

# Mission Ready

State Policy Options to Sustain Military Installations



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# Mission Ready: State Policy Options to Sustain Military Installations

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*With Support from the U.S. Department of Defense*

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The National Conference of State Legislatures is the bipartisan organization dedicated to serving the lawmakers and staffs of the nation's 50 states, its commonwealths and territories.

NCSL provides research, technical assistance and opportunities for policymakers to exchange ideas on the most pressing state issues, and is an effective and respected advocate for the interests of the states in the American federal system. Its objectives are:

- Improve the quality and effectiveness of state legislatures.
- Promote policy innovation and communication among state legislatures.
- Ensure state legislatures a strong, cohesive voice in the federal system.

The conference operates from offices in Denver, Colorado and Washington, D.C.

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# Executive Summary

More than 1.3 million people currently serve in the U.S. armed forces, 18 million more are veterans and over 450 military installations exist in the 50 states, the District of Columbia, Guam and Puerto Rico. U.S. military operations touch every state in some way, and state legislatures are playing an increasingly substantial role in influencing military policies and procedures.

Military installations—which may also be referred to as bases, camps, posts, stations, yards or centers—are facilities that sustain the presence of U.S. forces at home and abroad. Installations located within the U.S. and its territories are used to train and deploy troops, maintain weapons systems and care for the wounded. Installations also support military service members and their families by providing housing, health care, childcare and on-base education.

The Department of Defense (DOD) contributes billions of dollars each year to state economies through the operation of military installations. The impact of this spending is felt across the state, in salaries and benefits paid to military personnel and retirees, defense contracts and tax revenues.

State legislatures are critical in managing relations between the military and surrounding communities, especially regarding issues of mission change, growing local development and incompatible land uses that may threaten the military's ability to operate effectively.

This report—produced by NCSL with support from the DOD Readiness and Environmental Protection Integration (REPI) Program—highlights the impact of the military on state economies and provides state policy options to support military-community cooperation and address challenges that may arise as the division between military and civilian areas narrows. The strategies presented in the report are intended to help states sustain the presence of military missions and ensure that communities continue to benefit from all the military provides, not only in terms of economic development and jobs, but also advancing conservation and resilience goals.

Topics covered include state legislative committees addressing military topics; military advisory groups; commanders councils; land use planning; climate resilience; compatible energy development; land conservation; real estate disclosure; noise control; light pollution; and state investments.



Army soldiers walk back to their barracks at the Army Mountain Warfare School in Jericho, Vermont. (Getty Images)



Naval Air Facility El Centro in El Centro, California. (Daniel Knighton/Getty Images)

## Military Installations in the States

All states have a military installation located within their boundaries. The states with the most [installations](#) are California, Florida, Georgia, Maryland, Texas and Virginia. In addition, of the [1.3 million](#) active duty personnel [stationed](#) within the United States in 2022, over half were located in seven states—California, Florida, Georgia, North Carolina, Texas, Virginia and Washington. A large number were also located in Alaska, Colorado, Hawaii, Illinois, Kansas, Kentucky, Maryland, Oklahoma and South Carolina (at least 20,000 each).

The DOD contributes billions of dollars each year to state economies through the operation of military installations. According to an [analysis](#) by the DOD’s Office of Local Defense Community Cooperation, the defense department spent \$559 billion on payroll and contracts in fiscal year 2021, approximately \$1,684 per U.S. resident and 2.3% of U.S. gross domestic product (GDP). Spending ranged from \$475.9 million in Wyoming to \$62.7 billion in Virginia, with a median value of \$6.3 billion per state among the 50 states and the District of Columbia. Roughly two-thirds of DOD’s \$559 billion went to 10 states. On average, defense spending comprised 2.6% of a state’s GDP.

Total Defense Spending		
Rank	State	Defense Spending
1	Virginia	\$62.7 B
2	California	\$57.4 B
3	Texas	\$47.3 B
4	New York	\$30.9 B
5	Florida	\$30.1 B
6	Maryland	\$26.3 B
7	Massachusetts	\$21.3 B
8	Connecticut	\$19.3 B
9	Washington	\$19.1 B
10	Pennsylvania	\$16.5 B

Defense Spending as Percentage of State GDP		
Rank	State	Percentage
1	Virginia	10.2%
2	Hawaii	8.3%
3	District of Columbia	6.3%
4	Connecticut	6.2%
5	Alaska	6.2%
6	Alabama	6.1%
7	Maryland	5.8%
8	Kentucky	5.7%
9	Mississippi	4.3%
10	Maine	4.1%

Virginia topped the list for total defense spending by state and largest defense spending as a share of state GDP. The \$62.7 billion of defense spending in Virginia included \$42.6 billion in contract spending and \$20.1 billion in defense payrolls. Several large contractors, including Huntington Ingalls and General Dynamics, are headquartered in Virginia, which is also home to large military installations including Naval Air Station Norfolk, Joint Base Langley-Eustis and Fort Lee. Hawaii had the second largest military spending as a percentage of its GDP at 8.3%.

Defense spending helps sustain local communities by creating employment opportunities across a wide range of sectors, both directly and indirectly. Active duty and civilian employees spend their military wages on goods and services produced locally, while pensions and other benefits provide retirees and dependents a reliable source of income. States and communities also benefit from defense contracts with private companies for equipment, supplies, construction and various services such as health care and information technology.

In addition to numbers from the DOD's Office of Local Defense Community Cooperation, at least 24 states have commissioned their own study to quantify the direct and indirect effects of military presence on a state's economy. These studies allow states to better advocate on behalf of their installations and plan for future growth or restructuring. Impacts generally include salaries and benefits paid to military and civilian personnel and retirees, defense contracts, local business activity supported by military operations, tax revenues and other military spending.

The latest [report](#) from Louisiana's Military Advisory Council, published in October 2021, found that military-related spending creates \$9.64 billion in annual economic impact across all regions of the state. Economic activity associated with that spending results in more than 77,000 jobs and pays \$348.7 million in state and local taxes.

Even states with relatively small military footprints have reported significant economic gains. For example, a study of Indiana's sizable National Guard presence in 2017 found an economic footprint of 17,270 jobs, \$439.3 million in employee compensation and a \$530.7 million contribution to the state's GDP.

## The Military's Evolving Context

The context in which the military operates is ever-changing. Numerous threats and factors identified by DOD require special attention now and in the coming years to ensure that national security, military operations and a good quality of life for military personnel are upheld.

### NATIONAL DEFENSE STRATEGY AND BUDGET PROCESS

Published every four years, the [National Defense Strategy](#) (NDS) is prepared by the Office of the Secretary of Defense and outlines how DOD will achieve the objectives of the President's National Security Strategy in order to maintain security and prosperity worldwide.

The [2018 NDS](#) recognized an increasing global disorder, creating a security environment more complex and volatile than any we had experienced in recent memory. Inter-state strategic competition, not terrorism, was identified as the primary concern in U.S. national security. The [2022 NDS](#) focuses on the challenge of China and the Russian invasion of Ukraine, the concept of [integrated deterrence](#) in terms of cyber, space and other non-traditional domains, and the effect of changes in global climate and other dangerous transboundary threats.

While the NDS is only made publicly available every four years, the DOD engages each year in a budget process to produce the [National Defense Authorization Act](#) (NDAA) that must be approved by Congress. The annual process serves as the framework for DOD civilian and military leaders to decide which programs and force structure requirements to fund based on strategic objectives. The FY 2023 NDAA [authorized](#) \$857.9 billion, including \$816.7 billion for DOD programs and \$30.3 billion for national security programs in the Department of Energy and the Defense Nuclear Facilities Safety Board.



## CRITERIA FOR BASING DECISIONS

While mission requirements will remain the top priority for where a mission is based, the Air Force has developed a process to include the needs of military families in its decision-making process. In 2020, the Air Force approved [criteria](#) to assess state's policies for occupational license portability and support for military children in the public education system as part of its strategic basing process. The addition of these criteria will ensure that locations under consideration for basing are sufficient to meet the needs of military families who relocate frequently. The other services employ different decision-making processes for basing, referred to as stationing by the U.S. Army and [homeporting](#) by the U.S. Navy.

## CLIMATE ADAPTATION

The DOD has identified climate change as a critical [national security issue](#) and is integrating climate considerations into policies, strategies and partner engagements. Extreme weather events already cost the department billions of dollars and are degrading mission capabilities, compromising training lands, infrastructure and public safety.

In 2019, DOD [examined](#) climate vulnerabilities at numerous military installations across the country. Of the 79 sites surveyed, over two-thirds were deemed vulnerable to future recurrent flood and more than half to future droughts and wildfires. These extreme weather events cause [damage](#) to defense facilities that undermine their operational capacity. From 2017-2021, more than 10 DOD bases were [impacted](#) by natural disasters and extreme weather events resulting in over \$13 billion in damages. Hurricane Michael devastated [Tyndall Air Force Base](#) in 2018, damaging training ground, spoiling valuable equipment and creating hazardous conditions for personnel. This event prevented military units from training and led to almost \$5 billion in repairs, diverting resources away from other critical efforts. In addition to hurricanes, wildfires have forced evacuations at bases in the western U.S. and flooding in the Midwest damaged facilities home to key warfighting capabilities.

