

the case of the United States than that of the USSR), and are therefore susceptible to attack. Although it may be possible within certain limits to "track" mobile missiles, and therefore to aim at specific targets, targeting mobiles is generally considered to require the barrage of the area of deployment. Various patterns of barrage are possible, but the two most frequently discussed, as illustrated in diagram 1, are an overlapping pattern and a side-by-side (cookie-cutter) pattern.

Since a mobile missile can be hardened only to a limited extent (around 40 p.s.i. is typical), CEP is less important than the "circle of destruction" created by the attacking warhead. It follows, therefore, that less accurate, older missiles could be used in counter-force strikes against mobile missiles. Nevertheless, the problems of the attacker are considerable. The overlapping pattern necessary for maximum effectiveness requires twice as many warheads as the less effective side-by-side barrage, and may in any case raise the issue of fratricide. Perhaps more importantly, if the mobile missiles are single warhead, the number of missiles required to destroy a given number of mobiles (the cost to attack) invariably favours the defender over the attacker. It follows, therefore, that a mobile force is not only in itself an obstacle to counter-force attacks, but it also supports the immobile element of the defender's forces since the attacker must now expend a significantly large element of his offensive forces in order to attack all elements of the opposing land-based missiles. In sum, recent studies²⁶ suggest, as indicated in diagram 2, that the cost to attack ratio consistently favours the mobile missile, a conclusion which gains significance if the case of the single-warhead mobile missile is considered in the context of the superpower arms control proposals which establish lower overall warhead ceilings.

²⁶ A. Hobson, unpublished Small ICBM Study. June 1985
A. Hobson, ICBM Vulnerability, Small Missiles, and Arms Control. Paper submitted to American Physical Society, May 1, 1986
L. Fincham and A. Tinajero, Cost to Attack: Measuring How Strategic Forces Affect US Security CRS Report No. 85-64F, March 20, 1985