

THE VACUUM OF REASON: A CASE AGAINST TRUMP'S SPACE FORCE
PROPOSAL

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Abstract

Adversaries of the United States have developed increasingly sophisticated military space capabilities in recent years, and the American advantage in space has shrunk accordingly. These nations have increased their investments in this new warfighting domain, creating offensive technologies that rival the American arsenal, while the U.S. has continued to divert funding and delay the implementation of new strategies that can help maintain air and space dominance. In response, the Trump administration has revived a combatant command that will focus on space-related missions, and has proposed the establishment of a new ‘Space Force’ that will become the sixth branch of the U.S. Armed Forces.

The idea of this new service was introduced by some members of the military community decades ago, so the White House proposition has the support of many leaders in the Pentagon and on Capitol Hill. However, there are scores of other influencers in the DoD and in Congress that do not believe that the creation of the Space Force is an appropriate measure to address emerging threats. The proposal has been criticized as a misguided restructuring that will only add burdensome bureaucracy, a money pit that will suck billions of dollars from other defense initiatives, and a campaign ploy meant to bolster Trump’s resume of accomplishments heading into the 2020 presidential election.

This essay will discuss the urgency for new U.S. space policy, the factors supporting and opposing Trump’s Space Force, and the political considerations for Speaker of the House Nancy Pelosi. It will ultimately conclude that, though the U.S does need to rethink its space posture, it would be imprudent for Speaker Pelosi to support the creation of the Space Force. The advisor for this project was Prof. Paul Weinstein.

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DECISION MEMORANDUM FOR: SPEAKER OF THE HOUSE NANCY PELOSI

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Action-Forcing Event

A recent analysis by a former senior intelligence official indicates that the United States has fallen behind its adversaries in the race for space dominance.¹ According to Glenn Gaffney, the former Director of the Central Intelligence Agency's Science and Technology Directorate, China and Russia have spent years developing infrastructure to optimize their space capabilities, while the U.S. has failed to invest sufficiently.² China has demonstrated the ability to track and destroy satellites in orbit around the Earth, and is nearing completion of a weapon that can allegedly disable a missile defense satellite's optical sensors.³ Russia has designed airplane-mounted lasers and missiles that can be activated mid-flight to damage enemy satellites.⁴ Iran and North Korea have also exhibited the ambition to invest in technologies that can attack American satellite communication systems.⁵ There is now mounting pressure on Congressional leaders to

¹ Olivia Gazis, "U.S. falling behind in new space race, says CIA's former head of science and tech," *CBS News*, December 12, 2018, <https://www.cbsnews.com/news/u-s-falling-behind-in-new-space-race-says-cias-former-head-of-science-and-tech/>.

² Ibid.

³ Lara Seligman, "Space Force is Trump's Answer to New Russian and Chinese Weapons," *Foreign Policy*, August 10, 2018, <https://foreignpolicy.com/2018/08/10/space-force-is-trumps-answer-to-new-russian-and-chinese-weapons/>.

⁴ Ibid.

⁵ Ibid.

create an effective strategy to ensure continued American warfighting supremacy that can garner support from both the Department of Defense (DoD) and the White House.⁶

Statement of the Problem

American adversaries have been advancing their space capabilities in recent years, while the United States has struggled to sustain funding and improve readiness for a future conflict in space. This trend threatens to cede control of a critical warfighting domain to China, Russia, Iran, and North Korea, which could weaken U.S. military dominance and endanger American troops and civilians at home and abroad. Figure 1 demonstrates the percent change in U.S. spending relative to its two primary adversaries, China and Russia, both of whom have ramped up military investment in recent years. Meanwhile, the DoD budget has been curtailed relative to other federal spending, reducing the American advantage on the battlefield and in space.⁷

China is currently the most technologically-advanced adversarial nation, investing \$11B in space-related programs annually, so it provides the clearest opposition to U.S. interests in space.⁸ To date, China has safely sent and returned manned flights into orbit, fielded two space stations with a third forthcoming, and created a lunar program that has landed unmanned rovers and promised to land Chinese astronauts on the Moon.⁹ China's

⁶ Olivia Gazis, "U.S. falling behind in new space race, says CIA's former head of science and tech."

⁷ Niall McCarthy, "How Military Spending Has Changed Since 2007," *Statista*, February 3, 2018, <https://www.statista.com/chart/12896/how-military-spending-has-changed-since-2007/>.

⁸ "Global Space Industry Dynamics," *Bryce Space and Technology*, 2017, https://brycetechnology.com/downloads/Global_Space_Industry_Dynamics_2017.pdf.

⁹ Todd Harrison, Kaitlyn Johnson and Thomas G. Roberts, "Space Threat Assessment 2018," *Center for Strategic and International Studies*, April 2018, https://aerospace.csis.org/wp-content/uploads/2018/04/Harrison_Space_ThreatAssessment_FULL_WEB.pdf.

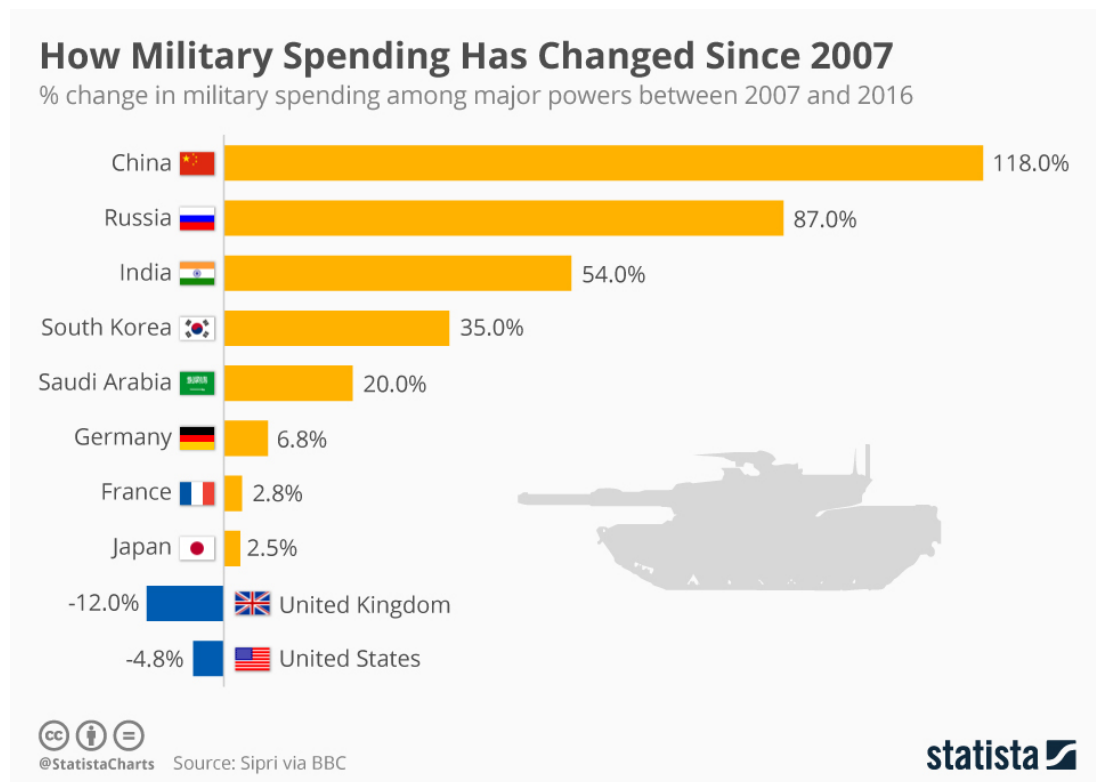


Figure 1: How Military Spending Has Changed Since 2017.
 Niall McCarthy, "How Military Spending Has Changed Since 2007," *Statista*, February 3, 2018,
<https://www.statista.com/chart/12896/how-military-spending-has-changed-since-2007/>.

posturing in the 21st century has led some experts to speculate that the nation's goals are principally to protect Chinese space interests from U.S. interference and to coordinate attacks against American satellites to prevent U.S. dominance in outer space.¹⁰ This ambition to deny American superiority has led China to develop an arsenal of anti-satellite (ASAT) weapons capable of disrupting and destroying enemy assets. The Chinese unveiled a new ASAT missile in 2013 which authorities claim could reach communications and intelligence, surveillance, and reconnaissance (ISR) satellites in

¹⁰ "2015 Report to Congress of the U.S.-China Economic and Security Review Commission," *U.S.-China Economic and Security Review Commission*, 2015,
https://www.uscc.gov/sites/default/files/Annual_Report/Chapters/Chapter%202%2C%20Section%202%20-%20China%27s%20Space%20and%20Counterspace%20Programs.pdf.

geosynchronous orbit.¹¹ An attack at this altitude could litter the affected region of the atmosphere with fragmented rubble that makes satellite operation impossible, posing a considerable hazard to American resources in the area. China has also experimented with similar ASAT weapons meant to attain higher orbits that could reach satellites at almost any altitude, conducting demonstrations as recently as 2018.¹² In addition to ASAT missiles, the Chinese are believed to have developed weapons capable of using powerful laser systems to blind American satellites.¹³ Finally, the Chinese have demonstrated the ability to commandeer control of American satellites, having used advanced hacking techniques to gain control of NASA Terra Earth satellites in 2008.¹⁴ With these capabilities, China can challenge U.S. commercial and military enterprises and pose a substantial threat to national security.

Russia has long competed with the United States for supremacy in outer space, and today it displays an array of threatening technologies. The country has demonstrated the ability to maneuver an ASAT missile toward American satellites in mid-level orbits, while U.S. sensors misidentify the weapon as ordinary debris.¹⁵ The Russian military has also developed effective means to blind U.S. satellites and sensors, including plane-mounted lasers that can fly at low-altitudes and dazzle instruments situated at much higher orbits. These weapons present a serious hazard for American assets, as tracking

¹¹ “2015 Report to Congress of the U.S.-China Economic and Security Review Commission,” *U.S.-China Economic and Security Review Commission*.

¹² Bill Gertz, “China ASAT Test Part of Growing Space War Threat,” *The Washington Free Beacon*, February 23, 2018, <http://freebeacon.com/national-security/asat-test-highlights-chinas-growing-space-warfare-capabilities/>.

¹³ Edwin Cartledge, “Physicists are planning to build lasers so powerful they could rip apart empty space,” *Science Magazine*, January 24, 2018, <http://www.sciencemag.org/news/2018/01/physicists-are-planning-build-lasers-so-powerful-they-could-rip-apart-empty-space>.

¹⁴ Todd Harrison, Kaitlyn Johnson and Thomas G. Roberts, “Space Threat Assessment 2018.”

