EXECUTIVE SUMMARY

Environmental Impact Statement

for T-7A Recapitalization at
Vance Air Force Base, Oklahoma

EISX-007-57-UAF-1727440574

August
2025

Privacy Advisory

This Draft Environmental Impact Statement (EIS) has been provided for public comment in accordance with the National Environmental Policy Act and the *Department of Defense National Environmental Policy Act Implementing Procedures*. Doing so provides an opportunity for public input on United States Department of the Air Force (DAF) decision-making, allows the public to offer input on alternative ways for DAF to accomplish what it is proposing, and solicits comments on DAF's analysis of environmental effects.

Public input allows DAF to make better-informed decisions. Letters or other written or verbal comments provided may be published in this EIS. Providing personal information is voluntary. Private addresses will be compiled to develop a mailing list for those requesting copies of this EIS. However, only the names of the individuals making comments and specific comments will be disclosed. Personal information, home addresses, telephone numbers, and email addresses will not be published in this EIS.

Section 508 of the Rehabilitation Act of 1973

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Cover Photo Credit: Boeing T-7A Red Hawk Website, January 2022
https://www.boeing.com/defense/t-7a/#/gallery

ABBREVIATIONS AND ACRONYMS

AETC	Air Education and Training Command
AFB	Air Force Base
AICUZ	Air Installations Compatible Use Zones
CO	carbon monoxide
DAF	Department of the Air Force
dB	decibels
DNL	Day-Night Average Sound Level
EIS	Environmental Impact Statement
GHG	greenhouse gas
MOA	Military Operating Area
MTR	Military Training Route
NAAQS	National Ambient Air Quality Standards
NO_X	nitrogen oxides
OAS	Oklahoma Archaeological Survey
PHL	Potential for Hearing Loss
POI	Points of Interest
ROI	region of influence
SHPO	State Historic Preservation Officer
SUA	special use airspace
tpy	tons per year

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AT

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AIR EDUCATION AND TRAINING COMMAND

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Introduction

The United States Department of the Air Force (DAF), Air Education and Training Command (AETC) proposes to recapitalize the T-38C Talon flight training program at Vance Air Force Base (AFB), Oklahoma, with T-7A Red Hawk aircraft. Recapitalization would entail introduction of T-7A aircraft and flight operations at Vance AFB and associated special use airspace (SUA) to replace all T-38C aircraft assigned to the installation; temporary changes to the number of personnel and dependents in the Vance AFB region; and construction and upgrade of operations, support, and maintenance facilities.

Background. The T-38C is a twin-engine, high-altitude, supersonic jet used by DAF and other nations for pilot training. As an older aircraft, training with the T-38C does not prepare pilots adequately for the technological advancements of modern fourth and fifth generation aircraft.[1] The T-38C is expected to reach the end of its service life within the next decade.

DAF plans to recapitalize the T-38C fleet with T-7A aircraft to provide a training environment suitable for modern aircraft. Program-wide, DAF expects to procure approximately 350 T-7A aircraft from Boeing and deliver these aircraft to the five T-38C pilot training installations using a geographically phased replacement plan.

In a strategic basing decision memorandum for record, dated February 16, 2018, the Secretary of the Air Force identified Joint Base San Antonio-Randolph and Columbus, Laughlin, Sheppard, and Vance AFBs as reasonable alternatives for T-7A recapitalization. DAF evaluated each of the five installations using criteria that included mission factors (e.g., weather, ability to meet syllabus requirements), infrastructure capacity, and potential environmental constraints and costs.

On January 29, 2021, the Acting Secretary of the Air Force approved the preferred sequencing and locations for the installations to possibly undergo T-7A recapitalization. Following AETC recommendations, the Acting Secretary selected Vance AFB to be the fourth installation to be analyzed environmentally for possible recapitalization. The focus of this Environmental Impact Statement (EIS) is the T-7A recapitalization at Vance AFB.