The 2021 DOD [Climate Adaptation Plan](#) serves to “ensure that DOD can operate under changing climate conditions, preserving operational capability and enhancing and protecting the natural and man-made systems essential to the Department’s success” to help ensure national security. The plan contains five major Lines of Efforts, each with an intended strategic outcome: (1) climate-informed decision-making; (2) train and equip a climate-ready force; (3) resilient built and natural infrastructure; (4) supply chain resilience and innovation; and (5) enhance adaptation and resilience through collaboration. The plan [identifies](#) the DOD Readiness and Environmental Protection Integration (REPI) Program and the Sentinel Landscapes Partnership as integral to lines of effort three and five.



A military police officer walks near a destroyed gate in Tyndall Air Force Base, in Florida in the aftermath of Hurricane Michael on October 12, 2018. (Brendan Smialowski/AFP via Getty Images)



Sergeant Thorin Brant of the Kentucky National Guard carries two children from a helicopter during a recon and rescue mission on July 30, 2022 after heavy flooding in South Fork, Kentucky. (Michael Swensen/Getty Images)

## State Role in Military Operations

While states must be constantly aware of changes at the federal level, they also have a unique role in military administration.

Over 470,000 [National Guard](#) troops live and serve in 3,000 communities across the country. The National Guard has a dual mission—each soldier or airman is a member of both the state National Guard and the U.S. Army or U.S. Air Force. When National Guard units are not mobilized under federal law, they report to the governor of their respective state, territory or the commanding general of the District of Columbia National Guard. Each National Guard organization is supervised by the adjutant general of the state or territory.

The National Guard is a unique reserve force with both state and federal responsibilities. At the state level, the National Guard provides protection of life and property and preserves peace, order and public safety. Governors, as state commanders-in-chief, can activate and deploy the National Guard in response to state and local emergencies such as natural disasters, riots and civil unrest.

The governor delegates authority for carrying out state active-duty missions to the [adjutant general](#). As the head of the state military department, the adjutant general also acts as the governor’s designated homeland security advisor in many cases. Adjutants general usually serve a term concurrent with the term of the appointing governor and typically are the senior military official in the state or territory, although specific terms and qualifications are set by the legislature and vary by state.

The National Guard’s federal mission is to maintain well-trained units available for prompt mobilization during war and provide assistance during national emergencies. Under federal law, National Guard personnel can be activated to either “full-time National Guard duty” (U.S. Code, Title 32) or “active duty” (U.S. Code, Title 10). When a National Guard unit is federalized, it is moved from state command to the DOD and placed under a U.S. Army or U.S. Air Force command.

The past two years have been extremely [busy](#) for the National Guard. In 2020, a combination of natural disasters, civil disturbances, election support, COVID-19 pandemic response and federal deployments saw the National Guard used more and for longer than at any time. Many of these issues extended into 2021 and 2022, along with new ones such as the teacher shortage and the Russian invasion of Ukraine.



# Encroachment and Compatible Land Use

The DOD relies on access to land, airspace, sea space and frequency spectrum (of light, sound and telecommunications) to provide its forces a realistic training environment that will prepare them to face combat and complex missions around the globe. For this reason, many military installations were strategically located in relatively isolated areas, surrounded by agricultural or other undeveloped land, which allowed accommodation of evolving mission requirements with few constraints. Following World War II, however, both people and businesses began moving closer to installations to take advantage of job opportunities and provide the goods and services needed to support the installations' operations.

## POTENTIAL CONSTRAINTS TO MILITARY MISSIONS

The term “[encroachment](#)” refers to any external factor that inhibits military readiness, including, but not limited to, the growing competition for land, airspace, waterfront access, and frequency spectrum. Incompatible land uses, often in the form of urban sprawl, can impact critical military mission capabilities at different scales over time. Increasingly, land uses far away from the installation and range boundaries can also have an impact on the military's ability to train, test and operate. Encroachment can take many forms:

- Land development that destroys or fragments endangered species habitat pushes those species onto less developed military lands, resulting in increased restrictions on training and testing land.
- Lights from residential and commercial development reduce the effectiveness of night-vision training.
- Complaints about the noise, dust and smoke generated by military activities result in restrictions on the timing, frequency and type of training activities.
- Competition for frequency spectrum interferes with mission readiness.
- Communication towers, wind turbines, highways and energy transmission lines near or through training areas all hinder realistic training and testing.
- Changing climate conditions, ranging from severe flooding to catastrophic wildfire, threaten training lands, infrastructure and public safety.

Whenever possible, the military works around these issues by modifying the training timing, tempo, location and equipment. For example, the military may limit night-time artillery practice to reduce noise or change flight paths to lessen the risk of accidents over residential areas. However, these workarounds are becoming increasingly difficult and costly, which has contributed to elimination of training activities in many locations. If military installations are to remain active and contributing economic participants in their communities, they must have the space necessary to successfully accomplish their test and training missions.



Members of the 2nd Stryker Brigade Combat Team fire a Javelin missile from a Stryker Infantry Carrier Vehicle during a live-fire training exercise on April 28, 2022 in Fort Carson, Colorado.

## CHALLENGES FOR SURROUNDING COMMUNITIES

In addition to civilian development moving closer to military installations, installations may grow in terms of the size of forces, the intensity and frequency of training exercises, or the acreage of the property. These changes can create challenges for communities that previously had coexisted with their military neighbors for years. For example, low flying military aircraft create the potential for both noise and accidents during take-off, landing and training exercises. Likewise, ground-training exercises generate impact noise that can adversely affect nearby residents. Local communities may also be faced with increased stress on public infrastructure and services, including transportation, health systems, wastewater treatment, housing and schools.

## INSTALLATION RESILIENCE

Climate change and extreme weather events are an increasingly [concerning](#) form of encroachment that threaten military activities in numerous ways. Desertification, drought, coastal and riverine flooding, thawing permafrost and wildfires all have an [impact](#). These conditions amplify operational demands on the force, degrade installations and infrastructure, increase health risks to service members and could require modifications to existing and planned equipment.

Military installation resilience is defined in 10 U.S.C. §101(e)(8) as: “the capability of a military installation to avoid, prepare for, minimize the effect of, adapt to, and recover from extreme weather events, or from anticipated or unanticipated changes in environmental conditions, that do, or have the potential to, adversely affect the military installation or essential transportation, logistical, or other necessary resources outside of the military installation that are necessary in order to maintain, improve, or rapidly reestablish installation mission assurance and mission essential functions.” With increased authority from Congress, the REPI Program is now able to fund projects that utilize [nature-based solutions](#), in addition to [land conservation](#) and other tools to reduce encroachment.

# Importance of Action

The effects of encroachment on both military installations and surrounding communities will almost certainly become more serious if left unattended. While many federal agencies and programs provide assistance to states and installations that are working to maintain readiness, the responsibility for managing community growth and development rests with state and local governments.

## FEDERAL

The DOD has long recognized the effects encroachment has on its ability to maintain readiness and has implemented a variety of programs to help states, installations and surrounding communities address and manage these effects. The [REPI Program](#) is one that the DOD has continued to expand over the past decade. Created in the 2003 NDAA, REPI is authorized to enter into cost-sharing partnerships with states, local governments and nongovernmental organizations to acquire conservation easements and other land interests that create buffer areas around military installations. Through FY 2022, the DOD has [secured](#) \$1.24 billion with over \$1.13 billion in non-Department partner contributions to protect roughly 1.18 million acres of land at 120 locations across 35 states and territories to preserve key operational assets, infrastructure and capabilities. With expanded authority from Congress, REPI is also [funding](#) off-base nature-based solutions, such as wildfire risk mitigation and living shoreline construction, designed to protect critical infrastructure, military personnel, and testing or training operations from the impacts of climate change. The recipient of REPI funds can use such funds as the [match](#) or cost-sharing requirement for any conservation or resilience program of any federal agency.

Another DOD office addressing encroachment threats is the [Office of Local Defense Community Cooperation](#) (OLDCC), formerly Office of Economic Adjustment. Since 1961, OLDCC has helped communities in all 50 states and several U.S. territories develop comprehensive strategies to adjust to defense industry cutbacks, base

closures, force structure realignments, base expansion and incompatibilities between military operations and local development. An example of this working partnership is the [Installation Resilience](#) program, which provides technical and financial assistance to states and local governments to study and recommend land use policies designed to balance community and military needs. In more recent years, this program has expanded the technical assistance to include [Military Installation Resilience Reviews](#), encompassing the previous Compatible Use/Joint Land Use Study program as well as the recently authorized Installation Resilience Authority.

The DOD has also been working closely with the U.S. Department of Agriculture, Department of the Interior, various state and local governments, and non-governmental organizations since 2013 on an initiative called the [Sentinel Landscapes Partnership](#). The partnership aims to advance mutually beneficial land use

**THE SENTINEL LANDSCAPES PARTNERSHIP** allows states to capitalize on the linkage between national defense, conservation and working lands. Each sentinel landscape is anchored by at least one military installation or range, encompasses agricultural and forested lands, and addresses natural resource restoration and resilience objectives. To date, the partnership has designated 11 locations across the country as sentinel landscapes. States include Arizona, Florida (2), Georgia, Indiana, Maryland, Minnesota, North Carolina, South Carolina, Texas and Washington. The [South Carolina Lowcountry Sentinel Landscape](#) was designated in March 2023. Altogether, sentinel landscape partners have worked with landowners to [permanently protect](#) over 610,000 acres of land and implement sustainable management practices on an additional 3.1 million acres around high-value military testing and training areas.