¹⁵ Bill Gertz, “Russia Flight Tests Anti-Satellite Missile,” *The Washington Free Beacon*, May 28, 2016, <http://freebeacon.com/national-security/russia-flight-tests-anti-satellite-missile/>.

stealth objects moving as quickly as airplanes is difficult and the likelihood of intercepting them before they complete their mission is low.¹⁶ As such, Russia has invested in air-to-space technology meant to divert or destroy 100% of space-based enemy terminals.¹⁷ The Russians have also developed sophisticated jamming instruments which were successful in disabling radios, satellite communications, and drones during the Crimean annexation of 2014.¹⁸ There is also evidence to suggest that Kremlin officials deployed ground-based jamming devices in Syria to abet the Assad regime, demonstrating their ability and willingness to cooperate with other American adversaries.¹⁹ Finally, Russian hackers are among the most formidable in the world, having exhibited proficiency to attack and pirate satellites that do not feature state-of-the-art data encryption.²⁰ Russia has long been America's primary space opponent, and its continued excellence jeopardizes American interests across the globe.

Iran and North Korea have also made significant advancements to their space-ready military arsenals. The Iranians have developed powerful lasers capable of blinding American ISR satellites, and they have used these systems to conduct more intentional

¹⁶ David Cenciotti, "Russia has completed ground tests of its high-energy Airborne combat Laser System," *The Aviationist*, October 5, 2016, <https://theaviationist.com/2016/10/05/russia-has-completed-ground-tests-of-its-high-energy-airborne-combat-laser-system/>.

¹⁷ Todd Harrison, Kaitlyn Johnson and Thomas G. Roberts, "Space Threat Assessment 2018."

¹⁸ Sergey Sukhankin, "Russian Electronic Warfare in Ukraine: Between Real and Imaginable," *RealClearDefense*, May 26, 2017, https://www.realcleardefense.com/articles/2017/05/26/russian_electronic_warfare_in_ukraine_111460.html.

¹⁹ Elias Groll, "Spy Planes, Signal Jammers, and Putin's High-Tech War in Syria," *Foreign Policy*, October 6, 2015, <http://foreignpolicy.com/2015/10/06/spy-planes-signal-jammers-and-putins-high-tech-war-in-syria>.

²⁰ Ellen Nakashima, "Russian hacker group exploits satellites to steal data, hide tracks," *The Washington Post*, September 9, 2015, https://www.washingtonpost.com/world/national-security/russian-hacker-group-exploits-satellites-to-steal-data-hide-tracks/2015/09/08/c59fa7cc-5657-11e5-b8c9-944725fcd3b9_story.html?utm_term=.43d8b0ed4c7f.

obstruction of U.S. space operations than any other nation.²¹ Iranian engineers used these capabilities to jam the satellite signal of an American RQ-170 drone in 2011, eventually allowing them to assume control of the aircraft and ground it.²² Pyongyang has also invested in jamming technology, using it to jam South Korean satellite terminals in 2016.²³ Iran and North Korea now both have the ballistic missile expertise to launch an ASAT weapon into orbit and create a perilous debris field that threatens all nearby satellites.²⁴ If the Iranians and North Koreans are successful in their nuclear weapons programs, they could use high-altitude missiles to create a space-born nuclear warhead, which could itself disperse radiation and fallout over millions of square miles.²⁵ Tehran and Pyongyang have also established themselves as world leaders in cyber warfare, proving their ability to hack foreign systems in the massive attacks on US firms in recent years.²⁶ Because many companies that secure private networks are also contracted to secure military networks, the American military and its space assets remain susceptible to cyber-attacks by these nations.

In response to the strengthening space postures of America's adversaries, some Pentagon leaders have become concerned with U.S. readiness. Among them is Deputy Secretary of Defense (SECDEF) Robert Work, who in 2015 voiced his fear that the

²¹ Micah Zenko, "Dangerous Space Incidents," *Council on Foreign Relations*, 2014, https://cfrd8-files.cfr.org/sites/default/files/pdf/2014/04/CPA_ContingencyMemo_21.pdf.

²² Scott Peterson and Payam Faramarzi, "Exclusive: Iran hijacked U.S. drone, says Iranian engineer," *The Christian Science Monitor*, December 15, 2011, <https://www.csmonitor.com/World/Middle-East/2011/1215/Exclusive-Iran-hijacked-US-drone-says-Iranian-engineer>.

²³ "South Korea tells U.N. that North Korea GPS jamming threatens boats, planes," *Reuters*, April 11, 2016, <https://www.reuters.com/article/us-northkorea-southkorea-gps/south-korea-tells-u-n-that-north-korea-gps-jamming-threatens-boats-planes-idUSKCN0X81SN>.

²⁴ Todd Harrison, Kaitlyn Johnson and Thomas G. Roberts, "Space Threat Assessment 2018."

²⁵ Steve Lambakis, "Foreign Space Capabilities: Implications for U.S. National Security," *National Institute for Public Policy*, September 2017, <http://www.nipp.org/wp-content/uploads/2017/09/Foreign-Space-Capabilities-pub-2017.pdf>.

²⁶ Todd Harrison, Kaitlyn Johnson and Thomas G. Roberts, "Space Threat Assessment 2018."

American military is not adequately prepared for a conflict in space.²⁷ Only months after his comments, American forces were crippled by an exercise that posed a mock attack on U.S. satellites, demonstrating their vulnerability to strategic interference.²⁸ P.W. Singer, a foremost expert on 21st century warfare, has warned the U.S. should prepare to lose the next World War if it is fought in space, explaining that victory is unlikely given the current state of American defenses.²⁹ Even General William Shelton, the former head of U.S. Space Command (USSPACECOM), admitted in 2016 that the American military is currently incapable of protecting its satellite fleet from foreign weapons.³⁰

The potential damage an attack could inflict upon the U.S. goes far beyond the realm of pure national security. In addition to supporting military machines, American satellites provide civilian communication channels and GPS information that is critical to the everyday functioning of the world's financial systems.³¹ The destruction of even one of the hundreds of American satellites that provide these services could therefore prove to be catastrophic for the Pentagon and the world economy at large, bringing commerce to a standstill. These concerns from military experts indicate that the U.S. needs to change its posture quickly, or else it will be susceptible to crippling attacks that threaten American military dominance and civilian safety in the homeland.

Though the U.S. has all of the same offensive capabilities as its adversaries, and many more advanced weapons as well, the concept of mutually assured destruction

²⁷ Jim Sciutto, "US military prepares for the next frontier: Space war," *CNN*, November 29, 2016, <https://www.cnn.com/2016/11/28/politics/space-war-us-military-preparations/index.html>.

²⁸ *Ibid.*

²⁹ *Ibid.*

³⁰ *Ibid.*

³¹ Tim Fernholz, "The entire global financial system depends on GPS, and it's shockingly vulnerable to attack," *Quartz*, October 22, 2017, <https://qz.com/1106064/the-entire-global-financial-system-depends-on-gps-and-its-shockingly-vulnerable-to-attack/>.

(MAD) does little to allay the apprehensions of those who seek to strengthen the Pentagon's defenses in space. There are far fewer treaties governing the use of force in space, and attacks on satellites can be made to appear much more accidental (i.e. two satellites colliding) than a nuclear strike.³² This means that countries that act provocatively in space have less to fear in the way of international sanctions and retaliation than those who would threaten nuclear belligerence. As such, MAD is not guaranteed to prevent America's adversaries from aggression, especially those whose governments espouse more extremist views.³³ For these reasons, the U.S. must rethink how it defends American assets in space.

History/Background

Following the end of World War II, the U.S. Air Force (USAF) officially separated from the US Army, becoming the first new branch of the American military in over 150 years. The War Department had preferred a proposal to combine the Army and Navy into one branch, which would have unified the command structure for the nation's land, air, and sea defense.³⁴ The Navy, however, vehemently opposed this arrangement, and the establishment of an independent USAF was meant to be a compromise that would provide equal executive representation to each of the three branches.³⁵

³² Henry D. Solkolski, "Getting MAD: Nuclear Mutually Assured Destruction, Its Origins and Practice," *Strategic Studies Institute*, November 2004, <https://ssi.armywarcollege.edu/pdffiles/pub585.pdf>.

³³ Ibid.

³⁴ "Evolution of the Department of the Air Force," *United States Air Force*, May 4, 2011, <https://www.afhistory.af.mil/FAQs/Fact-Sheets/Article/458985/evolution-of-the-department-of-the-air-force/>.

³⁵ Ibid.

During this time, relations between the United States and the Soviet Union worsened until the two found themselves in a so-called “Cold War.”³⁶ The countries competed for dominance in many domains, and one of the most public such competitions concerned the development of space technology, which had gained relevance when Germany fielded the powerful V-2 rocket, man’s first creation capable of reaching sub-orbital flight.³⁷ The Americans were able to capture a number of German scientists after WWII, and soon put them to work improving their designs to give the U.S. a world-class rocket arsenal.³⁸ Despite the efforts of these pioneering engineers, the Soviets began to lead the U.S. in the race for space dominance in the 1950s and 1960s. They placed the first satellite into orbit with the launch of Sputnik I in 1957, and sent the first man into space when Yuri Gagarin flew Vostok I around the Earth in 1961.³⁹ The U.S., in part threatened by the potential to weaponize these systems, established the National Aeronautics and Space Administration, or NASA, which quickly developed the technology to send American John Glenn into orbit in 1962.⁴⁰ In the years after, Russia would win the race to the heavens by crash-landing a probe on Venus, the U.S. would win a race to the Moon by landing Apollo IV on the lunar surface, and both nations would work behind closed doors to create capabilities that harnessed these emerging innovations.⁴¹

³⁶ “The Cold War Erupts,” *UShistory.org*, accessed February 13, 2019, <http://www.ushistory.org/us/52a.asp>.

³⁷ Jennifer Llewellyn, Jim Southey and Steve Thompson, “The Space Race,” *Alpha History*, November 14, 2018, <https://alphahistory.com/coldwar/space-race/>.

³⁸ *Ibid.*

³⁹ *Ibid.*

⁴⁰ *Ibid.*

⁴¹ *Ibid.*

The United States, however, began tapering its investments in space development after the American and Soviet space programs joined forces on the Apollo-Soyuz Test Project in 1975.⁴² The budget for NASA had peaked in 1966 at 4.41% of U.S. spending, but only a decade later this figure had fallen to less than 1%, and today it is less than .5%.⁴³ The U.S. did continue to create new space-related projects, such as the short-lived Strategic Defense Initiative (also called “Star Wars”), but the program, and others like it, were shuttered as relations with the Soviet Union softened and war seemed less imminent.⁴⁴

The Americans created the Air Force Space Command (AFSPC – pronounced “af-space”) in 1982 to lead space operations, and USSPACECOMM in 1985 to facilitate cooperation between the branches of the military in outer space.⁴⁵ Senior government officials soon began advocating for the consolidation of these space capabilities, as detailed in a 2001 Rumsfeld Space Commission report.⁴⁶ The commission recommended the development of a new Space Corps to be created as a division of the USAF, writing that the DoD should begin taking the bureaucratic and procedural measures necessary for the establishment of a “Space Department.”⁴⁷ Despite these recommendations, the 9/11 terror attacks drew the attention of the DoD away from forward-thinking initiatives as the nation prepared for war. USSPACECOMM funding was slashed and the program’s

⁴² Jennifer Llewellyn, Jim Southey and Steve Thompson, “The Space Race.”

