

U.S. Nuclear Weapons Modernization: Costs & Constraints

The United States plans to spend [up to \\$1.5 trillion](#) to overhaul its nuclear arsenal by rebuilding each leg of the [nuclear triad](#) and its accompanying infrastructure. The plans include, but are not limited to, a new class of ballistic missile submarines, a new set of silo-based intercontinental ballistic missiles, a new nuclear cruise missile, a modified gravity bomb, a new stealthy long-range strike bomber, and accompanying warheads (with modified or new warhead pits) for each delivery system.

Annual Costs: The National Nuclear Security Administration (NNSA) plans to spend [\\$15.6 billion](#) to maintain and update the U.S. nuclear arsenal in fiscal year 2021. This money is specifically designated for weapons activities, including modifications and life extension programs for nuclear warheads. The Pentagon will spend more than [\\$28.9 billion](#) this fiscal year to modernize the triad's delivery systems, including warplanes and submarines, and their command, control, and communications systems.

Select Major Nuclear Weapons Modernization Programs

| Triad Leg | Weapon | Plan | Estimated Request | FY21 Request | Total Cost Estimate |
|-----------|----------------------------------|----------------|-------------------|-----------------|---------------------|
| Air | B-21 Strategic Bomber | New | 175 | \$2.8 billion | \$97 billion |
| | Long Range Standoff Weapon | New | 1,000 | \$474.4 million | \$11 billion |
| | B61-12 Gravity Bomb | Modification | 480 | \$45.4 million | \$10 billion |
| | W80-4 | Life Extension | N/A | \$1 billion | \$12 billion |
| Sea | Columbia Class Submarine | New | 12 | \$4.4 billion | \$128 billion |
| | Trident II D5 Missile | Modification | N/A | \$1.2 billion | \$19 billion |
| | W88 | Life Extension | N/A | \$257 million | \$3 billion |
| | W93 | New | N/A | \$53 million | \$14 billion |
| Ground | Ground Based Strategic Deterrent | New | 659 | \$1.5 billion | \$100 billion |
| | W87-1 | Modification | N/A | \$541 million | \$15 billion |

Constraints: The Government Accountability Office (GAO) has repeatedly expressed concern over the NNSA's inability to manage the costs and schedules of modernization, [reporting](#) to a House Armed Services subcommittee in March 2020 that the NNSA should consider "potentially deferring the start of or canceling specific modernization programs" in order to bring its modernization plans into actual alignment with future budgets.

Similarly, the Congressional Budget Office [found](#) that the Pentagon "has frequently underestimated costs for... the acquisition of weapon systems" and that, in general, costs for many areas of the DOD budget "have historically grown more rapidly than they are projected to grow."

These continued investments also pose dangerous opportunity costs. Crucial conventional programs that support daily missions, as well the development of emerging defense technologies, could be underfunded and undermined due to the resources allocated to the bloated nuclear modernization program.