Northwest Florida Sentinel Landscape (image courtesy of [sentinellandscapes.org](#))

The [Georgia Sentinel Landscape](#) has been particularly effective in protecting longleaf pine forests and the gopher tortoise populations that depend on them for habitat. If the tortoise declines to the point of being listed under the Endangered Species Act, DOD installations and ranges throughout the Southeast could be subject to increased regulation leading to mission hindrance and added costs. As a sentinel landscape, partners have been able to collaborate and align [resources](#) to acquire conservation easements and expand on current prescribed burn efforts on private lands containing longleaf pine ecosystems—more than could have been realized alone.

Both Minnesota and North Carolina have explored the possibilities of sentinel landscapes through legislation. In 2015, Minnesota [House Bill 283](#) established a coordinating committee to identify lands around Camp Ripley, a premier U.S. National Guard post, that met the criteria of a sentinel landscape. Their efforts resulted in official designation by the Partnership in July 2016. North Carolina's sentinel landscapes committee (2017 SB 131) is charged with developing programs and strategies that protect working lands in the vicinity major military installations or other areas of strategic benefit to national defense.

objectives in designated project areas known as sentinel landscapes. The partnership accomplishes this mission by connecting private landowners in sentinel landscapes with government assistance that offset the cost of implementing sustainable management practices or conservation projects on their properties.

## STATE

Although military installations are federally owned and operated, state legislatures can help support strong and lasting relationships between the military and communities. An increasing number of state legislatures have recognized the importance of protecting test, training and operational mission viability by preventing encroachment and promoting compatible land uses around installations. In addition, states have recognized that these actions have a positive impact on neighboring communities, local economies and wildlife habitat.

NCSL's [Task Force on Military and Veterans Affairs](#) meets several times each year to study these and other military and veterans' issues of great importance to states. Members of the task force, as well as outside partners, frequently note its importance as a vehicle to enable state legislators to better understand and act on topics of concern to DOD and the military communities in their districts. In addition to full-day policy discussions, the task force conducts site visits at bases around the country to raise awareness among state legislators on mission sustainment issues. Recent visits have included Naval Base Kitsap, Marine Corps Base Hawaii and U.S. Indo-Pacific Command, Naval Amphibious Base Coronado, Marine Corps Base Quantico, Joint Base Lewis-McChord, Buckley Air Force Base, Joint Base Elmendorf-Richardson and Walter Reed National Military Medical Center. The task force has also developed a number of policy resolutions to guide the work of NCSL's Washington, D.C.-based office in representing the voice of the states in the federal system. These include resolutions to support a funding increase for REPI; clarify and support the use of DOD matching funds; support a permanent tax deduction for conservation easements; preserve federal funding for the National Guard; and support the federal Farmland Protection Program.

NCSL is also involved in disaster resilience, bringing together state legislators, legislative staff and other stakeholders for initiatives such as the [State Resilience Policy and Practices Legislative Cohort](#), [Public-Private Partnership on Disaster Mitigation](#) and individual meetings around flood policy, budgeting, insurance, and more.

## State Policy Options

The remaining sections of this report cover a wide range of state policy options to facilitate military-community cooperation and address encroachment and other land use issues. Many of these policies have been examined in great detail by the NCSL [Task Force on Military and Veterans Affairs](#), along with a significant number of states across the country.

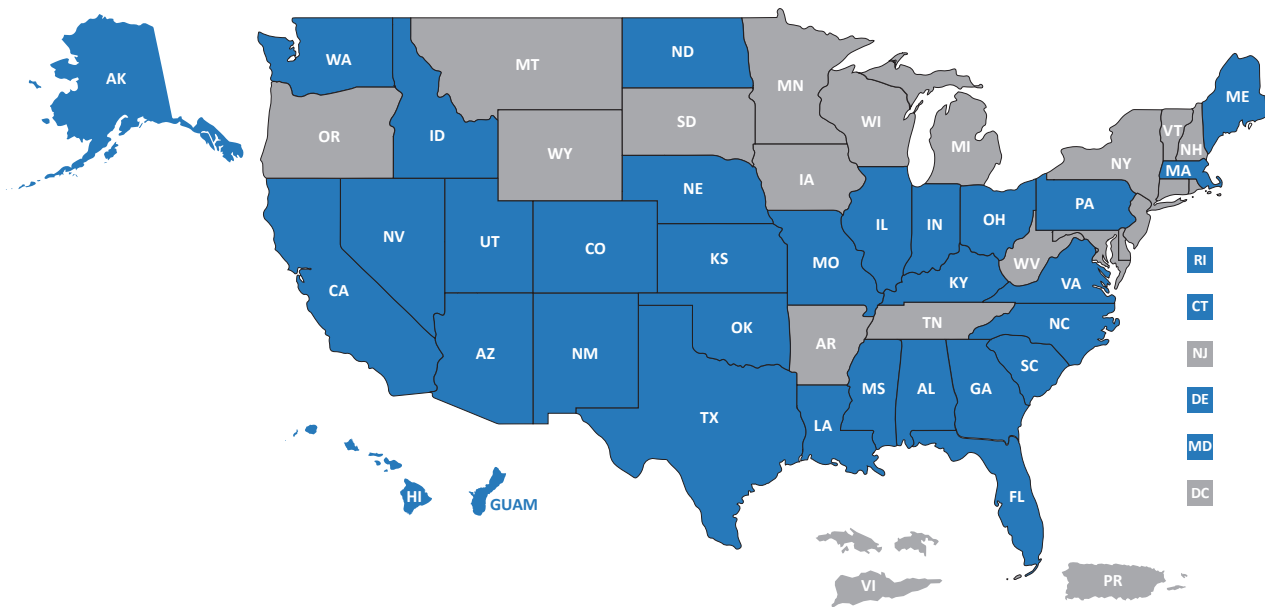
The policies described below originate in state legislative committees with jurisdiction over military, defense and veterans' affairs. Virtually every state legislature has such a committee(s), though the names and topic areas vary by state.

For example, the Washington Legislature established a [Joint Committee on Veterans' & Military Affairs](#) in 2001 to study issues related to veterans, active military forces, the national guard and reserves, as well as the structure and administration of the department of veterans affairs and the military department. Massachusetts also addresses these issues through a joint House-Senate committee. Many states have separate committees, such as the [Georgia Senate Committee on Veterans, Military and Homeland Security](#) or the [Connecticut House Committee on Veterans Affairs](#). Finally, some state legislative committees combine military affairs with a variety of other often unrelated topics. For example, the [Vermont House Committee on General, Housing and Military Affairs](#) deals with alcoholic beverages, housing, claims against the state, labor relations, military matters and "all matters relating to subjects for which there is no other appropriate committee."

## MILITARY ADVISORY GROUPS

State and local support for the military is important to reduce or avoid encroachment threats. Military advisory groups evaluate a state's military missions, installations and personnel and recommend policies to

## States with military advisory groups



protect and enhance them. At least 36 states and Guam currently have such a group, which is often termed a commission, council or task force. The vast majority were created in the last 15 years, either through legislation or by executive order.

Military advisory groups can perform a number of functions. Most often, they serve as a liaison between the legislature, military installations and surrounding communities and are tasked with identifying the consequences of encroachment and making recommendations for future legislative action. Advisory groups also can review current policies, assist defense communities with programs that strengthen their relationship with nearby installations, conduct studies to support military activities and disburse public funds for projects related to that enhance military value.

The number of members on a military advisory group varies widely, from six to 43 members, both voting and non-voting (ex officio). They are comprised of a broad range of stakeholders, including state legislators, the lieutenant governor, adjutant general, heads of relevant state agencies, city and county officials, local business leaders, and active duty or retired military officials.

### Examples:

- The Arkansas Military Affairs Council was established by the legislature in 2021 (SB 163). Twelve members will work with the Economic Development Commission to help safeguard and strengthen the mission capability of the state's five military installations, develop policies to address the needs of military families and assist recently discharged veterans so that they may continue to work and live in the state.
- The California [Governor's Military Council](#), established in 2013 and extended until 2026 through state legislation, "provides insight and guidance to state leaders who are developing a strategy to support and grow military operations in the Golden State."
- The [Florida Defense Support Task Force](#), created by the legislature in 2011, is charged with preventing encroachment from impacting mission capabilities, maintaining and expanding the missions of the state's military installations, improving transportation access to installations, assisting installations in meeting DOD renewable energy goals, and strengthening state support for military families and veterans. The task force received appropriations totaling \$2 million for Fiscal Year 2020-21 to preserve and promote the state's military installations and missions.



- The [Kentucky Commission on Military Affairs](#) was formed in the 1990s as an independent agency attached to the office of the governor (Ky. Rev. Stat. §154.12-203). The commission addresses all matters of military significance, the goal of which is to be the most military and veteran friendly state in America. Areas of focus include advising and synchronizing efforts with partners, protecting and growing military missions, expanding defense-related infrastructure and assisting transitioning service members, veterans and spouses.

### Commanders Councils

Commanders councils—comprised of the commanders of military installations in a state or region—have proven useful in strengthening military, state and community relationships. They provide a central source of information for state government and local communities and serve as a forum to exchange ideas on policies that affect the military and mission readiness. Commanders councils exist in at least seven states—Arizona, Florida, Mississippi, New Jersey, North Carolina, Texas and Washington.

The North Carolina Commanders Council (NCCC) was established in 2008 to serve as the DOD’s primary contact with the state. The council works with the state to address the challenges facing military installations and military service members and their families. The council has recognized that the various effects of [encroachment](#) pose a significant challenge, particularly incompatible development, restrictions on the use of airspace and coastal areas, and radio frequency disturbances. In 2012, the governor signed an [executive order](#) directing the secretary of each cabinet agency to designate a military affairs awareness coordinator to monitor commanders council activities and inform them of any agency initiatives that might affect military operations. The 2020 strategic plan published by the North Carolina Military Affairs Commission calls for coordination with the NCCC to identify potential new military missions or other opportunities.