⁴³ “NASA budgets: US spending on space travel in 1958,” *The Guardian*, 2016, <https://www.theguardian.com/news/datablog/2010/feb/01/nasa-budgets-us-spending-space-travel>.

⁴⁴ Ibid.

⁴⁵ “Air Force Space Command,” *U.S. Air Force*, September 10, 2015, <https://www.af.mil/About-Us/Fact-Sheets/Display/Article/104526/air-force-space-command/>.

⁴⁶ Todd Harrison, “Why We Need a Space Force: CSIS’s Todd Harrison,” *Breaking Defense*, October 12, 2018, <https://breakingdefense.com/2018/10/why-we-need-a-space-force-csis-todd-harrison/>.

⁴⁷ Ibid.

responsibilities were transferred to the United States Strategic Command (USSTRATCOMM) in 2002.⁴⁸ AFSPC was also pared down in 2009, when its nuclear arsenal was transferred to the newly founded Air Force Global Strike Command.⁴⁹ The focus of the DoD in the 21st century had shifted from space dominance to counterterrorism, so the U.S. began to lose ground to its adversaries, who had been continuously refining their space technology.⁵⁰

Though the U.S. and the U.S.S.R. tempered their space programs as the Cold War waned, other nations raced to develop their own capabilities for exploration and defense. China launched its space program in 1958, and in 1970 it guided its first satellite into orbit.⁵¹ By 2007, China had developed the missile technology to shoot down an enemy satellite, causing alarm for the U.S. and its allies who feared a new arms race.⁵² After years of rocket development, North Korea launched its first satellite into orbit in 2012, showing its adversaries that it was now capable of reaching enemy satellites and conducting orbital military operations itself.⁵³ Iran partnered with both China and North Korea to use their technologies for the development of the Iranian arsenal of satellite-bearing rockets capable of reaching low Earth orbit.⁵⁴

⁴⁸ Gary Shugart, "Re-establishing U.S. Space Command," *Purview*, October 1, 2018, <http://purview.dodlive.mil/2018/10/01/reestablishing-u-s-space-command/>.

⁴⁹ "Air Force Space Command," *U.S. Air Force*.

⁵⁰ Gary Shugart, "Re-establishing U.S. Space Command," *Purview*.

⁵¹ Eliza Strickland, "Timeline: China's Space Program, Past and Future," *IEEE Spectrum*, January 3, 2014, <https://spectrum.ieee.org/static/timeline-chinas-space-program-past-and-future>.

⁵² William J. Broad and David E. Sanger, "Flexing Muscle, China Destroys Satellite in Test," *New York Times*, January 19, 2007, <https://www.nytimes.com/2007/01/19/world/asia/19china.html>.

⁵³ "North Korea defies warnings in rocket launch success," *BBC*, December 12, 2012, <https://www.bbc.com/news/world-asia-20690338>.

⁵⁴ Franz-Stefan Gady, "Iran, China sign Military Cooperation Agreement," *The Diplomat*, November 15, 2016, <https://thediplomat.com/2016/11/iran-china-sign-military-cooperation-agreement/>.

These accomplishments and others shrank the American advantage in space. The U.S. government still has an arsenal capable of commandeering and/or destroying enemy satellites at almost any altitude, state-of-the-art jamming and blinding terminals, and a world-class offensive cyber hacking force.⁵⁵ Indeed, there is no weaponized technology currently possessed by another nation that the U.S. has not developed itself.⁵⁶ However, the success that American adversaries have had in catching up to U.S. weaponry is nonetheless cause for considerable alarm, as the DoD cannot currently defend American commercial and military assets from the sophisticated ASAT weapons now possessed by rival nations.⁵⁷ So, though the U.S. spends much more than any other country on space defense and has by far the most powerful array of offensive tools, it is still susceptible to severe damage to military and civilian space infrastructure, particularly if its adversaries cooperate as they have in the past.⁵⁸

The issue of space reform began to take center stage in the U.S. in 2016, when the Government Accountability Office (GAO) published a report detailing the inefficiencies that inhibit the federal government from conducting timely and effective space acquisitions.⁵⁹ The document listed “fragmented leadership, a redundant oversight bureaucracy, and difficulty coordinating among numerous stakeholders” as factors that add unnecessary time delays and ultimately can yield obsolete technology by the time

⁵⁵ David Axe, “When it comes to war in space, U.S. has the edge,” *Reuters*, August 10, 2015, <http://blogs.reuters.com/great-debate/2015/08/09/the-u-s-military-is-preparing-for-the-real-star-wars/>.

⁵⁶ *Ibid.*

⁵⁷ “Competing in Space,” *National Air and Space Intelligence Center*, December 2018, <https://media.defense.gov/2019/Jan/16/2002080386/-1/-1/1/190115-F-NV711-0002.PDF>.

⁵⁸ *Ibid.*

⁵⁹ Christina Chaplain, “Defense Space Acquisitions: Too Early to Determine if Recent Changes will Resolve Persistent Fragmentation in Management and Oversight,” *U.S. Government Accountability Office*, July 27, 2016, <https://www.gao.gov/assets/680/678697.pdf>.

contracts are awarded.⁶⁰ To ensure that the U.S. does not continue to utilize outmoded solutions, the GAO offered a number of possible solutions, one of which specified the creation of an independent Space Force.⁶¹

Following this recommendation, Congressmen Mike Rogers (R – AL) and Jim Cooper (D – TN) included language to create a new military department for space missions in their draft of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2018.⁶² Though this language was not adopted in the final version of the FY18 NDAA, it would have created an autonomous “space corps” within the Department of the Air Force, in the same way that the Marine Corps falls under the umbrella of the Department of the Navy.⁶³ The final FY18 NDAA did, however, mandate that the government “seek to enter into a contract with a federally funded research and development center that is not closely affiliated with the Department of the Air Force to develop a plan to establish a separate military department responsible for the national security space activities of the Department of Defense.”⁶⁴

Seven months after the ratification of the FY18 NDAA, on June 18, 2018, President Donald Trump formally directed the Pentagon to begin the process of establishing a sixth branch of the military to be called the U.S. Space Force.⁶⁵ The FY19 NDAA, signed into law by President Trump on August 13, 2018, directed the re-establishment of the United States Space Command as a sub-unified command within

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Sandra Erwin, “Congressman Rogers: A Space Corps Is ‘Inevitable,’” *Space News*, December 2, 2017, <http://spacenews.com/congressman-rogers-a-space-corps-is-inevitable>.

⁶³ Ibid.

⁶⁴ U.S. Congress, *National Defense Authorization Act for Fiscal Year 2018, Public Law 115-91*, 115th Cong., 1st sess., 2017, H.R. 2810. <https://www.congress.gov/115/plaws/publ91/PLAW-115publ91.pdf>.

⁶⁵ Katie Rogers, “Trump Orders Establishment of Space Force as Sixth Military Branch.”

USSTRATCOM responsible for joint operations in space.⁶⁶ Then, on February 19, 2019, Trump signed Space Policy Directive 4 (SPD-4), which formally tasked the SECDEF with drafting a legislative proposal to establish the Space Force.⁶⁷

Given the broad reach of these actions, there are now many stakeholders with a vested interest in U.S. Space Force debate. An obvious player is the DoD, whose leaders expressed serious misgivings about the efficacy of a new space branch before being directed to establish it.⁶⁸ Staunchly opposed to the Space Force were Secretary of the Air Force (SECAF) Heather Wilson, Air Force Chief of Staff General David Goldfein, and SECDEF James Mattis.⁶⁹ Wilson decried the idea as adding unwarranted costs and complexity to a Pentagon that is already infamously afflicted by chronic overspending and bureaucracy.⁷⁰ Wilson has since resigned amid reports that she and President Trump disagreed on their visions for the future of the Air Force.⁷¹ Mattis wrote that “[at] a time when we are trying to integrate the [DoD’s] joint warfighting functions, I do not wish to add a separate service that would likely present a narrower and even parochial approach

⁶⁶ U.S. Congress, *John S. McCain National Defense Authorization Act for Fiscal Year 2019, Public Law 115-232*, 115th Cong., 2nd session, 2018, H.R. 5515, <https://www.congress.gov/bill/115th-congress/house-bill/5515>.

⁶⁷ Marcia Smith, “Text of Space Policy Directive-4 (SPD-4): Establishing a U.S. Space Force,” *Space Policy Online*, February 19, 2019, <https://spacepolicyonline.com/news/text-of-space-policy-directive-4-spd-4-establishing-a-u-s-space-force/>.

⁶⁸ Dan LaMothe, “Once a skeptic of a Space Force-type plan, Heather Wilson now leads the effort to build it,” *The Washington Post*, February 22, 2019, <https://www.stripes.com/news/us/once-a-skeptic-of-a-space-force-type-plan-heather-wilson-now-leads-the-effort-to-build-it-1.569926>.

⁶⁹ Jay Bennett, “Space Corps Moves Forward Despite Opposition From Mattis, White House,” *Popular Mechanics*, July 13, 2017, <https://www.popularmechanics.com/military/news/a27285/james-mattis-opposes-space-corps-military-branch/>.

⁷⁰ Ibid.

⁷¹ Lara Seligman, “Before Resigning, Air Force Secretary Wilson Irked Trump,” *Foreign Policy*, March 3, 2019, <https://foreignpolicy.com/2019/03/08/before-resigning-air-force-secretary-heather-wilson-irked-trump-pentagon-mattis/>

to space operations.”⁷² Mattis has also since resigned, citing fundamental disagreements with Trump’s military policies.⁷³ These senior officials also voiced concern about the cost of establishing the new Space force and revived USSPACECOM. An estimate from Secretary Wilson’s office claimed that establishing these two organizations would require an additional \$13B over five years, far more than the Trump administration’s estimate of \$73M per year.⁷⁴ Nonetheless, DoD leaders are now responsible for carrying out the vision of the Commander-in-chief, so any initial reservations must now be swallowed until they are given new direction.

Though the executive branch has sizeable authority over military affairs, it is Congress that will ultimately determine whether or not the U.S. Space Force ever comes to fruition. Since the Democrats won a majority in the House of Representatives in the 2018 election, any legislation supporting the establishment of the Space Force is expected to meet stiff opposition from Trump’s opponents.⁷⁵ Rep. Adam Smith (D-WA), the new Chairman of the House Armed Services Committee (HASC), has already expressed concerns that the additional costs and bureaucracy of the Space Force would not be offset by its military merits.⁷⁶ This standing committee is currently composed of 31 Democrats and 26 Republicans, the majority of whom would need to support a bill to create the

⁷² Katie Rogers, “Trump Orders Establishment of Space Force as Sixth Military Branch,” *The New York Times*, June 18, 2018, <https://www.nytimes.com/2018/06/18/us/politics/trump-space-force-sixth-military-branch.html>.