Purpose of and Need for Action

Purpose. The purpose of the Proposed Action addressed in this EIS is to continue the T-7A recapitalization program to prepare pilots to operate modern fourth and fifth generation aircraft.

Need. The Proposed Action is needed to provide infrastructure and training systems to support the newer T-7A aircraft, allow for enhanced and improved flight and simulator training, and ensure DAF pilot training requirements are met. By 2031, more than 60 percent of the Combat Air Force will be comprised of fifth generation aircraft, requiring a modern, capable training

[1] "Fourth generation aircraft" refers to those aircraft developed or manufactured with updated variants in the later part of the 20th century, such as the F-15E or the F-16. "Fifth generation aircraft" refers to modern aircraft with advanced avionics developed in the early part of the 21st century, such as the F-22 and F-35.

platform with capabilities beyond those available with the T-38C. Additionally, training systems provided with the newer T-7A aircraft allow for enhanced and improved flight and simulator training. The T-7A recapitalization program will allow DAF to provide more efficient and effective instructor and pilot training for operating fourth and fifth generation aircraft. T-7A recapitalization at Vance AFB would allow DAF to continue the geographically phased T-7A recapitalization sequence, ensuring DAF pilot training requirements are met.

Description of the Proposed Action and Alternatives

The Proposed Action is recapitalization of the T-38C flight training program at Vance AFB with T-7A aircraft. Recapitalization entails the following elements:

- Replacement of all T-38C aircraft assigned to Vance AFB with T-7A aircraft.
- Transition of aircraft operations at Vance AFB and associated SUA from the T-38C to the T-7A.
- Temporary changes to the number of personnel and dependents in the Vance AFB region.
- Construction of and upgrades to operations, support, and maintenance facilities to support pilot training and aircraft operations and maintenance.

DAF is considering three alternative ways to implement T-7A recapitalization at Vance AFB (i.e., Alternatives 1, 2, and 3). These alternatives have different numbers of T-7A aircraft that would be stationed at Vance AFB and different numbers of T-7A operations at Vance AFB and associated SUA.

Alternative 1

Alternative 1 addresses DAF's anticipated training needs. Vance AFB would receive up to 68 T-7A aircraft and phase in T-7A operations at a level sustaining pilot training while simultaneously phasing out the T-38C.

Aircraft. T-7A aircraft would be delivered to Vance AFB from the manufacturer (Boeing) beginning in 2032 and continuing through 2033. When all T-7A deliveries are complete at the end of 2033, up to 68 T-7A aircraft would be assigned to Vance AFB. As T-7A aircraft are placed into service, T-38C aircraft would be withdrawn from service. The first T-38Cs would be withdrawn in 2032 and the last in 2033. In total, all 63 T-38C aircraft assigned to Vance AFB would be withdrawn from service and considered for retirement or repurposed for use at other locations.

Aircraft Operations. Aircraft operations at Vance AFB and its associated SUA (i.e., Military Operating Areas [MOAs] and Military Training Routes [MTRs]) would transition from the T-38C to the T-7A over the 2-year aircraft delivery and withdrawal period. T-7A operations would begin in 2032 and increase to steady state in 2034. T-38C operations would begin to decrease in 2032 and conclude by the end of 2033. No further T-38C operations would occur in 2034 or thereafter.

On a per aircraft basis, the T-7A would perform the same number of operations as the current T-38C, but on an installation-wide basis, total annual T-7A operations in 2034 and later would

be approximately 5,100 greater than current T-38C operations (i.e., 69,800 versus 64,700) because five additional aircraft would be assigned to the installation.

Minor changes to aircraft procedures in the SUA surrounding Vance AFB may occur, but in general, the airfield traffic patterns for T-7A recapitalization would remain similar to patterns currently flown by the T-38C. All routine T-38C and T-7A traffic would use runways in the manner currently used. Consistent with T-38C practices, no nearby airfields—such as Kegelman Auxiliary Field or Woodring Municipal Airport—would be used for regular T-7A operations.