The Texas Commanders Council (TCC) operates in much the same way. Formally established by the Legislature in 2013, the council plays a vital role in facilitating intergovernmental dialogue between all branches of service and the state. The law requires members of the Texas Military Preparedness Commission to meet with the TCC at least once each year to discuss the challenges facing military installations and to develop innovative solutions to improve the military climate in the state (Tex. Gov’t. Code §436.101). At the [2020 Texas Military Summit](#), the TCC highlighted the following encroachment issues: incompatible land and airspace use; urban lighting impacts to night training; frequency spectrum interference on weapons systems and navigation; and endangered species on federal lands curtailing training capability. The TCC works to not only mitigate these encroachment concerns, but also to further military-family resilience at the state and local levels.

### Legislative Caucuses and Other Advocates

In addition to standing committees on military and veteran affairs, several states have formed legislative caucuses with a narrower focus on the aerospace industry or other aspects of defense. Such caucuses exist in at least four states—[Arkansas](#), Colorado, [Michigan](#) and [Oklahoma](#). The [Colorado Aerospace and Defense Caucus](#), for example, was formed by the legislature in 2015. The group works to raise awareness of the state’s role as a leader in aerospace and meets monthly to provide a forum for discussion and action on key aerospace topics such as space exploration, cybersecurity and workforce development. Working closely with the caucus is the state’s [Aerospace and Defense Industry Champion](#) a position created by the governor in 2013 to help local aerospace and defense contractors identify business opportunities and navigate future military base closures and changes.

Similar to Colorado, [Washington](#) has created a structure to promote and enhance its military installations and defense related assets through the Department of Commerce. As the second largest employer, behind the state itself, defense is a key industry bolstered by diverse military missions, innovative companies and military-friendly communities.

In 2015, the Missouri General Assembly added an [Office of the Military Advocate](#) to its Department of Economic Development (Mo. Rev. Stat. Ann. §41.1012). The governor-appointed advocate serves as a liaison between state and federal branches of government, provides enhanced communication to installation communities, and serves as the Executive Director of the [Missouri Preparedness and Enhancement Commission](#), formed in 2005 (Mo. Rev. Stat. Ann. §41.1010).

## LAND USE PLANNING

Through land use planning, the military can be assured that its operations will not be jeopardized, while communities can continue to benefit from the jobs and other opportunities the military provides. Although development decisions are made primarily at the local level, the state legislature sets a framework in most states for how local entities carry out land use planning processes.

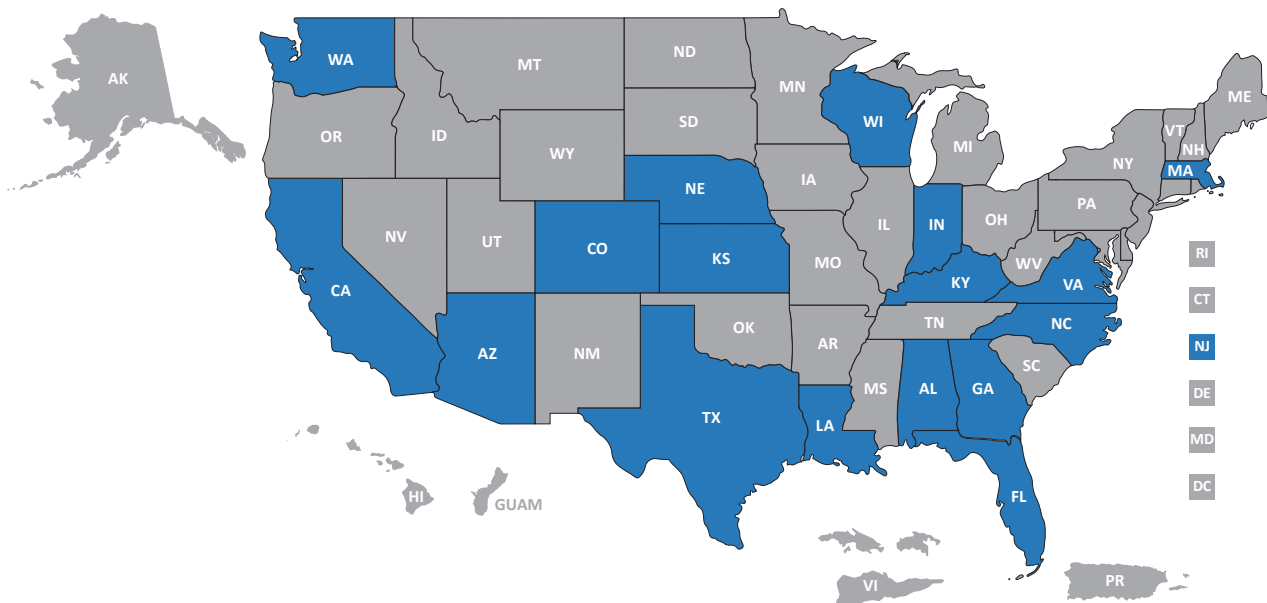
### Communication and Notification

One method states can use to promote compatible land use near military installations is to include all involved parties in the planning process. Many states have given the military the opportunity to participate in local land use planning, which helps local officials understand the effects of incompatible development on quality of life in communities and on military operations. At least 18 states require at a minimum that local governments notify nearby military installations of proposed land use changes. This formalized process can strengthen lines of communication and help avoid any unintentional conflicts. Methods for including the military in local land use planning include creating or expanding procedural requirements to provide military installations with notice of proposed land use changes; creating a mechanism for the military to make comments on proposed land use changes; and allowing for military representation on state or local zoning boards.

The North Carolina General Assembly enacted legislation in 2013 requiring local governments to provide written notice to the installation commander of proposed changes to a zoning ordinance between 10 and 25 days before a public hearing if the change would affect the permitted uses of land located within five miles of a military base. If the military provides comments regarding the ordinance's compatibility with military operations at the base, the board of commissioners must consider the comments and analysis before making a final determination on the ordinance.

In 2016, New Jersey bolstered notice provisions contained in its Municipal Land Use Law and the State Planning Act to facilitate a greater exchange of information between military installations, the state and local governments. Specifically, Senate Bill 1992 requires the Military and Defense Economic Ombudsman to encourage military installation commanders and local stakeholders to maintain open lines of communication and engage in long-term strategic planning, including Joint Land Use Studies.

### States that require local governments to notify nearby military installations of proposed land use changes





Naval airstation hangars in San Diego . (Getty Images)

### **Incorporation into Local Land Use Plans**

States delegate to local governments the responsibility to develop and implement land use planning documents and zoning regulations. “Comprehensive plans,” also known as general plans or master plans, are the foundation for local land use planning and serve as a blueprint for the growth and development of a community over time. In most cases, a comprehensive plan consists of diagrams or maps illustrating the location of existing land uses, as well as written text outlining development goals for a range of uses such as housing, transportation, utilities and recreation. While planning occurs at the local level, states play a role in directing the planning process. Most states require local governments to complete a comprehensive plan, although some are more prescriptive than others in regard to its content.

Local planning and zoning ordinances can be used to resolve land use issues near military bases, and state legislatures can require that lands near boundaries of these areas be set aside only for compatible uses. At least 12 states—Arizona, California, Colorado, Florida, Kansas, Kentucky, Nevada, New Jersey, South Carolina, Texas, Virginia and Wisconsin—require or encourage municipalities to anticipate future growth patterns near military installations and include policies or guidelines to account for this growth in their comprehensive plans. This type of proactive land use planning can help channel new growth into appropriate areas and enhance communication with nearby military installations.

Legislatures in California and Kentucky recognized the need for more consistent land use planning around military installations in the early 2000s. Laws in both states require local governments to consider the effects of future growth on military activities in their planning documents and obtain information from military authorities to accurately determine the needs of each installation. Municipal master plans in New Jersey must contain existing and proposed locations of military facilities and incorporate strategies to minimize encroachment. Other states are less descriptive, yet still encourage some consideration of installation needs.

State agencies can also take military needs into account as they develop long-term plans. For example, Colorado enacted legislation in 2016 requiring regulators to identify and consider the transportation infrastructure needs of military installations in the statewide transportation plan.

## Compatible Land Use Requirements

State legislatures also can require local governments to restrict or prohibit incompatible development around installations and military airports. At least nine states—Arkansas, Arizona, Illinois, Missouri, North Carolina, Oklahoma, South Dakota, Utah and Washington—have such laws.

Most laws address the importance of preventing certain land uses near military airfields or airports. For example, South Dakota authorizes municipalities to adopt zoning regulations around military airports to prevent creation of a military airport hazard, defined as any structure that obstructs the air space required for taking off or landing or that interferes with systems used for tracking or acquiring data. Regulations may specify the land uses permitted and regulate the type, density and height of structures in the area.

In addition to military airports, a 2018 Missouri law relates to zoning around National Guard training centers ([House Bill 1504](#)). It allows counties to adopt ordinances regulating incompatible land uses and structures within all or any portion of the unincorporated area extending up to 3,000 feet from the boundaries of any National Guard training center if the county has participated in a joint land use study. Regulations may affect density, lot size, outdoor lighting, land use, construction standards and subdivision of land.