⁷³ Helene Cooper, “Jim Mattis, Defense Secretary, Resigns in Rebuke of Trump’s Worldview,” *The New York Times*, December 20, 2018, <https://www.nytimes.com/2018/12/20/us/politics/jim-mattis-defense-secretary-trump.html>.

⁷⁴ Dan LaMothe, “Once a skeptic of a Space Force-type plan, Heather Wilson now leads the effort to build it.”

⁷⁵ Scott Bomboy, “Space Force could hit a constitutional roadblock: The House,” *National Constitution Center*, November 30, 2018, <https://constitutioncenter.org/blog/space-force-could-hit-a-constitutional-roadblock-the-house>.

⁷⁶ Ibid.

Space Force before it could reach the House floor for a vote.⁷⁷ Though the Republicans retained control of the Senate in the 2018 elections, the Chairman of the Senate Armed Services Committee, James Inhofe (R-OK), has himself expressed skepticism that a new military branch is warranted for space.⁷⁸ When discussing priorities for the upcoming NDAA, Inhofe referred to the Space Force and remarked “I don’t think we need it.”⁷⁹

Another clear stakeholder is the defense industry, composed of hundreds of small and large businesses that receive DoD contracts to provide services and materiel to the military. Vice President Mike Pence has requested an additional \$8B to be allocated to space acquisitions, a figure that excites many firms hoping to carve out a piece of that figure for themselves.⁸⁰ Large organizations, such as the United Launch Alliance (ULA), a joint venture between Boeing Defense and Lockheed Martin Space Systems, as well as Blue Horizon and SpaceX plan to compete with each other for these lucrative contracts, potentially driving prices down.⁸¹ Small businesses also hope to gain from the new branch, as Todd Harrison of the Center for Strategic and International Studies explains. These firms hope that the proposed Space Development Agency, tasked with overhauling space acquisitions, would offer them opportunities to compete for more DoD contracts and allow them to be more cross-functional in the national security field.⁸²

⁷⁷ “House Armed Services Committee,” *U.S. House Committee on Armed Services*, accessed February 26, 2019, <https://armedservices.house.gov/meet-our-members>.

⁷⁸ Kathryn Waldron, “Will Congress Boldly Go For The Space Force?” *The National Interest*, February 21, 2019, <https://nationalinterest.org/feature/will-congress-boldly-go-space-force-45277>.

⁷⁹ *Ibid.*

⁸⁰ Rebecca Kheel, “Defense Firms Bullish on ‘Space Force,’” *The Hill*, August 15, 2018, <https://thehill.com/policy/defense/401873-defense-firms-bullish-on-space-force>.

⁸¹ *Ibid.*

⁸² Jane Edwards, “Report: Defense Contractors Optimistic on Space Proposal,” *Executive Biz*, August 18, 2018, <https://blog.executivebiz.com/2018/08/report-defense-contractors-optimistic-on-space-force-proposal/>.

It has been theorized that other civilian space-related federal agencies could be impacted by the introduction of a Space Force. However, though these programs may experience some indirect consequences due to the establishment of a Space Force, there is no evidence to suggest that any non-DoD departments would be shuttered or otherwise disrupted. In SPD-4, President Trump stipulated that the scope of his proposed Space Force would “not include the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the National Reconnaissance Office, or other non-military space organizations or missions of the United States Government.”⁸³ As such, non-DoD federal agencies do not appear to be in danger of having their missions folded into this new department.

Description of Policy Proposal

The Trump administration’s Space Force proposal is intended to reorganize existing manpower and resources to reduce the number of agencies involved in space acquisitions, increase the amount of troops in space-related fields, and improve the protection of American interests and assets in outer space.⁸⁴ These assets include military and civilian satellites that are used for navigation, intelligence, science, communications, and other fields.⁸⁵ Congress and the White House have already taken several actions to further this agenda, ordering the reestablishment of USSPACECOM and directing the SECDEF to

⁸³ Marcia Smith, “Text of Space Policy Directive-4 (SPD-4): Establishing a U.S. Space Force.”

⁸⁴ Robert Burns, “Trump space force plan is grounded in real needs, but hazy,” *Air Force Times*, October 20, 2018, <https://www.airforcetimes.com/news/your-air-force/2018/10/21/trump-space-force-plan-is-grounded-in-real-needs-but-hazy/>.

⁸⁵ Ibid.

prepare formal Space Force legislation for consideration.⁸⁶ The following proposal represents measures that the Trump administration is expected to propound in order to complete the restructuring of national security organizations for improved space capability and readiness.

In SPD-4, President Trump dictates that the Space Force would be created under the umbrella of the USAF, in a situation analogous to the Marine Corps' status as a subdivision of the Department of the Navy.⁸⁷ This new Space Force would "organize, train, and equip military space forces of the United States to ensure unfettered access to, and freedom to operate in, space, and to provide vital capabilities to joint and coalition forces in peacetime and across the spectrum of conflict."⁸⁸ In other words, the Space Force would be responsible for consolidating and preparing the manpower that supports USSPACECOM operations, as the combatant command owns the actual war-fighting and space defense missions.⁸⁹ This branch would fulfill its mission by absorbing the infrastructure and personnel of other DoD organizations whose missions align within the scope of space defense.⁹⁰ Though the Army and Navy do have some units that directly support space operations, the vast majority of the resources needed to be transferred to the fledgling Space Force would come from the USAF, currently the DoD's primary space authority.⁹¹ However, other missions that are only obliquely related to space, such

⁸⁶ U.S. Congress, *John S. McCain National Defense Authorization Act for Fiscal Year 2019*, Public Law 115-232.

⁸⁷ Marcia Smith, "Text of Space Policy Directive-4 (SPD-4): Establishing a U.S. Space Force."

⁸⁸ Ibid.

⁸⁹ Sandra Erwin, "Pentagon to pitch Space Force plan to skeptical lawmakers," *Space News*, February 21, 2019, <https://spacenews.com/pentagon-to-pitch-space-force-plan-to-skeptical-lawmakers/>.

⁹⁰ Ibid.

⁹¹ Marcus Weisgarber, "Here's the Pentagon's Initial Plan for Creating a Space Force," *Defense One*, October 22, 2018, <https://www.defenseone.com/politics/2018/10/heres-pentagons-initial-plan-creating-space-force/152203/>.

as cyber defense, would remain with their current organizations, at least at the outset.⁹²

Non-military agencies, such as the National Reconnaissance Office and NASA, would also not be included in the new Space Force.⁹³ The new branch would be led by a civilian Under Secretary of Space, and would appoint a 4-star General or Admiral to Chief of Staff of the Space Force, who would then serve on the Joint Chiefs of Staff.⁹⁴ Figure 2 shows the designs introduced by the Trump administration as possible logos for the Space Force.

The Trump administration also plans to have the Pentagon introduce a new organization for the development and acquisition of future DoD space systems, to be called the Space Development Agency, or SDA. This organization will be responsible for creating acquisitions processes that are specifically tailored to space-related materiel, hoping to reduce time delays and inefficiencies that result from ill-suited regulations that are more applicable to USAF aircraft and weapons systems than spacecraft.⁹⁵ It will resemble “the Air Force Rapid Capabilities Office which provides a model for the thinking, execution style, reporting structure and innovation required for creating warfighting dominance, and the DoD Strategic Capabilities Office which leverages

⁹² Ibid.

⁹³ Marcia Smith, “Text of Space Policy Directive-4 (SPD-4): Establishing a U.S. Space Force.”

⁹⁴ Ibid.

⁹⁵ Rebecca Kheel, “Defense Firms Bullish on ‘Space Force.’”



existing DoD technologies to rapidly field new capabilities.”⁹⁶ The SDA will not fall

Figure 2: Potential Space Force Logos Introduced by White House.

John Brownlee, “The Logos for President Trump’s Space Force, Ranked,” *Magenta*, August 10, 2018, <https://magenta.as/the-logos-for-president-trumps-space-force-ranked-9f6397126c0b>.

under any specific branch at its inception, instead representing an independent DoD agency under the direction of the Under Secretary of Defense for Research and Engineering.⁹⁷ Acting Defense Secretary Patrick Shanahan has made it his goal to have the SDA established by March 29, 2019, and he believes the organization could be fully operational by the end of 2019.⁹⁸ Though initially semi-autonomous, the SDA would always operate under the assumption that it would transition into a subordinate position within the Space Force if the sixth branch were to be established.⁹⁹

⁹⁶ Gary Shugart, “Re-establishing U.S. Space Command.”

⁹⁷ Sandra Erwin, “Space Development Agency to be part of Griffin’s defense research organization,” *Space News*, January 23, 2019, <https://spacenews.com/space-development-agency-to-be-part-of-griffins-defense-research-organization/>.

⁹⁸ Ibid.

⁹⁹ Ibid.

In order to support the newly revived USSPACECOM with manpower, the Trump administration has proposed the creation of the Space Operations Force. This organization would be comprised of members from each of the other branches, all of whom would receive special space training but remain within their current services until the establishment of the Space Force allows them to be gathered under one command.¹⁰⁰ In the interim, members of the Space Operations Force would be on call to provide subject matter expertise to combatant commanders and acquisitions professionals from the SDA.¹⁰¹ The White House would like the Space Operations Force to be capable of deploying its members to U.S. Indo-Pacific Command and U.S. European Command by summer 2019.¹⁰² Together, the timelines by which the SDA and Space Operations Force could stand up their new organizations would determine how quickly the Space Force could scale into an effective new branch.¹⁰³

Though various other estimates from a number of sources exist, the Trump administration plans to allocate an additional \$2B and 15,000 personnel to the Space Force in its first five years.¹⁰⁴ The manpower will come from existing offices within the Pentagon, while the source of the \$2B is still to be determined. The first years will require miniscule additional funding in defense terms, as the DoD will mainly be shuffling resources that it already has in place. As the Space Force takes shape, the final

¹⁰⁰ Valeria Insinna and Tara Copp, "Pentagon lays groundwork for Space Force to blast off in 2020," *Defense News*, August 9, 2018, <https://www.defensenews.com/space/2018/08/09/space-force-will-be-6th-military-branch-by-2020-vice-president-pence-announces/>.

¹⁰¹ Gary Shugart, "Re-establishing U.S. Space Command."

¹⁰² Ibid.

¹⁰³ Sandra Erwin, "Space Development Agency to be part of Griffin's defense research organization."