The Proposed Action includes evening and nighttime T-7A operations at the Vance AFB airfield. Evening operations are those performed from dusk until 10 p.m., and nighttime operations, as defined for aircraft noise modeling, occur between 10 p.m. and 7 a.m. At full implementation, up to 698 annual nighttime T-7A operations would occur at Vance AFB for Alternative 1, which is approximately 1 percent of the total annual T-7A operations. All operations within the SUA would occur during authorized active times during daytime and evening hours (7 a.m. to 10 p.m.), and no nighttime (between 10 p.m. and 7 a.m.) operations would occur.

T-7A pilot training would use the same SUA used currently by the T-38C. No changes to SUA configurations (i.e., size, shape, or location) are required for T-7A recapitalization. This SUA consists of MOAs Vance 1A, Vance 1C, and Vance 1E and MTRs IR-145, IR-171, IR-175, IR-181, and IR-185. T-7A aircraft would be limited to sub-sonic speeds in all phases of pilot training.

Personnel and Dependents. During the aircraft transition period (i.e., 2032 and 2034), a temporary increase of approximately 100 personnel is projected. This increase would occur during the transition period because DAF would be training pilots with and maintaining two types of aircraft, resulting in a temporary increase in workforce requirements for operations, civilian simulator instructors, and maintenance. The initial increase in workforce would subside as T-38C aircraft are removed from service. The steady state personnel requirement at Vance AFB is projected to be similar to the current baseline staffing level, even though five additional aircraft would be assigned to the installation.

Associated with the workforce change is a corresponding change in the number of dependents (e.g., spouses, children, other family members) who would accompany the personnel. DAF estimates 190 dependents would accompany the 100 additional personnel during the aircraft transition period, for a total of 290 additional people in the Vance AFB vicinity during 2032 through 2034, as compared to current baseline staffing levels. After the aircraft transition period, staffing levels are projected to return to current baseline staffing levels.

Construction and Renovation Projects. Several construction and renovation projects potentially would occur at Vance AFB to provide modern facilities and infrastructure to support T-7A aircraft maintenance, training, and operational requirements. These projects are as follows:

- Construct a new hush house pad southwest of the existing hush house.
- Demolish existing T-38C shelters and construct new T-7A shelters.
- Construct an addition to Building 542, Egress Shop.

- Install jet blast deflectors on the airfield.
- Improve the airfield by remarking the T-38C ramp to the width of the T-7A. Install new moorings and anchor rods for T-7A aircraft. Compass rose and trim pad would be moved slightly due to the siting of the new hush house.
- Renovate Squadron Operations Buildings. The facilities being considered are Buildings 179, 183, 541, and 690.
- Provide an additional antenna-yard area near Building 199.
- Remove T-38C Centralized Aircraft Support System modules where T-7A aircraft would be located.
- Construct a concrete pad to store T-7A ejection system explosive components.
- Renovate the interior of the Ground-Based Training System facility, Building 672, to accommodate incoming T-7A training devices.
- Renovate the interior of Building 199 to accommodate the proposed Unit Maintenance Training Facility.

The construction and renovation projects are expected to begin in 2028 and 2029 and be complete prior to the arrival of the first T-7A aircraft in 2032. The exact projects selected for implementation and their timetable for execution will depend on funding levels and priorities in the overall T-7A program. In total, the proposed construction and renovation projects would disturb less than 1 acre.

Alternative 2

Alternative 2 is intended to cover a scenario in which, for either broad strategic or tactical operational reasons, DAF requires a surge or increase in pilot training operations above current plan. Vance AFB would receive up to 68 T-7A aircraft and perform operations at a level that is approximately 25 percent greater than Alternative 1. The number of T-7A aircraft delivered to Vance AFB, timeline for aircraft operations, construction and renovation projects, and personnel changes would be the same as described for Alternative 1. The difference from Alternative 1 is that beginning in 2032, T-7A and T-38C aircraft would perform annual operations at Vance AFB and associated SUA at an operational tempo that is 25 percent greater than Alternative 1. Total annual T-7A operations in 2034 and later at the installation would be approximately 22,600 greater than current T-38C operations (i.e., 87,300 versus 64,700). T-7A nighttime operations would occur with up to 873 annual nighttime operations at Vance AFB.