Other states encourage compatible land use development around all military facilities. Under North Carolina's Military Lands Protection Act, no municipality is permitted to authorize construction of a tall building or structure in any area surrounding a major military installation unless otherwise certified by the Building Code Council. The law instructs the council to deny applications for certification where construction of the building would encroach upon the mission, training or operations of an installation and result in a detriment to continued military presence in the state. The law also allows for civil penalties and prohibits providing certain utility services to any building constructed in violation of the law.

Utah enacted legislation in 2023 ([HB 265](#)) requiring municipalities and counties to develop a compatible use plan to ensure proposed land uses within a certain distance of military land are compatible with military uses. The state department of veterans and military affairs must be notified of land use applications relevant to military land and have the opportunity to evaluate the proposed land use for compatibility with military operations.

Still other options exist for encouraging compatible land use. Illinois grants any county with a U.S. Air Force installation of a certain size the authority to control the use of land around the airport to protect the safety of the community. The county's authority is limited to the area designated in the Air Installation Compatible Use Zone Study. If the municipality approves a land use that is incompatible with the Air Force study, the law gives the county the option to use eminent domain to acquire the affected land.

## Special Designation for Military Areas

Several states have existing statutory authority to assign an elevated status in planning documents to certain types of land. Development within these "areas of critical state concern" is monitored by state agencies and local governments to ensure that each proposed use is compatible with the land's unique traits. Most lands protected in this manner are environmentally sensitive regions such as wetlands, aquatic preserves and wilderness areas, one of the earliest and largest being Adirondack Park in New York. Other states with statutes designating environmentally sensitive regions as areas of concern include California, Florida, Georgia, Maryland, Massachusetts, Minnesota, Nevada, North Carolina, Vermont and Wyoming. Some of these states—such as California, Florida and Minnesota—also protect areas with historic, archaeological or aesthetic significance.

To prevent uncontrolled development, military bases and operating areas can be recognized as critical areas and state legislatures can require that lands near boundaries of these areas be set aside only for compatible uses. At least three states—Indiana, Kansas and Montana—have laws to this effect. Indiana enacted [Senate Bill 332](#) in 2023 establishing a state area of interest comprised of land within three miles of certain military installations and/or within a military impact zoning district, i.e. an area adversely impacted by the effects of military operations. The law makes planning, zoning and development activity in a state

area of interest subject to the military installation commander’s determination regarding the activity’s impact on military operations.

Kansas law designates areas located either wholly or partially within defined military zones as “state areas of interest” vital to national security and the economic well-being of the state. The law requires representatives of military installations and municipalities to meet at least annually to determine whether any portion of the area of interest can be classified as a “critical area,” defined as any area where future use is determined jointly between the military installation and the municipality. Critical areas should be managed to reduce potential conflicts due to competing uses.

Montana’s law allows municipalities to designate “military affected areas,” which can include land used for military purposes as well as land near and installation. The law establishes a permit system for all land use changes within military affected areas and prevents granting permits for incompatible uses. Several counties have designated military affected areas in the past five years.

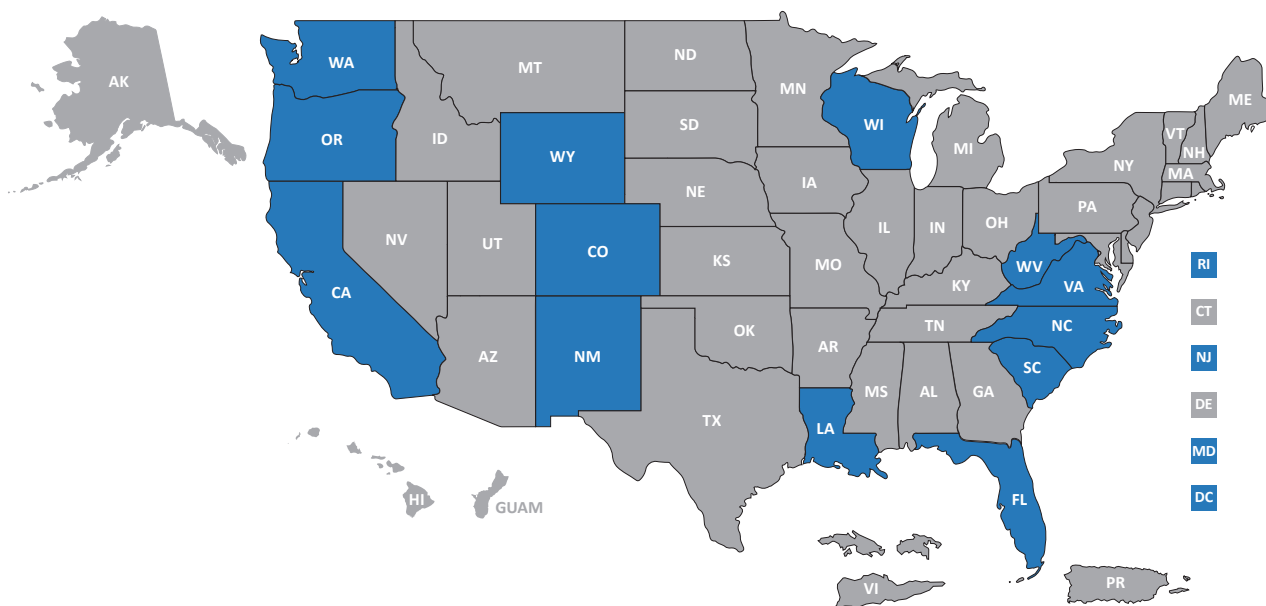
## CLIMATE RESILIENCE

The increased frequency and severity of natural disasters nationwide has affected military installations vulnerable to flooding, wildfire and drought. State policies that facilitate planning, generate funding or prioritize [nature-based solutions](#) can help installations and communities prevent, prepare for, and recover from extreme weather events. Traditional built or “gray” infrastructure also plays a role in preparing for and lessening the impact of severe climate events.

### Planning

As states face increasing costs from the broad range of impacts related to natural disasters, many are taking a more strategic approach and creating offices to better coordinate their efforts. At least 16 states and the District of Columbia have designated a chief resilience officer (CRO) and/or created a resiliency office. Many CROs were [created](#) following a disaster (ex. Hurricane Florence in North Carolina in 2018) as states looked to have a singular point of contact for distribution of funds and other recovery tasks. Other CROs were created and tasked with designing resilience plans, as was the case in Virginia, New Jersey and Rhode Island. Resiliency offices also exist in major metropolitan areas, including [Austin](#), [Honolulu](#) and [New York City](#).

### States that have designated a chief resilience officer and/or created a resiliency office





CROs and their offices play a key role in tackling the complex issues involved in resilience planning, risk management and implementation. The [Colorado Resiliency Office](#) is housed in the Department of Local Affairs, a unique agency among states that is tasked with strengthening local communities. The office relies on a systems-based definition of resiliency: “the ability of communities to rebound, positively adapt to, or thrive amidst changing condition or challenges, including human-caused and natural disasters, and to maintain quality of life, healthy growth, durable systems, economic vitality, and conservation of resources for present and future generations” (2018 HB 1394). In 2020, the office finalized an updated [Colorado Resilience Framework](#) to provide a roadmap to the state for a more resilient future. They also offer a [Resiliency Playbook](#) for state agencies, a [Resiliency Dashboard](#) to measure and manage data, a [Rural Prosperity](#) strategy, and many other resources. In 2022, the legislature passed a bill continuing the office for 15 years (HB 1225).

Lawmakers in South Carolina enacted [Senate Bill 259](#) in 2020, moving the Disaster Recovery Office from the state Department of Administration and incorporating it into the new [South Carolina Office of Resilience](#) within the governor’s office. The office is led by a CRO appointed by the governor and confirmed by the state senate. The bill also established a [Resilience Revolving Loan Fund](#) to provide low-interest loans to eligible entities to carry out buyout programs for properties that have experienced repetitive flood loss or to complete floodplain restoration projects.

## Funding

States have also taken steps to establish their own funding mechanisms for resiliency efforts through legislative action. For example, Florida lawmakers enacted bipartisan legislation in 2022 (HB 7053) establishing the Statewide Office of Resilience within the Executive Office of the Governor and making substantial changes to its Resilience Florida Grant Program. The law authorized the use of funds to support preconstruction activities for projects in municipalities and counties of a certain size. “Preconstruction activities” occur before construction begins, including, but not limited to, design, permitting, and surveys and data collection. Colorado created two new funding programs in 2022, one providing loans and grants for home and business rebuilding following a natural disaster, and the other covering costs for disaster victims to rebuild to certain standards as determined by the Colorado Energy Office (SB 206).

In addition, the federal government has several funding mechanisms which enable states to build and maintain critical infrastructure, including dams, bridges, electric grid infrastructure and buildings, to withstand the impacts of natural disasters. By leveraging federal funding for disaster mitigation, states can strengthen the resilience of vulnerable communities and build infrastructure to withstand future disasters.

Many of the federal funding resources can also potentially be leveraged, layered and used simultaneously with other federal or non-federal sources of funds. For example, federal law permits a state that receives funding from the DOD REPI Program to use such funds as the [match](#) or cost-sharing requirement for any conservation or resilience program of any federal agency.

## Nature-Based Solutions

While infrastructure is often thought of as manmade structures and buildings, it can also include naturally occurring features, such as tidal marshes that slow the rate of erosion or healthy forests that reduce the risk of wildfires. Nature-based solutions, also known as natural or green infrastructure, can create an initial [line-of-defense](#) for DOD’s built infrastructure by amplifying existing ecological benefits in a cost-effective and sustainable way. Constructing living shorelines, building retention berms, conducting soil rehabilitation, enhancing riparian buffers and recharging aquifers are just some examples of effective [nature-based solutions](#).