¹⁰⁴ Mike Grutt and Aaron Mehta, "Space Force to cost \$2 billion, include 15,000 personnel in first five years," *Defense News*, March 1, 2019, <https://www.defensenews.com/space/2019/03/01/space-force-to-cost-2-billion-include-15000-personnel-in-first-five-years/>.

years of this period will require about \$500M in added tax dollars annually. These figures do not encompass the annual \$10B in unclassified space-related programs that currently exist which the Space Force is expected to absorb.¹⁰⁵ In FY20, the DoD plans to establish the Space Force as the sixth branch of the military, create its chain of command by integrating officers from other branches, and reassign some military and civilian personnel to create its initial workforce.¹⁰⁶ In FY21 and FY22, the Space Force will begin to absorb more units related to space-defense from other services, including satellite operation, training, maintenance, and other missions as directed by the SECDEF. In FY23 and FY24, the branch will begin to extend its scope and stand up new units to meet developing needs, a process necessary to create its own distinct footprint on the DoD.¹⁰⁷

Authority for the creation of the Space Force rests with Congress. The House and Senate Armed Services Committees will both need to approve legislation that directs the creation of a new military branch before a vote can be held in either chamber. House and Senate leaders will ultimately need to cooperate to pass identical legislation that establishes the Space Force before a bill can be presented to President Trump for signature.¹⁰⁸ The Senate will also have to approve any flag officers that are withdrawn from their current branches and nominated to positions created within the Space Force, as well as any officers promoted to generalship from within the Space Force.¹⁰⁹ However, Congressional approval is not required for the establishment of the SDA or the Space

¹⁰⁵ Ibid.

¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

¹⁰⁸ Kathryn Waldron, “Will Congress Boldly Go For The Space Force?”

¹⁰⁹ Mike Grutt and Aaron Mehta, “Space Force to cost \$2 billion, include 15,000 personnel in first five years.”

Operations Force.¹¹⁰ As such, President Trump is free to direct the Office of the Secretary of Defense to stand up these organizations whenever he pleases.

Policy Analysis

The objective of Trump's Space Force proposal is threefold: reduce the number of agencies involved in space acquisitions, increase the amount of troops in space-related fields, and improve the protection of American interests and assets in outer space. Any attempt to measure the potential effectiveness of his plan should therefore focus on these central elements. As such, each area of policy change that the Trump administration has recommended will ultimately be evaluated on its ability to improve acquisitions efficiency, boost DoD space manpower, and/or increase national security relative to the current systems and infrastructure in place. They will also be assessed on their feasibility and the likelihood that they are able to bring about the results that the Trump administration claims.

Misconceptions about the Space Force abound, some confusing its mission with that of NASA and others seeking to ridicule it as President Trump's attempt to create the world's first real Stormtroopers. In reality, the problem that the organization seeks to address is certainly real, and the President was far from the first person to suggest its creation. There are many in the military community that agree that a centralized department dedicated to space would help consolidate missions that do not fit well into

¹¹⁰ Sandra Erwin, "Space Development Agency to be part of Griffin's defense research organization."

the other branches, eventually providing improved efficiencies for all services.¹¹¹ These reputable and knowledgeable individuals believe that an independent Space Force is necessary to create the appropriate emphasis on space development in the DoD, comparing this schism to that of the USAF in 1947.¹¹²

These arguments should not be dismissed, but there is a specious quality to comparisons between the Space Force in 2019 and the U.S. Army Air Forces (USAAF) in 1947. The USAAF had more than 300,000 military personnel in 1947 when it separated from the Army to become the USAF, comprising about 20% of the total manpower for the Department of War at the time.¹¹³ The sheer size of the Air Force, and the complexity of its suborganizations, made the urgency for its autonomy evident. Today the USAF has approximately 313,000 Airmen, equal to about 24% of DoD troops.¹¹⁴ By comparison, the Trump administration has announced that it plans to move only 15,000 personnel to the new Space Force, equal to only about .7% of the DoD military population.¹¹⁵ This percentage is actually generous, as it is a forecast for the new department's manpower in five years and includes civilian personnel. Its budget would also be miniscule compared with that of its sister services, equaling less than 2% of the Trump administration's proposed \$750B budget for national defense spending.¹¹⁶ Because this manpower is meant to come from existing DoD programs, the 15,000

¹¹¹ Todd Harrison, "Why We Need a Space Force," *Center for Strategic and International Studies*, October 3, 2018, <https://www.csis.org/analysis/why-we-need-space-force>.

¹¹² "Evolution of the Department of the Air Force," *United States Air Force*.

¹¹³ "Selected Manpower Statistics: Fiscal Year 1997," *U.S. Department of Defense*, June 23, 1998, https://www.alternatewars.com/BBOW/Stats/DOD_SelectedStats_FY97.pdf.

¹¹⁴ George M. Reynolds and Amanda Shendruk, "Demographics of the U.S. Military," *Council on Foreign Relations*, April 24, 2018, <https://www.cfr.org/article/demographics-us-military>.

¹¹⁵ *Ibid.*

¹¹⁶ Sandra Erwin, "Trump's 2020 budget increase defense spending by 5 percent, funds Space Force," *Space News*, March 11, 2019, <https://spacenews.com/trumps-2020-budget-increases-defense-spending-by-5-percent-funds-space-force/>.

personnel do not represent an increase in space capacity for the military, but instead simply a relabeling of currently-active units. As such, providing the Space Force with equal stature to the rest of the DoD branches could provide the service with a disproportionately large amount of influence at the expense of the other services that comprise the overwhelming majority of the workforce and resources of the U.S. military.

Despite its comparatively small budget, the establishment of the Space Force would still require substantial resources and funding, which concerns some military leaders and analysts.¹¹⁷ Enormous funding requirements are problematic because of the opportunity costs they impose on other military programs. The billions needed to finance the restructuring of the DoD's space units could be used to replace the aging arsenal of Air Force war planes, to renovate the infamously dilapidated barracks at any number of Marine Corps bases, to upgrade the end-of-life communications equipment on Navy destroyers, or to finance countless other deserving programs within the DoD. Each program deprived of Pentagon dollars would argue that some aspect of national security is threatened by their lack of funding, so an overly expensive Space Force proposal could ultimately have a detrimental effect on American defense if it necessitated repurposing funds from enough critical projects.

The contention regarding the exact amount of money needed to finance the Space Force over its first five years has been well-noted, with estimates ranging from \$2B - \$13B.¹¹⁸ The high number came from SECAF Wilson's office and presumed that the new

¹¹⁷ Loren Thompson, "Ten Ways a Space Force Will Make America Weaker," *Forbes*, August 27, 2018, <https://www.forbes.com/sites/lorenthompson/2018/08/27/ten-ways-a-space-force-will-make-america-weaker/#580ed90334b0>.

¹¹⁸ Dan LaMothe, "Once a skeptic of a Space Force-type plan, Heather Wilson now leads the effort to build it."

branch would have a particularly expansive scope. As such, it includes costs associated with overhead, “development of doctrine, consolidation of facilities, movement of people and families, a service academy or war college, recruiting pipelines, and of course, new uniforms.”¹¹⁹ Skeptics insist that Wilson contrived every possible cost and included expenses that would be unnecessary in the first few years, such as the service academy and new HQ.¹²⁰ They assert that the Space Force would be able to cut costs by utilizing pre-existing building infrastructure and retaining personnel currently employed within the DoD to their current positions once their units are transferred to the new department.¹²¹

Accomplishing these objectives would save the DoD billions, but the assumption of a neutral budget when transitioning personnel may not be realistic. The government could find that many civilian and military workers are unwilling to leave their current service to join the fledgling Space Force.¹²² Their resistance could stem from loyalty to their current branch, fear of uncertainty and chaos in the new organization, or political unwillingness to support a controversial measure that benefits President Trump’s reputation. Massive costs and staffing issues could also occur depending on how the Pentagon handles the transition of space-related USAF Reserve and Air National Guard units to the Space Force, a process that has yet to be delineated.¹²³ If the DoD encountered such a scenario, it would have to spend heavily to recruit and incentivize qualified manpower quickly enough to meet the White House’s ambitious timelines,

¹¹⁹ Kaitlyn Johnson, “Why a Space Force Can Wait,” *Center for Strategic and International Studies*, October 3, 2018, <https://www.csis.org/analysis/why-space-force-can-wait>.

¹²⁰ Todd Harrison, “Why We Need a Space Force.”

¹²¹ Ibid.

¹²² Kaitlyn Johnson, “Why a Space Force Can Wait.”

¹²³ Mike Grutt and Aaron Mehta, “Space Force to cost \$2 billion, include 15,000 personnel in first five years.”

adding significantly to its projected costs. Per a Congressional budget, excess funding to compensate for low projections of Space Force spending would need to come from elsewhere in the Pentagon, meaning that its sister services would bear the brunt of any poor estimates. As such, it stands to reason that the creation of the Space Force could present an initial obstruction to the operations of the rest of the DoD if its counterparts had to scramble to reprioritize missions in the face of funding realignments.¹²⁴ A sustained hindrance to such a multitude of military programs could ultimately threaten national security.

Though the Space Force is intended to enhance the DoD's space-related manpower and capabilities, there are concerns that the benefits of its creation will not offset its adverse consequences enough to merit implementation, and that it may even worsen readiness. One of the primary concerns is that the introduction of this new branch would hinder relationships between distinct DoD organizations that exist today. Every service is heavily dependent upon spacecraft for navigation, communications, and intelligence, and they all have particular needs that have been identified through years of training. Navy warships, USAF planes, and Army armored brigades all have thousands of pieces of equipment that require signals from these DoD satellites, and the process of allocating satellite resources to each branch and each mission has been laborious and cumbersome.¹²⁵ Introducing a new organization with command authority could disturb this delicate balance of cooperation that functions suitably today. This problem also manifests itself at both a strategic and tactical level when services try to determine

¹²⁴ Valerie Insinna, "How much will the Space Force cost, and what's it going to look like?" *Defense News*, August 9, 2018, <https://www.defensenews.com/space/2018/08/09/no-answers-yet-on-cost-structure-of-space-force/>.

¹²⁵ Loren Thompson, "Ten Ways a Space Force Will Make America Weaker."

jurisdiction when carrying out their respective missions. Another service provides yet another stakeholder that needs to be accounted for when assigning areas of responsibility.¹²⁶ Adding further intricacy to the already complex joint strategies developed at the Pentagon may prove to be more problematic for national defense than helpful.

Proponents of the Space Force cite the problems that arise from the lack of “a unified, stable cadre of space-centric personnel that focus on developing space-centric strategy, doctrine, and policy,” and the corresponding space-focused chain of command.¹²⁷ Many skeptics would agree that there is merit to the assertion that the U.S. will be better able to defend its orbital interests if it creates a coherent space organization to manage satellite infrastructure. However, the reestablishment of USSPACECOM could solve many of the issues that Space Force advocates lament today.¹²⁸ The combatant command, whose establishment is already in the works, will be led by a four-star general meant to serve as an advocate for DoD space power. Providing such a powerful and established leader to the organization will make the process of consolidating space-related efforts more effective, allaying some concerns of Space Force proponents.¹²⁹ In addition, as the combatant command for space operations, USSPACECOM will be responsible for completing the actual warfighting mission of defending U.S. space assets. As such, it is going to complete much of the leg work involved with developing and defining its role within the joint DoD landscape before any

¹²⁶ Ibid.