Alternative 3

Alternative 3 is intended to provide DAF with operational flexibility, and inclusion of this alternative in this EIS provides analysis to evaluate future capacity needs. Vance AFB would receive up to 99 T-7A aircraft. On a per aircraft basis, the T-7A would perform the same number of operations as the current T-38C, but on an installation-wide basis, total annual T-7A operations in 2035 and later would be approximately 36,900 greater than current T-38C operations (101,600 versus 64,700) because 36 more aircraft would be assigned to the installation. This increase in operations is approximately 45 percent greater than Alternative 1.

T-7A nighttime operations would occur with up to 1,016 annual nighttime operations at Vance AFB.

Alternative 3 also includes construction of additional shelters on existing pavement of the aircraft parking ramp to accommodate the 31 additional T-7A aircraft, compared to Alternative 1. All other aspects for Alternative 3 would be identical to those described for Alternative 1. Even with the additional T-7A aircraft, personnel requirements would be identical to those described for Alternative 1 because of physical space limitations to support additional maintenance and training staff.

No Action Alternative

The No Action Alternative assesses environmental consequences that may occur if the Proposed Action is not implemented. The No Action Alternative serves as a baseline against which the impacts of the Proposed Action and other potential action alternatives can be evaluated.

For the No Action Alternative, DAF would not implement T-7A recapitalization at Vance AFB. Vance AFB's existing fleet of T-38C aircraft would continue to be used in their current capacity. No changes to current flight operations would occur even though T-38C aircraft will reach the end of their service lives within the next decade. Maintenance requirements for these aircraft would continue to increase. The retention and continued use of the T-38C aircraft would not change the number of personnel on Vance AFB. The number and types of T-38C aircraft operations would remain the same, consistent with the current training curriculum. The SUA (MOAs and MTRs) for T-38C operations would continue to be used at the same tempo and in a similar manner. No construction or renovation projects would be undertaken to support the T-7A program at Vance AFB.

T-7A aircraft manufacturing has been contracted. If the No Action Alternative were selected, DAF would re-evaluate their T-7A strategic basing decisions and may implement all or a portion of the basing requirements proposed for Vance AFB at an undetermined installation.

Identification of the Preferred Alternative

DAF has not yet designated a Preferred Alternative regarding the number of aircraft and aircraft operations at Vance AFB. DAF is postponing identification of its preferred alternative until public comments on the Draft EIS have been taken into consideration in the Final EIS.

Environmental Consequences

DAF used the scoping process to identify environmental issues to be carried forward for analysis and de-emphasize insignificant issues. The environmental resources analyzed in detail in the EIS are air quality, noise, land use, biological resources, cultural resources, hazardous materials and wastes, safety, and water resources. **Table ES-1** provides a summary of the environmental impacts associated with each alternative.

Mitigation Measures

Alternatives 1, 2, and 3 and the No Action Alternative would all impose a long-term, significant, adverse impact on the noise environment around Vance AFB increasing lands and uses subject to noise levels that may be deemed incompatible. Recognizing that the operational characteristics of the T-7A aircraft are still in a preliminary stage, adaptive management approaches for addressing noise impacts (e.g., reduced power settings, anticipated afterburner requirements, etc.) may be implemented to reduce the ultimate noise contours and associated land use effects at Vance AFB. DAF would continue to evaluate flight characteristics for T-7A training to determine the safest, most efficient, and least intrusive operations considering both mission requirements and airspace effects.

The significant impacts on noise is due to the expansion of the 65 decibels (dB) Day-Night Average Sound Level (DNL) that would include additional residences to the north of Vance AFB, which would be an incompatible land use. Mitigation measures to address significant impacts would include:

- Updating the Air Installations Compatible Use Zones (AICUZ) Study at an appropriate time to be determined and coordinating the results with local planners.
- Continued use of noise complaint procedures to track and respond to such complaints.
- Monitoring of noise complaint locations and times and potentially adjusting flight tracks as determined feasible.
- Evaluating and reducing power settings as feasible to decrease noise contours around Vance AFB.

