...”
- **Acquisition driven by engine of commerce**
“Market oriented—like business...”

Concept

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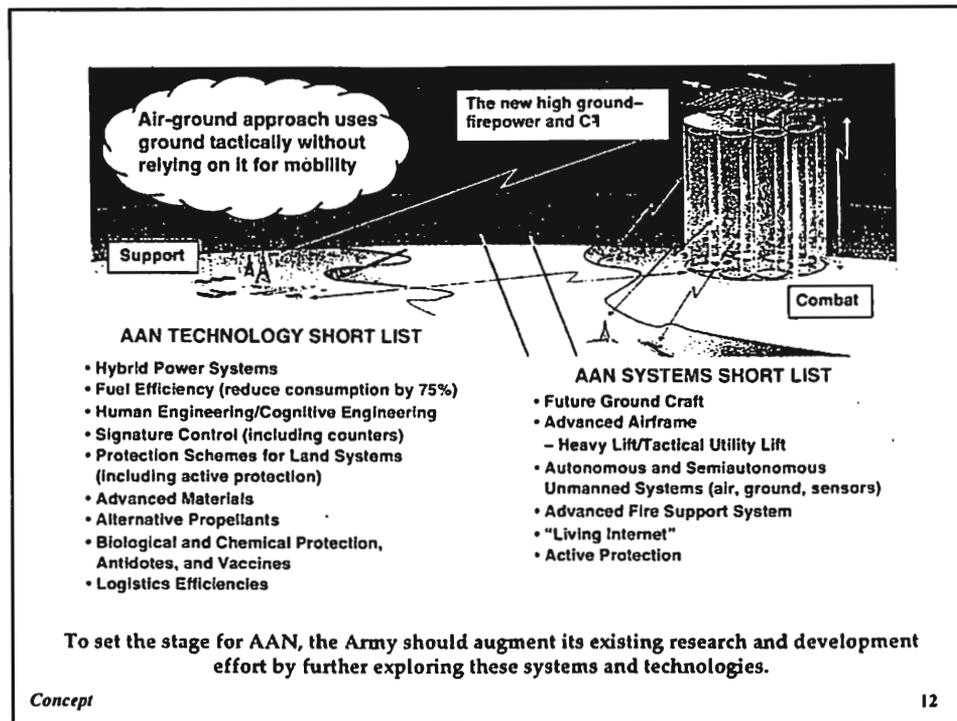
The point was made repeatedly throughout DARPA's AAN conferences that the big savings in manpower would flow from decreasing the numbers of men invested in combat support (chiefly artillery) and in combat service support (ammunition, fuel, and the dividends of reduced presence in line troops being supported).

Our conjectures suggest that a properly equipped and trained force of corps size can be reduced as much as two thirds with no loss of combat effectiveness. Of course, were it heavily engaged, that corps would require early reinforcement and replacement of combat losses, but it should give a good account of itself in battle.



Major General Scales, who has lead the AAN study, noted that there was a distinct gap, a “missing link,” between the activities of the Army funded under the Program Operating Memoranda (POM) and the Extended Planning Annexes (EPA), and those so far distant as the Army After Next — around twenty years hence. Science and Technology Programs provided for in the POM and EPA documents almost invariably are aimed at improving the current force, as opposed to preparing the way for entirely new forms of C4I, fire power, mobility means, and force structure.

The first step toward filling in the “missing link” ought to be a cogent, comprehensive set of experiments using existing materiel to emulate future capabilities, leading to decision upon what to prototype.



Recently the Chief of Staff of the Army endorsed to the Army at large Major General Scales' report on his stewardship over the past year of the AAN project.

This diagram was central to that report's discussion of technology. The SAG's briefing's touched on every item in both "short lists."