¹²⁷ Todd Harrison, “Why We Need a Space Force.”

¹²⁸ Kaitlyn Johnson, “Why a Space Force Can Wait.”

¹²⁹ Ibid.

sixth branch could be fielded.¹³⁰ This means that, provided USSPACECOM carries out its mission successfully, it will already have accomplished many of the goals that the Trump administration hopes to achieve with its Space Force, making the new service entirely unnecessary. As such, many experts today call for an incremental approach to changes in the DoD's space posture, rather than a single, monumental change necessitating that multiple new organizations be stood up simultaneously.¹³¹

Because USSPACECOM is expected to address many of the Space Force's goals, some industry experts believe that the exact mission and scope of the Space Force is still too undefined to warrant its creation, especially by 2020 as the Trump administration has proposed. The six images introduced by the Trump administration as possible logos for the Space Force have only added to the confusion and made determining the veracity of the policy proposal more complicated.¹³² The logo designs were released in August 2018 to allow internet users to vote for their favorite option, but the presence of various iconography has indicated to many Space Force skeptics that the federal government has yet to develop a coherent doctrine for the service. The designs on the top row of Figure 2 are all clear replications of current and former NASA logos, a surprising allusion because the President has promised that NASA's missions would not be absorbed into the Space Force.¹³³ One different design features an image of the Moon, while another shows a rocket heading into orbit with the text "MARS AWAITS" written above. Again, these

¹³⁰ Ibid.

¹³¹ Sandra Erwin, "Senate Armed Services Committee still not sold on separate military service for space," *Space News*, October 4, 2018, <https://spacenews.com/senate-armed-services-committee-still-not-sold-on-a-separate-military-service-for-space/>.

¹³² John Brownlee, "The Logos for President Trump's Space Force, Ranked," *Magenta*, August 10, 2018, <https://magenta.as/the-logos-for-president-trumps-space-force-ranked-9f6397126c0b>.

¹³³ Valerie Insinna, "How much will the Space Force cost, and what's it going to look like?"

references seem to imply that the Space Force's mission would involve planetary exploration in some way, a notion that is directly contradictory to the narrative currently being proponed by the White House.¹³⁴ The presence of this seemingly confused imagery in the official Space Force logo proposal could indicate that the Space Force's pioneering advocates are not united in their vision and goals for the new organization. If this is the case, it will be far more difficult for the DoD to implement the proposed policy in a beneficial manner, thereby making success for the Space Force in any of its targeted areas less likely.

The processes and consequences of establishing the Space Operations Force are, on the surface, less problematic than those of the Space Force. The Space Ops Force is supposed to be composed entirely of space personnel who already work in the other five branches of the military. These workers will remain in their current services and positions while on-call to provide subject matter expertise to USSPACECOM, thereby reducing the strain on the rest of the DoD.¹³⁵ This solution is meant to be a reasonable compromise that gives the new combatant command much-needed brainpower with minimal disruptions to the rest of the military, but it still presents a number of challenges. Though the Space Ops Force is intended to mitigate interference with current missions, units whose members are drafted into this new organization would likely experience some level of adversity as they try to cope with reduced manning.¹³⁶ This type of strain has already been seen in the USAF, which is expected to provide the bulk of the Space Ops

¹³⁴ Ibid.

¹³⁵ Gary Shugart, "Re-establishing U.S. Space Command."

¹³⁶ Jared Serbu, "Citing strained force, Air Force cuts dozens of additional duties," *Federal News Network*, August 22, 2016, <https://federalnewsnetwork.com/dod-reporters-notebook-jared-serbu/2016/08/citing-strained-force-air-force-cuts-dozens-extra-duties/>.

Force. Airmen have long suffered from the burden of ‘additional duties,’ or administrative and unit functions tasked to members on top of their primary mission. These duties often seem innocent at first look, but in practice they can consume the majority of an Airman’s time at work, reducing attention to the big-picture mission. For this reason, the USAF reduced the number of additional duties that could be meted out to unit members in 2016.¹³⁷ Bringing personnel into the Space Ops Force could therefore task them with an additional duty tantamount to an entire full-time position, particularly if USSPACECOM relies more heavily on this force than anticipated. This added workload could dramatically reduce productivity, readiness, and morale for the troops conscripted into the Space Ops Force, making it more difficult for them to perform both their new and current duties effectively. Relying on a beleaguered cadre of overworked military personnel may prevent the burgeoning Space Ops Force, and a potential Space Force, from adequately protecting American assets and achieving U.S. space dominance.

Because of the added strain to augment the Space Ops Force while achieving the objectives of their current missions, military members of the new organization could experience high stress and low morale, two issues that are common in the military and contagious within a unit.¹³⁸ These concerns could be compounded if the members’ additional duties within the Space Ops Force required increased travel and time away from family. These same issues exist for government civilians and contractors who are asked to join the group, only they have more leverage to resist such a realignment of their

¹³⁷ Ibid.

¹³⁸ Lee Daniel Kravetz, “Low Morale is Contagious,” *Government Executive*, November 1, 2017, <https://www.govexec.com/excellence/management-matters/2017/11/low-morale-contagious/142217/>.

duties as non-military employees.¹³⁹ Contractors in particular, who oftentimes provide the most specialized expertise in a given field, operate under tight restrictions per the terms of the government's contract with their companies.¹⁴⁰ The defense firms that partner with the military to provide manning may be unwilling to accommodate a dramatic change in the scope of their employees' work, or else demand a high premium to do so. If the DoD is unable to retain the government civilians and contractors that it intends to add to the Space Ops Force, not only will it be unable to sustain the 15,000 existing positions it eventually plans to transfer to the Space Force, but it could actually lose manpower in space-related DoD programs.

Like the Space Force and the Space Operations Force, the Space Development Agency (SDA) presents a promising opportunity with serious concerns attached. There are currently more than 60 federal agencies that have purview over some aspect of space acquisitions, providing a massive and confusing bureaucracy that can delay and inhibit the expeditious fielding of war-winning capabilities.¹⁴¹ The SDA is supposed to provide a solution by consolidating many of these missions into one streamlined organization, saving valuable time, resources, and taxpayers dollars. Proponents of the SDA are justified in their criticisms of the current process, and they are not the first to suggest the creation of a parent organization to help bring synergy to military acquisitions.¹⁴² The DoD believes that the SDA will add value and save money by purchasing Commercial-

¹³⁹ "Ethics of Contractors in the Workplace and on Deployment," *Office of the Secretary of Defense*, October 2015, http://ogc.osd.mil/defense_ethics/resource_library/desktop/contractors_in_federal_workplace.pdf.

¹⁴⁰ "Ethics of Contractors in the Workplace and on Deployment."

¹⁴¹ Colin Clark, "Space Force May Not Fix Space Acquisition Mess," *Breaking Defense*, March 20, 2019, <https://breakingdefense.com/2019/03/space-force-may-not-fix-space-acquisition-mess-gao/>.

¹⁴² Ibid.

Off-The-Shelf (COTS) equipment and decreasing the administrative hurdles that add to lengthy procurement timelines.¹⁴³ By providing relatively specific information about how the SDA plans to address the problems that exist in the space acquisitions community, the DoD has made its establishment more legitimate and defensible.

Nonetheless, many remain skeptical about the SDA. They would argue that its plan for saving money, which centers on using existing technologies produced by private firms, is already a standard best practice in acquisitions. Program management offices have emphasized the cost, schedule, and performance benefits of using COTS equipment for well over 25 years, so the DoD's plan does not offer any innovations that are not already standard in the 60 space stakeholder agencies.¹⁴⁴ In addition, the SDA is not intended to do anything that the National Reconnaissance Office (NRO) and the Space and Missile Systems Centers do not already do.¹⁴⁵ If the SDA was meant to replace these organizations, then merging their missions into one larger organization could conceivably create economies of scale (albeit with some additional issues). However, there is no indication that the DoD will shut down or dismember either of these organizations, meaning that if the SDA were created they would have to coexist with yet another department that has a similar mission. In fact, the DoD has not said that any of those 60 organizations would be eliminated, leading skeptics to fear that the SDA would simply become another contributor to the mass of groups seeking to steer space acquisitions.¹⁴⁶

¹⁴³ Sandra Erwin, "Space Development Agency promises to do more with less," *Space News*, March 20, 2019, <https://spacenews.com/space-development-agency-promises-to-do-more-with-less>.

¹⁴⁴ "Commercial Off-The-Shelf Guide," *Air Force Materiel Command*, January 1993, <https://nepp.nasa.gov/docuploads/1219C61B-7337-48C4-8760E6456F861839/COTS%20guide.pdf>.

¹⁴⁵ Colin Clark, "SecAF Questions Space Development Agency; Air Force Didn't Want F-15X," *Breaking Defense*, February 28, 2019, <https://breakingdefense.com/2019/02/secaf-questions-space-development-agency-air-force-didnt-want-boeing-f-15x/>.

¹⁴⁶ Colin Clark, "Space Force May Not Fix Space Acquisition Mess."

Even if the SDA could set itself apart and absorb a majority of the missions from those 60 other federal entities, the new organization would find that some level of decentralization in acquisitions is beneficial.¹⁴⁷ Giving smaller command chains the flexibility to acquire their own equipment leads to more agile procurement and better tailored solutions.¹⁴⁸ Trying to unite the entire spectrum of space acquisitions into one massive bureaucracy could make delegation even more difficult, regardless of how well the SDA executes its mission. As such, the SDA could be stuck between a rock and a hard place, either too small to distinguish itself from the rest of the fray, or so large that it adds burdensome and costly procedures to the acquisition units.

In all, though the Trump administration's Space Force proposal does include elements that could potentially bolster U.S. space posture and improve space acquisitions, these outcomes are far from certain. Serious concerns regarding the cost, structure, timing, and feasibility of the Space Force, the Space Ops Force, and the Space Development Agency have kept many experts from endorsing the White House's plan. The need to address emerging threats in space is clear and widely acknowledged, but the efficacy of creating these new organizations to do so is certainly not.

Political Analysis

Because the DoD spends over \$280B per year on defense contracts, receiving defense industry support will be critical to developing effective and affordable

¹⁴⁷ Richard Abbott, "Geurts Looking to Decentralize Navy Acquisition," *Defense Daily*, May 2, 2018, <https://www.defensedaily.com/geurts-pushing-decentralize-navy-acquisition/navy-usmc/>.

