The Heritage Foundation

ISSUE BRIEF

No. 5384 | JUNE 23, 2025

DOUGLAS AND SARAH ALLISON CENTER FOR NATIONAL SECURITY

# Time to Double the Production Rate of the B-21

*Shawn Barnes and Robert Peters*

## KEY TAKEAWAYS

The B-21 Raider represents the future of America's strategic bomber force, a platform designed to ensure dominance in an era of complex and evolving threats.

Quantity, as much as quality, will define the strategic balance of the 21st century.

By investing in a second B-21 production line, the nation can ensure that this balance tips decisively in its favor.

The Air Force's newest strategic bomber, the B-21 Raider, was unveiled in December 2022[1] at Plant 42 in Palmdale, California. The aircraft builds on decades of stealth technology and provides vital long-range, deep-strike capability necessary to deter adversaries for the next several decades.

This technological marvel was many years in the making. Initial concepts for the program began in 2011, and the Engineering, Manufacturing, and Development contract[2] was awarded to Northrop Grumman in 2015. Given the appropriate secrecy surrounding the program, it is not known the current B-21 inventory or production rate. However, the Air Force has stated a need for at least 100 aircraft[3] and an expectation of procuring 10 aircraft per year once in full-rate production. At best, the nation is unlikely to have even 100 aircraft until the late 2030s. This is

both too little and too late to deter Chinese aggression against American interests or American allies.

## The Need for a Second Production Facility

The nation needs a second production facility for the B-21, regardless of the final number of aircraft to be procured. The Defense Department should set a production rate of 20 aircraft per year. This demand signal will allow Northrop Grumman to build a second production plant. Although the cost of building a second facility is likely to approach $800 million,[4] the return on investment is extraordinarily high.

An additional facility will increase the *rate* at which the nation can build, field, and operate the B-21 fleet. Deterring China from aggression is a long-term strategy[5] that requires action today. Increasingly, it is understood that deterrence cannot be achieved without credible, survivable, and sufficient long-range conventional strike capability. The B-21 provides this foundational capability. America simply cannot wait until the late 2030s to field sufficient capacity for this vital deterrence role.

A second facility will also allow the U.S. to increase total B-21 *inventory*. It is necessary to procure the number of aircraft actually needed—not the number that fits under some arbitrary budget topline. The Air Force has an unfortunate history of taking the opposite approach, albeit by the direction of their political masters. The F-22 Raptor and B-2 Spirit[6] are prime examples of programs curtailed by budgetary constraints rather than strategic necessity. The F-22, an unmatched air superiority fighter, saw its production capped at 187 aircraft,[7] far short of the original requirement for over 700. Similarly, the B-2 Spirit was limited to a fleet of only 21 operational aircraft, falling dramatically short of the envisioned 132 units.[8] Both decisions were driven by the incorrect belief that smaller, technologically superior forces could substitute for larger fleets.

## Production Costs

Moreover, the B-21 program, like its technological predecessors the B-2 and the F-22, involves significant up-front development and research costs, including engineering, testing, and certification. These costs are spread across the total number of aircraft produced. The smaller the inventory, the higher the total per unit cost. Conversely, as production increases, the cost per aircraft generally decreases due to factors like efficient manufacturing processes, lower material costs per unit, and the spread of fixed costs over

more units. Increasing the number of the B-21 fleet—and potentially selling B-21s to America's closest allies, as the United States has done with the F-35—reduces the per unit cost of the aircraft, making it more affordable.

In addition, having a second B-21 production facility would reduce the vulnerability of having a single point of failure when it comes to B-21 production. Should the Palmdale facility be destroyed—either through an accident or as part of a planned strike by an adversary—it would delay the program by years. A second facility offers redundancy and protection against a sudden strike designed to cripple America's ability to field the B-21.