A prescribed burn at Fort Huachuca, an Army installation located in southeast Arizona (Source: U.S. Department of Defense)

The following is an abbreviated list of federal funding programs that may be of interest to states.

<b>Program Name</b>	<b>Agency</b>
<a href="#">Building Resilient Infrastructure and Communities (BRIC) Program</a>	FEMA
<a href="#">Flood Mitigation Assistance Grant Program</a>	FEMA
<a href="#">Hazard Mitigation Grant Program</a>	FEMA
<a href="#">Safeguarding Tomorrow Revolving Loan Fund</a>	FEMA
<a href="#">REPI Challenge</a>	DOD
<a href="#">Defense Community Infrastructure Program</a>	DOD
<a href="#">Military Installation Sustainability Program/Military Installation Resilience Reviews</a>	DOD
<a href="#">Community Development Block Grant - Mitigation</a>	HUD
<a href="#">Clean Water State Revolving Funds</a>	EPA
<a href="#">Promoting Resilient Operations for Transformative, Efficient and Cost Saving Transportation (PROTECT)</a>	DOT
<a href="#">State Energy Program</a>	DOE
<a href="#">Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency</a>	DOE
<a href="#">Preventing Outages and Enhancing the Resilience of the Electric Grid</a>	DOE
<a href="#">Community Wildfire Defense Grant Program</a>	USDA
<a href="#">Community-Based Restoration Program</a>	NOAA

#### State Examples:

- California ([2021 AB 72](#)): Requires the Natural Resources Agency to explore and implement options to establish a more coordinated and efficient regulatory review and permitting process for coastal adaptation projects that use natural infrastructure.
- Florida ([2021 SB 976](#)): Creates incentives and funding mechanisms for the Florida Wildlife Corridor. Protects wildlife and wildlife habitats, while also providing ecological connectivity of lands needed for flood and sea level rise resiliency and large-scale ecosystem functions, such as water management and prescribed burns essential for land management and restoration.
- Virginia ([2022 HB 516](#)): Requires the Coastal Resilience Master Plan to be updated at least every five years with language recognizing the importance of protecting and enhancing natural infrastructure and nature-based approaches to flood mitigation.

Arizona is making investments to benefit the military mission. Located in the Sonoran Desert, [Fort Huachuca](#) is home to premier restricted military airspace for unmanned aircraft system training, as well as the Buffalo Soldier Electronic Test Range and electromagnetic complex, supporting training for personnel across the Services. An increase in urban sprawl, electronic interference, dangerous wildfires, and drought has stressed the installation's water supply and overall mission. In response, the Arizona Land and Water Trust conducted an analysis of groundwater levels and surface flows, a survey of current irrigation and water use, and a comprehensive review of historic pumping records and water rights. It provided several recommendations to address groundwater deficits in the Upper San Pedro Basin, which will strengthen water security for Fort Huachuca and the surrounding communities. In 2020, Fort Huachuca received over \$2 million in REPI Challenge funding to protect more than 2,000 acres of working ranches and forests and mitigate wildfire risk.



Wind turbines create electricity on April 16, 2023 near Cameron, California.

## COMPATIBLE ENERGY DEVELOPMENT

As states increase renewable energy capacity and related electrical transmission to meet demand and fulfill [renewable portfolio standards](#), the expansion into previously undeveloped land may affect the military mission. While renewable energy can bring benefits to both military and civilian communities, its development may have unintended impacts on military operations by interfering with communication, airspace and test and training ranges. Often, potential impacts can occur miles from a planned development and the effects are not always apparent to developers or civilian communities.

Renewable energy facilities and transmission lines can impact low-level flight or nighttime exercises if they are located near training routes and special use or restricted airspace. [Wind turbines](#) can interfere with surveillance, air traffic control and other radar systems. High-voltage transmission lines have the potential to create electromagnetic interference, ultimately degrading military communication and navigation. Furthermore, solar systems may present hazards for air operations due to possible “[glint](#)” or longer duration “glare” reflecting off panels.

Although the DOD is a strong [proponent](#) of renewable energy, the department must ensure that wind turbines, solar panels and other infrastructure located on or near military installations are compatible with test and training activities. This need for compatibility is becoming increasingly imperative as renewable energy investment grows due to state renewable energy targets, increased demand and financial incentives.

With these considerations in mind, Congress directed the establishment of the DOD Siting Clearinghouse in [2011](#), renamed the Military Aviation and Installation Assurance Siting Clearinghouse (the clearinghouse) in 2018. The [Clearinghouse](#) works to overcome risks to national security while promoting compatible domestic energy development. It serves as the single point of contact for federal agencies; state, local and tribal governments; developers; and landowners, and provides timely, transparent reviews of proposed

energy projects to prevent or minimize operational impacts. Communication, early and often, is critical to ensure appropriate resolution of concerns that support both developers and the military.

The clearinghouse [reviews](#) of thousands of projects, the vast majority of which are found to have minimal impact on military operations and readiness. When compatibility concerns are identified, the clearinghouse works with the energy proponent to identify reasonable and affordable impact mitigation solutions. For example, the clearinghouse and a developer reached an agreement in Oklahoma recently to allow modified siting of wind turbines to lessen impacts on Sheppard Air Force Base, just over the border in Texas. This process is designed to be collaborative, rather than to deliver a final DOD position. A library of relevant reports and copies of all signed mitigation agreements are available on the clearinghouse [website](#).

At the state level, legislatures are working to prevent and mitigate energy-related encroachment on military installations early in the siting process to reduce costs, streamline the permitting process and preserve the military mission. Encroachment is often unintentional, and state and local siting authorities may not be aware of the need to include military operations in planning discussions.

Energy-related encroachment may also be exacerbated by differences in states' siting authorities. At least [22 states](#) authorize energy projects, such as wind turbines, at the county or municipal level, rather than through a state permitting office. Other states take a hybrid approach that involves approvals at the state and local levels. For example, in Minnesota, the [Public Utilities Commission](#) is the primary state-level agency responsible for larger wind facilities, while siting decisions over smaller facilities are left to local governments.

Legislatures can ensure compatibility of new energy projects with military operations through several processes, including early notification and inclusion of the DOD, ensuring any conflicts are resolved before completing permitting and construction, and adopting planning guidelines or siting ordinances with maps of military mission conflict areas. These measures can save states and localities from unplanned mitigation expenses and permitting obstacles.

Oklahoma has adopted comprehensive measures to increase coordination with military installations, beginning in 2018 with passage of [Senate Bill 1576](#). The bill prohibited the construction or operation of a wind energy facility from encroaching upon or having a significant adverse impact on the mission, training or operations of any military installation or branch of the military as determined by the Military Aviation and Installation Assurance Siting Clearinghouse and the Federal Aviation Administration (FAA). Areas of impact may include military training routes, drop zones, and approaches to runways and bombing ranges. The bill required a Determination of No Hazard from the FAA or an approved mitigation plan from DOD prior to any construction or expansion. It also required notice to the Oklahoma Strategic Military Planning Commission of intent to build a wind energy facility, at which point local base commanders and the DOD Clearinghouse would also be notified. The following year, the legislature extended the restriction around wind energy facilities not encroaching upon the military mission to include individual wind turbines. Lawmakers also added requirements for information sharing between developers and regulatory agencies and authorized an administrative penalty for non-compliance ([House Bill 2118](#)). Alabama enacted similar legislation in 2021 (SB 80), ensuring that local governments give military installations notice and an opportunity to review any proposed tall structure or wind energy facility prior to approval.

Oregon is also involving the DOD Clearinghouse early in the process. Legislation enacted in 2021 directs the state department of energy to gather input from the DOD and many others on the effects of integrating up to three gigawatts of floating offshore wind energy into Oregon's electric grid on reliability, state renewable energy goals, jobs, equity and resilience ([HB 3375](#)).

Wind turbines near nuclear missile launch facilities can also present [conflicts](#) as helicopters attempt to provide overhead security in these sensitive locations. Wyoming addressed this in 2020 with [Senate Bill 36](#), which requires that the military be notified and prevents development within two nautical miles unless certain documentation is provided.

Finally, legislatures can also collaborate with military entities on renewable energy research and development or assist with military self-generation goals by streamlining the process for renewable energy facilities



on military lands. For example, Hawaii enacted [House Bill 1513](#) in 2015, which established a program to provide matching funds for entities that have contracted with DOD's Office of Naval Research on renewable energy and development. Several states, including Kansas, Utah and Vermont, have enacted legislation in recent years to provide financial incentives or regulatory policies for increased use of renewable energy at military installations.

## LAND CONSERVATION

Protecting land around a military installation can buffer military training and testing operations from residential development and other incompatible uses. Open space also maintains habitat for threatened and endangered species. These natural landscapes can be maintained through land acquisition and conservation easements.

### Land Acquisition

At least five states—Arizona, Florida, Georgia, North Carolina and Virginia—provide regular funding for land acquisition in the vicinity of military installations struggling with encroachment. These programs operate with an understanding that the state's conservation goals often overlap with those of the Department of Defense.

Since its creation in 1996 by the [General Assembly](#), North Carolina's [Land and Water Fund](#) has conserved over 500,000 acres and protected or restored 3,000 miles of streams and rivers. The fund also supports creation of buffers around military bases, awarding over \$6 million to 11 such [projects](#) in 2021. In addition, the [Agricultural Development and Farmland Preservation Trust Fund](#), created in 2005, supports farming, forestry, and horticulture communities, which the state recognizes as compatible with military training.