¹⁴⁸ Ibid.

partnerships with the firms that would provide key resources for the Space Force.¹⁴⁹ There is a sentiment among many Space Force advocates that the private sector would support the new branch's creation due to the potential for a windfall to the defense contracting industry. These companies employ millions of Americans, many of whom live in swing states, so the promise of more money and more jobs could play well with blue-collar workers in these areas.¹⁵⁰ An increased emphasis on space capabilities and readiness could very well bring additional funding for new acquisitions, and the Trump administration has already signaled that it plans to allocate billions to the establishment of the service. However, industry experts are skeptical the Space Force payout will be as large as defense contractors hope.¹⁵¹ The Pentagon will attempt to finance as much of the new service as possible with existing DoD dollars, as the White House could expect negative press if it had to reallocate money from entirely unrelated federal programs to provide seed funding for the project.¹⁵² As such, defense firms may simply see funds move from one organization to another.

In addition, new Space Force cash may not necessarily be destined for high-priced private contracts to be awarded to the large defense firms that operate in purple states. According to Tom Nichols, a professor of national security affairs at the U.S. Naval War College, "any additional spending will likely be concentrated in research and knowledge-centric areas, not depressed manufacturing states."¹⁵³ Nichols also noted that contracts

¹⁴⁹ Russell Rumbaugh and Heidi M. Peters, "Defense Primer: DoD Contractors," *Congressional Research Service*, February 10, 2017, <https://fas.org/sgp/crs/natsec/IF10600.pdf>.

¹⁵⁰ "Projected number of employees in the national defense industry in the United States in 2016 and 2026," *Statista*, accessed April 1, 2019, <https://www.statista.com/statistics/684454/forecast-of-employment-in-the-national-defense-industry-us-by-firm-size/>.

¹⁵¹ Rebecca Kheel, "Defense Firms Bullish on 'Space Force.'"

¹⁵² *Ibid.*

¹⁵³ Robert Burns, "Trump space force plan is grounded in real needs, but hazy."

for new weaponry, which can create thousands of manufacturing jobs and be the most lucrative for defense firms, are almost certainly not forthcoming. He wrote that "put simply: We are not going to start building Klingon battle cruisers or the Moonraker fleet in West Virginia or Ohio."¹⁵⁴ Altogether, the Trump administration's plan to increase funding for space operations and acquisitions could please many defense firms, but there is no guarantee that the Space Force would bring substantial material benefit to any particular company or region of the country.¹⁵⁵

The support of the troops is also an important factor to consider, as the military is a key issue for many swing state voters. Republicans have traditionally been more successful in appealing to pro-military households, so the Democratic Party could stand to gain ground in purple districts if it was perceived to be in tune with the interests and desires of servicewomen and men.¹⁵⁶ According to an anonymous survey of active duty military personnel, 40% of those polled supported the creation of the new branch, while 37% disapproved.¹⁵⁷ Troops from the Navy and the Air Force, which would see the largest reduction in manpower and funding if the Space Force were established, overwhelmingly disapproved, while their counterparts in the Army and the Marine Corps were much more receptive.¹⁵⁸ This poll did not include any reservists or national guardsmen, but these individuals may be more hesitant to propound the Space Force because there is currently no plan for how it will operate with or within either of these

¹⁵⁴ Ibid.

¹⁵⁵ Rebecca Kheel, "Defense Firms Bullish on 'Space Force.'"

¹⁵⁶ "Conflicting Partisan Priorities for U.S. Foreign Policy," *Pew Research Center*, November 29, 2018, <https://www.people-press.org/2018/11/29/conflicting-partisan-priorities-for-u-s-foreign-policy/>.

¹⁵⁷ Leo Shane III, "Many troops are skeptical of a new Space Force, new Military Times poll shows," *Military Times*, October 19, 2018, <https://www.militarytimes.com/news/pentagon-congress/2018/10/19/many-troops-are-skeptical-of-a-new-space-force-new-military-times-poll-shows/>.

¹⁵⁸ Ibid.

organizations.¹⁵⁹ There is speculation that the Space Force could either absorb or replace some missions currently carried out by the Air Force Reserve Command and Air National Guard, meaning that members of these major commands could be displaced.¹⁶⁰ Given the stratified nature of the poll results and the uncertainty surrounding the status of many guard and reserve units, it is clear that the creation of the new service remains a controversial topic among DoD troops, one that certainly does not have unequivocal support from a large majority of personnel. As such, backing legislation to create the Space Force would by no means endear the Democratic Party to the military at large, its advocates, or voters in districts with a sizeable military presence.

Though polling indicates that the Space Force proposal enjoys support from a slight majority of uniformed personnel, it is clear that much of the military leadership that would be directly involved with its implementation does not espouse its creation. The initial opposition from USAF Chief of Staff General David Goldfein, SECAF Heather Wilson, and SECDEF James Mattis has been well documented, each having expressed skepticism prior to Trump's announcement of his intention to bring the Space Force to life.¹⁶¹ These three and many Air Force general officers later articulated their support for the President and his new service, but only after such time that it would have been inappropriate and even insubordinate to express their views candidly if they disagreed with the President's decision.¹⁶² Military personnel can be subject to court martial under

¹⁵⁹ Mike Grutt and Aaron Mehta, "Space Force to cost \$2 billion, include 15,000 personnel in first five years."

¹⁶⁰ Ibid.

¹⁶¹ Jay Bennett, "Space Corps Moves Forward Despite Opposition From Mattis, White House."

¹⁶² Sandra Erwin, "Air Force leaders more vocal about their support for Trump's Space Force proposal," *Space News*, October 31, 2018, <https://spacenews.com/air-force-leaders-more-vocal-about-their-support-for-trumps-space-force-proposal/>.

the Uniform Code of Military Justice if they speak out publicly against their commander's directions, making it unlikely that any general officers would voice concerns if they had them.¹⁶³ The eventual resignations of Mattis and Wilson from their posts could be viewed as emphatic rebukes of not only the Space Force concept, but the entire Trump military doctrine at large, though neither specifically mentioned the new service upon leaving office.¹⁶⁴

Having the real support of military leadership, support that goes beyond the obligatory responsibility of DoD officials to follow orders, is crucial to making any sweeping changes to military structures, since those who privately oppose the direction can hinder progress. Secretary Mattis was widely believed to have “slow walked” a number of the President's directives, including the Space Force, transgender ban, and military parade, publicly announcing his intention to bring them to fruition while practically ensuring the slowest possible implementation.¹⁶⁵ It could be argued that the resignations of these disagreeing officials has only ensured that the remaining personnel are more amenable to the service, but there is simply no way to ascertain whether specific officials truly believe in the Space Force vision. Acting SECDEF Patrick Shanahan has been vocal in his support for the Space Force, but Mattis' example shows that military leaders with strong opposition to certain policy issues can provide substantial obstructions to a project's success.¹⁶⁶ Given the proximity to the 2020 elections, any

¹⁶³ “Uniform Code of Military Justice,” *United States Air Force*, accessed April 3, 2019, <http://www.au.af.mil/au/awc/awcgate/ucmj.htm>.

¹⁶⁴ Mark F Cancian, Todd Harrison, and Andrew Philip Hunter, “The Mattis Resignation: What Does it Mean for the Future of National Security?” *Center for Strategic & International Studies*, December 21, 2018, <https://www.csis.org/analysis/mattis-resignation-what-does-it-mean-future-national-security>.

¹⁶⁵ Helene Cooper, “Jim Mattis, Defense Secretary, Resigns in Rebuke of Trump's Worldview.”

¹⁶⁶ Bryan Bender, “Pentagon Chief backs Space Force - but as part of Air Force,” *Politico*, January 29, 2019, <https://www.politico.com/story/2019/01/29/space-force-pentagon-trump-1134069>.

remaining dissenters in the DoD leadership could simply create delays in hopes that Trump loses his reelection bid and a new regime decides to ditch the Space Force altogether. For this reason, Congressional support for the Space Force in the interim may ultimately seem unwise, since a new President could choose to scrap the idea in less than two years.

Even if the Space Force was certain to provide a boon to the defense industry and gain support from the bulk of DoD personnel, Democrats would still have less to gain from establishing the new branch than President Trump. After all, he was the one who brought the idea of the service to the fore, thereby setting himself up to take credit for any positive outcomes that emerge. Trump has been touting the benefits of the Space Force at political rallies ever since he announced the organization in June 2018, listing it as a part of his platform along with his positions on controversial subjects like abortion, gun rights, and border security.¹⁶⁷ His 2020 campaign also began selling Space Force merchandise in August 2018, demonstrating his desire to use the new service for his personal political gain in the upcoming presidential election.¹⁶⁸ In doing so, Trump has politicized the creation of the Space Force and turned the movement to bring it to fruition into a necessarily partisan issue. The Space Force's establishment could therefore become the equivalent of building Trump's wall along the Southern border: not an inherently unreasonable proposition, but one that would provide so much fodder to Trump's base that it would not make sense for Democrats to support it.¹⁶⁹

¹⁶⁷ Robert Burns, "Trump space force plan is grounded in real needs, but hazy."

¹⁶⁸ Eli Watkins, "Trump 2020 to sell 'Space Force' Merch," *CNN*, August 9, 2018, <https://www.cnn.com/2018/08/09/politics/trump-campaign-space-force/index.html>.

¹⁶⁹ *Ibid.*

Opposing the Trump administration's proposal could also endear the Democratic Party to some swing voters who are already exasperated with the President's attempts to usurp certain responsibilities from Congress. Seeing Trump shift resources from existing military branches to fund a controversial project could remind many voters of his national emergency declaration, which took funding from the DoD to fund the border wall that he promised during his campaign.¹⁷⁰ This decision angered many Americans, 60% of whom disapproved of the President's plan to shuffle military funding to pay for an expansion of border wall construction, according to a recent Gallup poll.¹⁷¹ Many Congressional Republicans even objected to this scheme, as 13 House and 12 Senate GOP members voted to block Trump's national emergency declaration.¹⁷² These numbers show that normally-conservative individuals can be compelled to buck the President's platform if they feel that it intrudes on the balance of power stipulated in the Constitution.

With this in mind, the White House's Space Force proposal could be viewed as another example of overreach by the Trump administration when viewed in context with the executive actions that the President has enacted. The DoD has already begun the process of designing and preparing the SDA and the Space Operations Force, two organizations that Trump is able to stand up without Congressional approval. However, both are designed to exist as independent bodies only temporarily, until Congress enacts

¹⁷⁰ Paul Sonne, "Trump plans to get wall funding by scrapping some military projects," *Press Herald*, February 15, 2019, <https://www.pressherald.com/2019/02/15/trump-plans-to-get-wall-funding-by-scrapping-some-military-projects/>.

¹⁷¹ Jim Norman, "Solid Majority Still Opposes New Construction on Border Wall," *Gallup*, February 4, 2019, <https://news.gallup.com/poll/246455/solid-majority-opposes-new-construction-border-wall.aspx>.