It should also be remembered that higher production numbers increase the order volume for subcontractors who provide components for the aircraft. Increasing the order volume makes subcontractors healthier long term, which, in turn, increases the capacity and long-term viability of America's defense industrial base. Indeed, many of the woes currently plaguing America's defense industrial base stem from the fact that Defense Department orders are unreliable. Prime contractors typically receive single-year procurement orders, making it difficult for the primes and their suppliers to make multi-year investments or plans. Further, low-order volumes have shrunk the number of subcontractors and vendors that are necessary for a healthy defense industrial base. Maintaining a healthy defense industrial base requires incentivizing participation in the defense industry by the private sector—including among smaller vendors—which requires consistency and profitability. Doubling the production rate of the B-21 through a second facility goes far to achieve this goal.

## Capacity

Capacity is a quality all its own. This is true for both the industrial capacity to build and the operational capacity to deter and fight the nation's wars. U.S. Strategic Command Commander General Tony Cotton, USAF, recently testified before Congress[9] that the nation needed at least 145 B-21s. Some speculate that the nation will need at least 250 B-21s.[10]

China has ambitions of global hegemony; Russia is increasingly fixated on recreating their once-dominant Soviet power; Iran and North Korea show few signs of comity. The foundation to address 21st-century challenges is sufficient force structure. A second production plant will allow the U.S. to build, field, and operate the inventory it needs—and on a timeline that respects these threats.

Additional B-21 production capacity will also allow the U.S. to consider sales of the aircraft to other nations. America's closest allies have signaled

an interest in buying the B-21. Unlike the F-22, the F-35 was designed as a capability to be shared with allies and partners.[11] The value of this approach increased the warfighting capability of our allies, improved operational and technical interoperability for our warfighters, bolstered the U.S. defense industry, and signaled to American enemies the strength of U.S.-led alliances around the world. The U.S. should strongly consider a similar approach for the B-21 and must be able to make such decisions unconstrained by self-imposed industrial-capacity limitations.

Finally, building a second B-21 production plant is a smart industrial policy decision.[12] Diversification of production limits risk posed by man-made and natural disasters. It increases workforce demands for high-pay, high-skilled labor and improves local economies outside the Palmdale area. The current plant in Palmdale was previously used to build the B-2. A second plant will also provide the infrastructure for follow-on industrial capacity beyond the B-21.

Indeed, it is already possible that Congress is moving in the direction of ordering additional B-21s for the Air Force. As a recent news article noted:

> In another key change, the SASC version also tweaks the language associated with the $4.5 billion for the B-21 bomber program, stipulating that the funds be used for "expansion of the production capacity" of the bomber, "including tooling and expansion of the supplier base, and the purchase of aircraft only available through the expansion of production capacity"—language seemingly meant to induce the Air Force to increase B-21 production rate, rather than accelerating the buy.[13]

If Congress is, indeed, serious about expanding the B-21 fleet from 100 bombers to 145 as per General Cotton's recommendation—or, indeed, to a number even higher than 145 bombers—it is unlikely that the single facility at Palmdale will be sufficient to produce enough of the aircraft in a timely fashion.

## Conclusion

The B-21 Raider represents the future of America's strategic bomber force, a platform designed to ensure dominance in an era of complex and evolving threats. But the success of this program hinges not only on its advanced capabilities but also on the ability to produce it at scale and speed. The House version of the reconciliation bill takes an important first step, adding $4.5B to help accelerate production and allow for an inventory above

100 aircraft. But a second production facility is essential to meeting both the nation's operational requirements and the broader demands of allied collaboration.

History has shown the perils of settling for what seems affordable rather than what is necessary. The United States cannot afford to make the same mistake with the B-21 Raider. Quantity, as much as quality, will define the strategic balance of the 21st century. By investing in a second production line, the nation can ensure that this balance tips decisively in its favor.

**Shawn Barnes** is Visiting Fellow for Space Force in the Douglas and Sarah Allison Center for National Security at The Heritage Foundation. **Robert Peters** is Senior Research Fellow for Strategic Deterrence in the Allison Center.