Similarly, the [Florida Forever](#) program provides funding to state agencies and local governments for acquisition of conservation lands, some of which serve as a buffer around military installations. Since its inception in 2001, the program has acquired almost 870,000 acres of land. One of the more recent acquisitions in 2021 involved [2,115 acres](#) around Whiting Field Naval Air Station. The project creates a buffer around the base, while also preserving forest lands and protecting the local watershed. Florida law also allows for acquisition of non-conservation lands to buffer military installations from encroachment. In 2018, the legislature authorized the Division of State Land to acquire lands from an annual list provided by the Department of Economic Opportunity and the Florida Defense Support Task Force ([SB 1173](#)).

The [Georgia Outdoor Stewardship Program](#) is relatively new, created by the [General Assembly](#) in 2017 and approved by the voters in 2018. The program provides a dedicated funding mechanism to support parks and trails and protect and acquire lands critical to wildlife, clean water, outdoor recreation and military installation buffering across the state.

### Conservation Easements

Just as military activities are threatened by unchecked growth and development, so too are nearby working lands and wildlife habitat. Lands used for farming, ranching and forestry are vital to sustaining agricultural productivity, safeguarding natural resources and maintaining a rural way of life. Although states have implemented a wide variety of programs to preserve working landscapes, the United States still loses one million acres of farmland to development each year. In addition, the loss of wildlife habitat is transforming military bases into unlikely refuges for more than 400 threatened and endangered species.

Easements—defined as voluntary, legal agreements between landowners and government agencies or other entities that define the use of land in order to protect its agricultural or conservation values—also can be used to protect land around military installations. Lands protected through an easement can include the following: working farm, ranch or forestland; scenic vistas; wildlife habitat; watershed areas and historic sites. Millions of acres of private land in the United States are currently under conservation easements.

An easement can be an attractive option for a landowner who wishes to protect his or her land for future generations without giving up private ownership. Easements also offer great flexibility, tailoring restrictions to the needs of individual landowners and the unique features of the property. Landowners can benefit





financially through federal and state tax credits designed to compensate those who choose to donate an easement, rather than sell it. At least 15 states—Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Iowa, Maryland, Massachusetts, Mississippi, New Mexico, New York, South Carolina and Virginia—and Puerto Rico offer a conservation easement tax credit, allowing landowners to claim up to 50 percent of the fair market value of land donated to a government agency or private land trust. Five states—Colorado, Georgia, New Mexico, South Carolina and Virginia—allow credits to be transferred to individuals or corporations with high tax liability, generating immediate income for the donor.

At least 19 states—California, Colorado, Florida, Georgia, Hawaii, Illinois, Maine, Maryland, Minnesota, Nebraska, New York, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, Texas, Virginia and Wyoming—have funding programs to help state agencies and local governments purchase conservation easements. Other states, including some mentioned above, also have agricultural conservation easement programs to protect important farmland. [Pennsylvania](#) is a leader in farmland preservation, having conserved more than 545,000 acres since 1988.

Landowners may also qualify for preferential treatment in the assessment of property taxes in several states. In Maine, North Carolina and Vermont, for example, property taxes for agriculture and forest lands are based on the value of the land in its current use, rather than market value. This method allows for valuation of land based on the actual use of the property, rather than what the use might be if the property were sold or developed. This results in tax savings for the landowner. Vermont landowners have [enrolled](#) more than 18,400 parcels of qualifying forestland and farmland, about one-third of the state's total land area.

Florida ties the purchase of conservation easements to protection of military installations. Florida Forever, described earlier, encourages purchase of conservation easements in addition to outright purchase of property, largely because of the easement's lower cost to the public and ability to allow private landowners to retain ownership. The state has purchased numerous conservation easements during the past decade, including in June 2013 when they acquired a 20,850-acre easement for property adjacent to Eglin Air Force Base. The land is owned and managed by a private citizen; under terms of the easement, however, it will not be developed into new residential or commercial uses that could impede the base's mission. In 2020, \$79 million in Florida Forever funds [conserved nearly 32,000 acres](#) of land from the Florida Panhandle to Southwest Florida in a series of seven transactions.

All states except North Dakota have laws that enable creation of conservation easements. Enabling legislation typically describes the methods of creation and duration of the easement and establishes procedures for public review, registration, amendment and termination. Most states allow any federal, state or local government body to hold easements. Non-governmental entities, such as land trusts and other nonprofit conservation organizations, are also permitted to hold easements. Most easements remain with the property even if it is sold or passed to heirs, thus binding the original owner and all subsequent owners to easement conditions. The entity that holds the easement is responsible for monitoring and enforcing its terms.

## REAL ESTATE DISCLOSURE

Many communities take great pride in having a military presence nearby. However, the noise, smoke, light and other disruptions can come as a shock to potential homebuyers. State laws can assist potential buyers or renters of property near military installations in making information decisions in light of these circumstances. Disclosures also serve as a valuable deterrent to incompatible development. At least six states—Arizona, Indiana, Kansas, Maryland, Texas and Virginia—require or encourage real estate disclosures in military areas.

Arizona law requires owners of property located within defined “high noise and accident potential zones” to notify potential buyers, renters or lessees that the property is located in the zone and is subject to certain requirements under the law. The state also requires this type of disclosure on land under military training routes and restricted air space. To facilitate this process, the state real estate department and affected municipalities maintain a registry of information containing maps of military flight operations and a list of individuals who are familiar with flight operations at each airport.

Texas mandated real estate disclosure in 2017 ([House Bill 890](#)). The law requires sellers of residential property to notify buyers that the property “may be located near a military installation and may be affected by high noise or installation compatible use zones or other operations.” The notice must inform the buyer that more information can be found in the Air Installation Compatible Use Zone Study or Joint Land Use Study prepared for the installation and provide relevant links.

Indiana lawmakers passed [Senate Bill 332](#) in 2023 requiring a disclosure that property is located near a military installation, within a state area of interest, and may be impacted to some degree by the effects of the installation’s military operations and that local laws may restrict use and development of the property to promote compatibility with military installation operations.

## NOISE CONTROL

Communities adjacent to military bases frequently experience high levels of noise that can affect residents’ health, welfare and quality of life. Aircraft flights, ordnance detonations, combat engineering demolitions and artillery use are a few of the activities that can disrupt daily life in the vicinity of a military installation. The [DOD](#) works to reduce these adverse effects by promoting noise education and training, leveraging resources to ensure coordination among the military and other federal agencies, and promoting outreach to those affected by noise from military activities. The DOD established its [Noise Program](#) and the Defense Noise Working Group to address the far-reaching effects of noise generated by military activities, understanding that proactive communication and collaborative land use planning in cooperation with state and local governments can reduce or prevent impacts on the military’s ability to carry out its testing and training missions.

States can [minimize the effects of noise](#) on surrounding communities by requiring that new developments adhere to prescribed sound attenuation standards. These standards often require use of soundproofing techniques, such as building thicker walls or using additional insulation, to reduce the intensity of exterior noise.

An Arizona law enacted in 1996 requires municipalities that have territory in the vicinity of a military airport to institute sound attenuation standards for newly constructed residential houses and certain public buildings. In 2004, the Legislature extended the scope of the law to include ancillary military facilities at Luke Air Force Base and Yuma Marine Corps Air Station. Virginia enacted similar legislation in 2005, allowing

municipalities to adopt regulations requiring use of “acoustical treatment measures” for residential buildings in areas affected by above-average noise levels due to their proximity to a military airport. In developing the regulations, a locality may adopt one or more noise overlay zones as an amendment to its zoning map and may establish various measures to be installed within each zone, depending on the severity of aircraft noise.

## LIGHT POLLUTION

With the use of night-vision equipment, a significant portion of military training is now conducted at night. These exercises simulate combat situations, helping troops develop their situational awareness and ultimately minimize casualties. But increasing urbanization, combined with the excessive and inefficient use of light, has created a kind of pollution that can interfere with military training and lead to numerous other disturbances.

At least 19 states, the District of Columbia and Puerto Rico have laws in place to reduce light pollution. The majority of states that have enacted so-called “dark skies” legislation have done so to promote energy conservation, public safety, aesthetic interests and astronomical research capabilities. Municipalities in a number of states have also been active on this issue, adopting light pollution regulations as part of their zoning codes.

Most state laws are limited to outdoor lighting fixtures installed on the grounds of a state building or facility or on a public roadway. The most common dark skies legislation requires the installation of shielded light fixtures that only emit light downward. Replacement of unshielded with fully shielded lighting units often allows for use of a lower wattage bulb, resulting in energy savings. Other laws require the use of low-glare or low-wattage lighting, regulate the amount of time that certain lighting can be used, and incorporate Illuminating Engineering Society guidelines into state regulations.

Known as a worldwide hub for astronomy, Arizona’s light pollution law dates back to 1986. The law requires all outdoor light fixtures to be fully or partially shielded, with the exception of emergency, construction and navigational airport lighting. Fixtures not in compliance must be extinguished by automatic device between the hours of midnight and sunrise.

Other states have sought to encourage local action. New Hampshire, for example, has made it a priority to preserve dark skies as a feature of rural character. In addition, the effect of beachfront lighting on avian and marine life is a concern in many coastal states. In Florida, a statewide model lighting ordinance guides local governments in developing policies to protect hatching sea turtles.