¹⁷² Jacob Pramuk, "Trump tweets 'VETO!' after Senate votes to block his border emergency declaration," *CNBC*, March 14, 2019, <https://www.cnbc.com/2019/03/14/senate-votes-to-block-trump-border-wall-national-emergency-declaration.html>.

legislation to found the Space Force.¹⁷³ Once these organizations are established, Trump would have more leverage to demand his new service by arguing that the DoD needs it to integrate the work of the SDA, Space Ops Force, and USSPACECOM.¹⁷⁴ In other words, Trump would be creating a scenario in which none of his new space agencies can function effectively without a Space Force, thereby strong-arming Congress into approving the new branch in the name of salvaging national security.

Democrats could benefit by publicizing this narrative and arguing that their opposition to the Space Force is founded in Constitutionalism rather than partisanship. Democratic opposition would appeal to the 55% of Americans who already disapprove of the new service, but it may also convince some of the more politically moderate Space Force supporters to defect.¹⁷⁵ Many independent swing voters consider themselves to be Constitutionalists, so opposing Trump's Space Force on the grounds that it runs afoul of the document could yield valuable votes in the 2020 election. These moderate votes are critical for Democrats in purple states because earning one vote from the middle of the political spectrum also takes away one possible vote from the Republicans, as opposed to earning votes from the far left which could never be earned by a Republican candidate.¹⁷⁶

Nonetheless, neither the Republicans nor the Democrats in Congress have fully consolidated their parties to either support or resist the proposition. The Congressmen who originally sought to include Space Force language in the FY18 NDAA, Mike Rogers (R – AL) and Jim Cooper (D – TN), hail from different parties, showing that there is at

¹⁷³ Sandra Erwin, "Space Development Agency to be part of Griffin's defense research organization."

¹⁷⁴ Ibid.

¹⁷⁵ Grace Sparks, "Space Force: To 37% and beyond," *CNN*, August 16, 2018, <https://www.cnn.com/2018/08/16/politics/space-force-poll/index.html>.

¹⁷⁶ Gary W. Cox, "Swing voters, core voters and distributive politics," *Yale University*, accessed April 2, 2019, <https://leitner.yale.edu/sites/default/files/files/resources/docs/cox.pdf/>

least some level of Congressional Democratic support for the organization.¹⁷⁷ Other influential Democrats, such as Rep. Adam Smith (D-WA), the new Chairman of the HASC, remain uncertain, if not outright opposed.¹⁷⁸ Given the Democratic control of the House, a vote on the Space Force could face a challenge even making it out of committee, but skepticism exists even within the GOP.¹⁷⁹ Rep. Mac Thornberry (R-TX), former Chairman of the HASC and a supporter of the Space Force, has cautioned the Pentagon about its approach, saying “our job is not to just swallow whatever [the administration] sends us.”¹⁸⁰ Chairman James Inhofe (R-OK) of the Senate Armed Services Committee has openly questioned the efficacy of the new service, and the Republican controlled Senate is actually believed to present a higher hurdle than the House.¹⁸¹ If the Republicans were unified in their desire to create the new service, the Democrats could leverage the GOP’s eagerness and strike a deal that allows them to pass their own trademark legislation as well. However, the Republicans have yet to rally around the Space Force to an extent that would give Democrats a substantial advantage to negotiate on other issues, so there does not appear to be any strategic political advantage to supporting the White House proposal.

A final, more fundamental issue surrounds the very premise of militarizing space. It has been established that some countries could seek to attack American assets in space, and that the U.S. is entirely justified in seeking to employ its extensive defense systems to protect them. Creating an entirely new branch of the military to address these concerns,

¹⁷⁷ Sandra Erwin, “Congressman Rogers: A Space Corps Is ‘Inevitable’.”

¹⁷⁸ Ibid.

¹⁷⁹ Kathryn Waldron, “Will Congress Boldly Go for the Space Force?”

¹⁸⁰ Ibid.

¹⁸¹ Ibid.

however, could be viewed as provocative and aggressive behavior by the rest of the world. The introduction and deployment of powerful new defense mechanisms has been perceived as such in the past, most recently by North Korea when the Pentagon stood up its Terminal High Altitude Area Defense (T.H.A.A.D.) system near Seoul, South Korea in 2018.¹⁸² Bolstering one's defenses in such an obvious manner leads some foreign powers to infer that the U.S. plans on acting provocatively in the near future, looking to negate the possibility of retaliation beforehand.¹⁸³ The U.S. already has a record of ignoring international convention in space, having been one of three nations to abstain from the 2000 U.N. General Assembly vote on a resolution titled "Prevention of Outer Space Arms Race."¹⁸⁴ The U.S. would later be the only U.N. nation to vote against a 2006 resolution aimed at preventing the competitive proliferation of weaponry in space.¹⁸⁵ American allies, and even Russia and China, by contrast have been much more amenable to restrictions on the use of arms in the cosmos, so there may be pushback from important world players if the U.S. appears to bolster its offensive and defensive space posture.¹⁸⁶ Regardless of the official narrative that the White House seeks to promote with the creation of the Space Force, it is possible that many countries will bemoan the new organization as a promise of increased tension in an environment that is currently peaceful.

¹⁸² "THAAD on the Korean Peninsula," *Institute for Security and Development Policy*, October 2017, <http://isdip.eu/publication/korea-thaad/>.

¹⁸³ Ibid.

¹⁸⁴ Anup Shah, "Militarization and Weaponization of Outer Space," *Global Issues*, January 21, 2007, <http://www.globalissues.org/article/69/militarization-and-weaponization-of-outer-space>.

¹⁸⁵ Ibid.

¹⁸⁶ David C. DeFrieze, "Defining and Regulating the Weaponization of Space," *Joint Force Quarterly* 74, 3rd Quarter 2014, accessed April 2, 2019, https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-74/jfq-74_110-115_DeFrieze.pdf.

Recommendation

It is recommended that Speaker of the House Pelosi not support the White House's proposal for a Space Force, Space Development Agency, or Space Operations Force. Though the President has the authority to create the latter two organizations without the approval of Congress, the promise of staunch opposition to the Space Force in the House may deter him from diverting considerable resources to them for fear that his new branch would never come to fruition.

That said, the Trump administration's Space Force proposal has many reasonable elements, many of which have been recommended by senior military leaders for decades.¹⁸⁷ The creation of the new service, and its subordinate SDA and Space Operations Force, is meant to address a problem that has been proven to exist: the increasing ability of U.S. space-faring adversaries to disrupt American interests in outer space.¹⁸⁸ Even with the massive advantage of the U.S. in military spending, the Pentagon is currently unable to defend against crude and relatively inexpensive attacks on American assets. Countries like Russia and China would only have to guide their existing satellites into the orbital paths of American satellites to destroy them, with the potential to disrupt military readiness and communications, as well as civilian commerce and connectivity.¹⁸⁹ It is clear that the DoD must do more to combat the emerging threats to

¹⁸⁷ Todd Harrison, "Why We Need a Space Force."

¹⁸⁸ Todd Harrison, Kaitlyn Johnson and Thomas G. Roberts, "Space Threat Assessment 2018."

¹⁸⁹ Ibid.

the American system of satellites, given their growing importance to everyday life across the world.

Nonetheless, given the executive actions that the President has already carried out to support his emphasis on space innovation, namely the resurrection of USSPACECOM, there is no logical need to create a sixth branch of the armed forces to help bolster American space readiness. The concept that the Space Force would need to exist to provide manpower for USSPACECOM is nonsensical, as none of the other 10 combatant commands that exist today require their own service to supply personnel.¹⁹⁰ Rather, when troops deploy to U.S. Southern Command (USSOUTHCOM) or U.S. Special Operations Command (USSOCOM), for example, they remain in their service and simply work together with members of other branches in a joint environment. A soldier deploying to USSOUTHCOM does not leave the Army to join the ‘South Force,’ nor does a sailor deploying to USSOCOM leave the Navy to join the ‘Special Force.’ As such, there is no reason that troops supporting the revived USSPACECOM need to abandon their service to join the Space Force.

The creation of the Space Force is perhaps the most invasive, expensive, and bureaucratic solution to ensuring American dominance in space.¹⁹¹ Any increases in space funding, additions to space manning, changes to space acquisitions, or adjustments to space doctrine could be made within the existing organizations that already carry out DoD space operations. The White House’s own proposal stipulates that all of the manpower for the Space Force would come from existing DoD personnel who are

¹⁹⁰ “Combatant Commands,” *U.S. Department of Defense*, accessed April 4, 2019, <https://www.defense.gov/Our-Story/Combatant-Commands/>.

¹⁹¹ Kaitlyn Johnson, “Why a Space Force Can Wait.”

already fulfilling the roles that they would have in the new organization, meaning that the establishment of the service would simply give a new name to the mission that these individuals currently complete.¹⁹² The dearth of authentic support from military leaders prior to their forced acceptance of Trump's mandate should provide ample indication that many experts in the field do not believe that the service is necessary.¹⁹³ As such, Speaker Pelosi should not be persuaded to advocate for the Space Force by arguments related to its military utility.

Instead, it is recommended that Speaker Pelosi promote the new USSPACECOM vigorously, arguing for its merit and ability to solve many of the DoD's concerns without the need for new supplemental organizations. The Democrats at large should call for patience within the DoD, contending that it would be best to wait a few years to determine the successes and deficiencies of USSPACECOM before taking any further drastic measures.¹⁹⁴ She could appear magnanimous by praising the President for his work in bringing the command back to operation, but the Democrats would still reap the political benefits of denying Trump his new service, an accomplishment that he certainly would have touted on his campaign for reelection. This approach offers just as much support for improved national security as Trump's Space Force proposal, saves the government billions of dollars, and provides important fodder for the eventual Democratic presidential nominee in 2020.

¹⁹² Gary Shugart, "Re-establishing U.S. Space Command."

¹⁹³ Jay Bennett, "Space Corps Moves Forward Despite Opposition From Mattis, White House."

¹⁹⁴ Kaitlyn Johnson, "Why a Space Force Can Wait."

Curriculum Vitae

Greg Barrow was born on January 16, 1994 in Lake Charles, Louisiana, and grew up in Indianapolis, IN. He attended DePauw University in Greencastle, IN and graduated cum laude with a B.A. in 2016, majoring in Economics and Spanish and minoring in Classical Civilization and Astronomy. He then worked in the office of U.S. Senator Joe Donnelly (D-IN) before accepting a position as an analyst for a public-private partnership (P3) development firm in Los Angeles, CA. Barrow later accepted a commission into the active duty U.S. Air Force, graduating first in his class from Officer Training School in 2017. He now works as an acquisitions officer at Hanscom Air Force Base near Bedford, MA, procuring materiel that keeps American warfighters prepared, trained, and equipped. In 2018 he was named a City of Cambridge Scholar in recognition of his outstanding academic achievement. Barrow also remains engaged in his community, mentoring two cyber skills programs at local area schools and sitting on the board of a nonprofit that encourages small, repeat donations.