## Endnotes

1. Thomas Novelly, "The Air Force Reveals New B-21 Bomber, Keeping the Pilot for Now," Military.com, December 5, 2022, https://www.military.com/daily-news/2022/12/03/air-force-reveals-new-b-21-bomber-keeping-pilot-now.html (accessed June 13, 2025).
2. Colin Clark, "Northrop Garners Huge Win with New Bomber; LRSB $564m per Plane," *Breaking Defense*, October 27, 2015, https://breakingdefense.com/2015/10/northrop-garners-huge-win-with-new-bomber-lrsb/ (accessed June 13, 2025).
3. Peter Suciu, "The U.S. Air Force May Only Get 100 B-21 Raider Stealth Bombers," *The National Interest*, June 6, 2024, https://nationalinterest.org/blog/buzz/us-air-force-may-only-get-100-b-21-raider-stealth-bombers-210611 (accessed June 13, 2025).
4. Northrop Grumman, *2024 Annual Report*, https://cdn.northropgrumman.com/-/media/Project/Northrop-Grumman/ngc/who-we-are/corporate-responsibility/NOC---12312024---Annual-Report---FINAL.pdf?rev=61a869bcfe0c49a2a6832b141846ca1d (accessed June 16, 2025).
5. U.S. Department of Defense, *2022 National Defense Strategy of the United States of America: Including the 2022 Nuclear Posture Review and the 2022 Missile Defense Review*, 2022, https://apps.dtic.mil/sti/trecms/pdf/AD1183514.pdf (accessed June 13, 2025).
6. U.S. Air Force, "B-2 Spirit," 2025, https://www.af.mil/About-Us/Fact-Sheets/Display/Article/104482/b-2-spirit/ (accessed June 13, 2025).
7. Nicholas Werner, "Why Did the U.S. Air Force Cancel the F-22 Raptor?" Jalopnik, June 1, 2025, https://www.jalopnik.com/1870624/reason-us-air-force-canceled-f-22-raptor-explained/ (accessed June 13, 2025).
8. Christian D. Orr, "B-2 Spirit Stealth Bomber: The Most Expensive Plane Ever ($2.13 Billion Each)," *The National Interest*, December 29, 2023, https://nationalinterest.org/blog/buzz/b-2-spirit-stealth-bomber-most-expensive-plane-ever-213-billion-each-208234 (accessed June 13, 2025).
9. General Anthony J. Cotton, Commander, U.S. Strategic Command, testimony before the Subcommittee on Strategic Forces, Armed Forces Committee, U.S. Senate, March 26, 2025, https://www.armed-services.senate.gov/imo/media/doc/testimony_of_general_anthony_jcotton2.pdf (accessed June 13, 2025).
10. Rebeccah Heinrichs, Mackenzie Eaglen, and Jennifer Bradley, "America's B-21 Raiders: Deterring and Assuring in the New Cold War," Hudson Institute, December 12, 2023, https://www.hudson.org/defense-strategy/america-b-21-raiders-deterring-assuring-new-cold-war-rebeccah-heinrichs (accessed June 13, 2025).
11. "Alliance-Based Deterrence: The F-35 Strengthens NATO Partnerships," Lockheed Martin, June 14, 2021, https://www.f35.com/f35/news-and-features/alliance-based-deterrence-strengthening-nato-partnerships.html (accessed June 13, 2025).
12. Robert Greenway et. al., "A Strategy to Revitalize the Defense Industrial Base for the 21st Century," Heritage Foundation *Special Report* No. 314, April 7, 2025, https://www.heritage.org/defense/report/strategy-revitalize-the-defense-industrial-base-the-21st-century.
13. Valerie Insinna, "Less Ships, More Bombs: Senate Unveils Its Version of $150B Defense Reconciliation Package," *Breaking Defense*, June 4, 2025, https://breakingdefense.com/2025/06/less-ships-more-bombs-senate-unveils-its-version-of-150b-defense-reconciliation-package/ (accessed June 13, 2025).