Courthouse Butte just north of the Village of Oak Creek, Arizona. (Thomas O’Neill/NurPhoto via Getty Images)

Texas is the only state with a law specifically aimed at reducing light pollution around military installations. In 2007, the legislature authorized counties, at the request of the military, to adopt measures governing the use of outdoor lighting within five miles of a military installation. Counties may accomplish this goal in a number of ways: (1) require that a permit be obtained before installing certain types of lighting; (2) prohibit the use of particular lighting fixtures; (3) establish requirements for the shielding of outdoor lighting; or (4) regulate the times during which certain types of lighting may be used.

In 2011, Missouri lawmakers considered, but did not pass, the Night Sky Protection Act, which would have reduced the amount of light emitted into the night sky in designated military training areas and would have required the state Air Conservation Commission to develop voluntary guidelines to achieve specified standards by 2050. A similar bill was considered in Kansas in 2009.

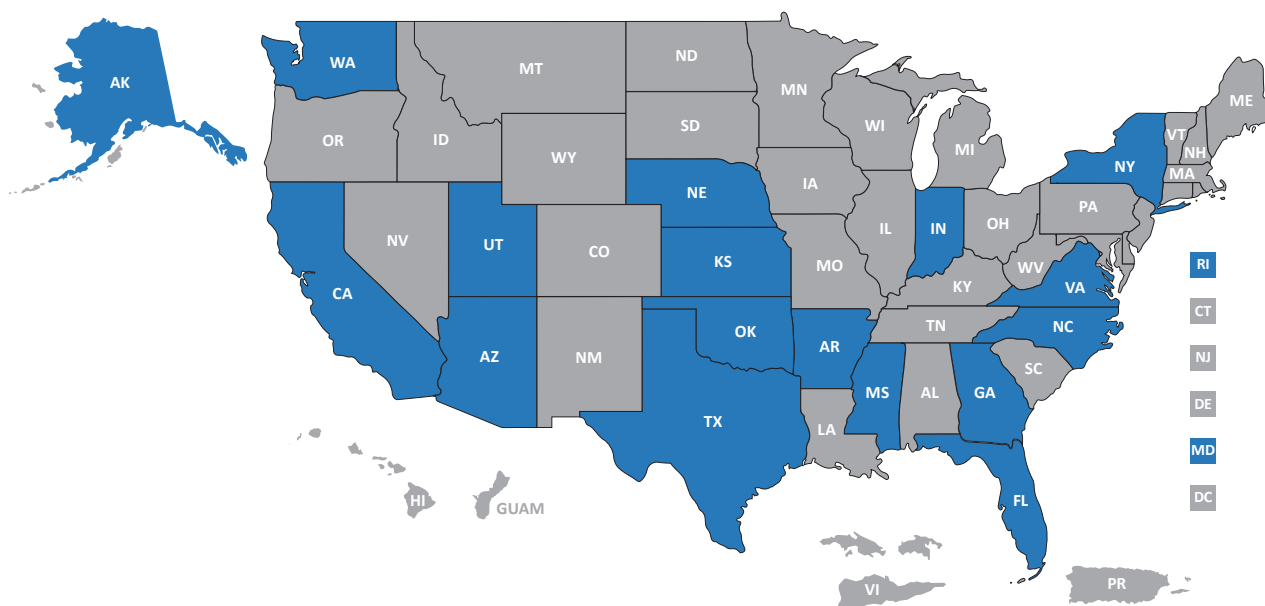
## STATE INVESTMENTS

State investments in defense communities can support projects related to infrastructure, job creation and retention, compatible land use planning and improvements to public services. Grants or loans also may be used to conduct studies, develop plans in support of a proposed project, or satisfy the “match” requirement to unlock additional federal funds. In most cases, funding comes from general appropriations or bond sales. At least 19 states have some type of grant or loan program in place. States have also provided funding for infrastructure improvements at local bases and made one-time appropriations for various purposes.

### Grant Programs

The Florida Legislature established both the Defense Reinvestment Grant Program and the Defense Infrastructure Grant Program in 1999, offering financial assistance to defense communities for projects that not only benefit nearby bases, but stimulate the local economy as well. Since then, millions of dollars have been distributed to community-based activities that bolster military facilities, support economic diversification for defense-dependent communities, and improve military-community relations. In 2021, the Florida Department of Economic Opportunity and Enterprise Florida [awarded](#) a combined \$2.4 million to communities throughout Florida through these programs. Funds will support 15 distinct projects, including Hurricane Michael rebuilding efforts, purchase of easements to protect training capabilities, and

### States with a grant or loan program in place





various economic development opportunities. Another \$1 million was awarded to the city of Jacksonville and Clay County through the Florida Defense Support Task Force Grant Program. Both projects are focused on buffering local bases and airfields from incompatible development.

Washington lawmakers created the Defense Community Compatibility Account in 2019 with passage of [Senate Bill 5748](#). According to the [program webpage](#), it provides the first statewide framework for evaluating and prioritizing projects that enhance the economy, environment and quality of life opportunities for local communities affected by the presence of military installations. Potential projects will be funneled through a central evaluation process with the goal of presenting a list of vetted, eligible finalists to the legislature for funding.

Projects that enhance military value are not limited to infrastructure. Georgia's [Defense Community Economic Development Fund](#) offered grants in 2021 for projects that would enhance the workforce development support provided to military personnel and/or their spouses at local military installations. This effort recognizes the importance of financial stability for [military families](#) and the impact it has on the ability to recruit and train an all-volunteer force.

Mississippi is using a unique funding source to support compatible land use. The Outdoor Stewardship Fund was created in 2022 to provide grants to counties, municipalities, state agencies and NGOs for various purposes, including protection of land around military installations to ensure that missions are compatible with surrounding communities and that encroachment on military installations does not impair future missions ([HB 606](#)).

### **Zone Programs**

At least four states—Alaska, Georgia, Maryland and Texas—have taken a somewhat different approach, creating “military zones” to extend state and federal incentives to enterprises that support the state’s military presence. For example, the Alaska Legislature enacted legislation in 2012 creating “military facility zones” that enable communities to create tax incentives for business development related to military activities and stimulate local economic activity. The first and only military facility zone in the state is located in the city of North Pole, outside Eielson Air Force Base. In September 2021, the Alaska Housing Finance Corporation [announced](#) a special loan to expand housing development for a growing population of military personnel and families.

Georgia’s zone program is focused on creating jobs in economically distressed areas of the state. The Job Tax Credit Program provides benefits to specified census tracts which are considered less developed or have a high rate of poverty. A [military zone](#) designation was added in 2004, allowing census tracts located adjacent to military bases to receive the highest benefit level. Businesses can earn a tax credit up to \$3,500 for each full-time employee hired.

### **Shared Services**

Defense communities can also take advantage of relatively new statutory authority, enacted as part of the FY 2013 defense authorization act, allowing installations to enter into intergovernmental support agreements with states and local governments to share a variety of municipal services. Partnerships can increase base efficiency around water, energy, transportation, security and emergency services. They can also support military personnel and their families in the areas of recreation, children’s services, libraries and housing.

[Naval Weapons Station Earle](#) was awarded \$2 million through the 2020 [REPI Challenge](#) to fund an intergovernmental support agreement with the state of New Jersey. The agreement and funding support beach nourishment, living shoreline establishment, storm surge protection and stormwater management, thereby enhancing the resilience of DOD installations and their communities in an area that sustained catastrophic damage after Hurricane Sandy in 2012. The base is also working with surrounding Monmouth County on various resilience tasks under a separate shared services agreement.

The state of [Texas](#) entered into an intergovernmental support agreement with the DOD in January 2023 to improve infrastructure and transportation networks on federal military property. Specifically, the agreement



authorizing the state department of transportation to complete roadway maintenance and repair projects as well as purchase bulk materials through a state-federal partnership. This is expected to decrease project lead time, reduce civilian staff burden, and result in an estimated cost savings of 25% to all participating military installations.

### **Other Investments**

In addition to these programs, a number of states have made one-time investments or authorized other types of spending for improvements both on and off-base.

For example, legislators in Massachusetts approved a \$177 million bond bill in 2014 for infrastructure improvements at six military installations. The projects were designed to expand public and private sector growth for localities surrounding each installation and enhance the value of the facilities in support of national and domestic security goals. That same year, the Indiana General Assembly enacted legislation allowing local governments to spend money in direct support of an active military base. Funds are to be used for the promotion, growth and activities of the base, as well as any entity that provides services to the base.

Other states have made one-time appropriations. The South Carolina Military Base Task Force, for example, distributed \$50,000 in March 2013 to each of the state's four military communities to support ongoing base preservation efforts. The Missouri General Assembly also enacted legislation in 2013, allocating \$300,000 to analyze the effects of the state's military installations on the nation's military readiness and economy. In 2021, Pennsylvania lawmakers appropriated over \$2 million for the prevention of military base realignment and closure (Senate Bill 255).

## **Conclusion**

As the DOD continues to adjust to a changing national security environment, state-level proactive strategies will become even more critical to the sustainability of military operations and defense communities. This report is intended to provide state legislatures with an overview of state responsibilities and related policy options to strengthen the relationship between bases and surrounding communities and ensure a suitable environment for military operations. No single solution exists to prevent encroachment. However, states may wish to consider the options presented in this report in tandem with state and local views about land use, economic development, private property rights or other issues of concern. With these strategies in mind, states can work to secure the future of their military installations and ensure that communities continue to benefit from the jobs and business opportunities the military provides.



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