DAF is committed to working with Garfield, Grant, and Alfalfa Counties; the cities of Enid and Waukomis; the Town of North Enid; Enid Public Schools; the Northern Oklahoma Development Authority; Vance Development Authority; and others to analyze compatible use surrounding Vance AFB for the ultimate T-7A operating conditions. As part of that commitment, DAF would continue to partner with local governments to perform the following tasks:

- Prepare an AICUZ update at an appropriate time to be determined to address any changes in land area within the greater than 65 dB DNL noise contours for Vance AFB.
- Coordinate with state and local agencies on compatible land use and potential encroachment concerns inside and outside of the DNL footprint and/or the Airfield Environs Overlay District, as applicable (i.e., large-scale developments, transportation projects that could encourage development, or tall structures such as cell towers that could penetrate airfield imaginary surfaces).
- Encourage municipalities to promote the most compatible land use by updating local zoning ordinances and building construction standards, especially for high-noise areas.

Table ES-1. Summary of Environmental Impacts

Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Brief Description of the Alternatives			
T-7A recapitalization at Vance AFB would occur with up to 68 T-7A aircraft and phase in T-7A operations at a level sustaining pilot training while simultaneously phasing out the T-38C.	T-7A recapitalization at Vance AFB would occur with up to 68 T-7A aircraft and T-7A operations at a level 25 percent greater than Alternative 1.	T-7A recapitalization at Vance AFB would occur with up to 99 T-7A aircraft and T-7A operations at a level approximately 45 percent greater than Alternative 1.	T-7A recapitalization at Vance AFB would not occur. T-38C training would continue in its current capacity.
Air Quality			
Short- and long-term, not significant, adverse and beneficial impacts on air quality would occur. Short-term, adverse impacts from construction and temporary increases in personnel during the aircraft transition period would occur in the Vance AFB region of influence (ROI). Long-term, adverse and beneficial impacts from operation of expanded facilities and flight and maintenance operations would result in annual net changes in criteria pollutants and greenhouse gases (GHGs) in the Vance AFB and SUA ROIs. The proposed aircraft operations would result in annual net increases and decreases in criteria pollutants and GHGs depending on the location, year, and pollutant in question. Increases in criteria pollutant emissions would not exceed the insignificance indicators. Net GHG emissions would be insignificant.	Impacts from construction, operation of expanded facilities, and temporary increases in personnel would be identical to Alternative 1. Long-term, adverse and beneficial impacts from aircraft operations would occur in the Vance AFB and SUA ROIs and be greater than those from Alternative 1 but remain not significant. Although carbon monoxide (CO) emissions within the Vance AFB ROI would exceed the insignificance indicator in 2032 due to increased T-38C operations, the steady state (i.e., 2034 and later) annual net CO emissions would decrease by the end of the aircraft transition period, demonstrating a long-term, beneficial impact. Starting in 2034, net annual nitrogen oxides (NO_X) emissions from aircraft operations in the Vance AFB ROI would exceed the insignificance indicator by 13.5 tons per year (tpy); however, considering the type and context of such emissions, Alternative 2 is not expected to contribute to an exceedance of National Ambient Air Quality Standards (NAAQS). Although GHG emissions would be greater than Alternative 1, they would remain insignificant.	Construction air emissions would be slightly greater than Alternative 1 due to the additional shelters but would still have an insignificant impact. Impacts from operation of expanded facilities and temporary increases in personnel would be identical to Alternative 1. Long-term, adverse and beneficial impacts from aircraft operations would occur in the Vance AFB and SUA ROIs and be greater than those from Alternatives 1 and 2, but remain insignificant. Net annual NO_X emissions from aircraft operations in the Vance AFB ROI would exceed the insignificance indicator by 52.5 tpy in 2034 and 63.4 tpy in 2035 and subsequent years; however, considering the type and context of such emissions, Alternative 3 is not expected to contribute to an exceedance of a NAAQS. Starting in 2035, net annual NO_X emissions within the SUA ROI would exceed the insignificance indicator by 2.2 tpy, but it is unlikely the threshold would be exceeded in any one county. GHG emissions would be insignificant.	No impacts would occur.

Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Noise			
Short-term, insignificant, and long-term, significant, adverse impacts would occur. Short-term impacts from noise generated by heavy equipment during construction and renovation. All construction would be within Vance AFB boundary, be collocated with other existing noise-compatible activities, and end with the facility construction phase. No construction-related noise impacts to on- or off-installation residences are anticipated. Operation of the expanded facilities is not expected to generate additional noise levels. Long-term impacts from the introduction of the T-7A aircraft and increases in operational noise would result in areas of incompatible land use off installation increasing the population exposed to 65 dB or greater DNL. These newly exposed areas encompass numerous land uses, including residential, commercial, undeveloped, and agricultural. Alternative 1 would result in between 0 and 1.5 additional speech-interfering events per daytime hour across relevant Points of Interest (POIs) as compared to the No Action Alternative. No on- or off-installation populations would be exposed to a DNL of at least 80 dB; therefore, the potential for hearing loss (PHL) is not anticipated. Any increases in noise associated with SUA sorties would not introduce incompatibilities and would be not significant.	Construction-related noise levels would be the same as those described for Alternative 1. Long-term, significant, adverse impacts from the introduction of the T-7A aircraft and increases in operational noise would result in areas of incompatible land use off installation increasing the population exposed to 65 dB or greater DNL. These newly exposed areas encompass numerous land uses, including residential, commercial, undeveloped, and agricultural. Alternative 2 would result in between 0 and 2.1 additional speech-interfering events per daytime hour across relevant POI as compared to the No Action Alternative. No on- or off-installation populations would be exposed to a DNL of at least 80 dB; therefore, the PHL is not anticipated. Any increases in noise associated with SUA sorties would not introduce incompatibilities and would be not significant.	Construction-related noise levels would be the same as those described for Alternative 1. However, construction noise could last slightly longer due to the construction of the additional T-7A shelters to accommodate the larger number of aircraft. Long-term, significant, adverse impacts from the introduction of the T-7A aircraft and increases in operational noise would result in areas of incompatible land use off installation increasing the population exposed to 65 dB or greater DNL. These newly exposed areas encompass numerous land uses, including residential, commercial, undeveloped, and agricultural. Alternative 3 would result in between 0.2 and 5.2 additional speech-interfering events per daytime hour across relevant POI as compared to the No Action Alternative. No on- or off-installation populations would be exposed to a DNL of at least 80 dB; therefore, the PHL is not anticipated. Any increases in noise associated with SUA sorties would not introduce incompatibilities and would be not significant.	Long-term, significant, adverse impacts would occur. Subsequent to publication of the 2022 AICUZ Study, flight tracks at Vance AFB were altered, changing the shape of the noise contours for the installation. Updated noise contours were created to reflect noise conditions with the altered flight tracks, and these updated noise contours represent the No Action Alternative. While the area of noise exposure would decrease compared to baseline conditions, the population exposed would increase by a factor of seven, leading to the determination of significant impacts.

Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Land Use			
No significant impacts would occur from construction and renovation projects. Projects would be compatible with land use areas and sited, designed, and constructed consistent with the Vance AFB Installation Development Plan. Noise generated from aircraft operations would result in a significant impact on land uses and land use compatibility. An increase of approximately 2,581 acres of off-installation land would fall within the 65 dB or greater DNL when compared to the No Action Alternative resulting in an increase in incompatible land uses and the number of individuals living within the noise zones. Alternative 1 would not only increase the overall area impacted but also cover more land area to the north of the installation that includes more development. The majority of the land uses surrounding the installation are considered Open/Recreation/Agriculture/ Low-Density Residential.	Construction-related land use impacts would be the same as Alternative 1. Noise generated from aircraft operations would be slightly greater than those described for Alternative 1. An increase of approximately 4,464 acres of off-installation land would fall within the 65 dB or greater DNL when compared to the No Action Alternative resulting in an increase in incompatible land uses and the number of individuals living within the noise zones. Alternative 2 would not only increase the overall area impacted but also cover more land area to the north of the installation that includes more development. The majority of the land uses surrounding the installation are considered Open/Recreation/ Agriculture/Low-Density Residential.	Construction-related land use impacts would be the same as Alternative 1. Noise generated from aircraft operations would be slightly greater than those described for Alternatives 1 and 2. An increase of approximately 5,486 acres of off-installation land would fall within the 65 dB or greater DNL when compared to the No Action Alternative resulting in an increase in incompatible land uses and the number of individuals living within the noise zones. Alternative 3 would not only increase the overall area impacted but also cover more land area to the north of the installation that includes more development. The majority of the land uses surrounding the installation are considered Open/Recreation/Agriculture/ Low-Density Residential.	No impacts in on-installation land use. Although no changes in aircraft operations would occur, the noise contours and mix of on- and off-installation land use types within the noise contours would be different than those presented in the 2022 Vance AFB AICUZ Study.
Biological Resources			
Short- and long-term, not significant, adverse impacts on vegetation and wildlife would occur at Vance AFB from the construction projects. Long-term, not significant, adverse impacts on wildlife may occur from aircraft strikes and noise from the proposed aircraft operations. Alternative 1 would have no effect on the six federally listed or proposed species with potential to occur on Vance AFB or the six additional special status species with potential to occur in the SUA.	Short- and long-term impacts would be the same as those described for Alternative 1.	Short- and long-term impacts would be the same as those described for Alternative 1.	No impacts would occur.

Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Cultural Resources			
The only aspects of the Proposed Action with potential to effect historic properties are the construction and renovation projects. DAF determined that these projects would have no effect on historic properties and consulted with the Oklahoma State Historic Preservation Officer (SHPO). The SHPO concurred with this determination on November 5, 2024, pending confirmation from the Oklahoma Archaeological Survey (OAS) that no archeological sites were present. OAS confirmed that no archaeological sites were present in a response dated January 30, 2025.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No impacts would occur.
Hazardous Materials and Wastes			
The additional quantities of hazardous materials, wastes, and petroleum products required for construction and aircraft maintenance during the aircraft transition period would result in short-term, not significant, adverse impacts. Their quantities would return to baseline levels by 2034, resulting in no long-term impacts. Short-term, not significant, adverse impacts could occur from the renovation of Buildings 179, 183, 541, 672, and 690 because these buildings potentially contain toxic substances in building materials. Long-term, not significant, beneficial impacts would occur from renovation of these buildings by reducing the potential for future human exposure to toxic substances. No impacts on or from legacy environmental contamination, polyfluoroalkyl substances, or radon would occur.	Impacts would remain not significant but be slightly greater than those described for Alternative 1, because the 25 percent increase in aircraft operations would require additional quantities of hazardous materials, wastes, and petroleum products (most notably jet fuel) to be delivered, stored, used, and disposed of appropriately at Vance AFB.	Impacts would remain not significant but be slightly greater than those described for Alternative 2, because the 45 percent increase in aircraft operations and the delivery of up to 31 additional aircraft to maintain would require additional quantities of hazardous materials, wastes, and petroleum products (most notably jet fuel) to be delivered, stored, used, and disposed of appropriately at Vance AFB.	No impacts would occur.

Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Safety			
Short-term, not significant, adverse impacts on contractor health and safety would occur during construction and renovation. No adverse impacts on the health and safety of military personnel or civilians would occur. Environmental health and safety risks would not disproportionately impact children. Long-term, not significant, adverse impacts on flight safety would occur from increased aircraft operations compared to baseline levels, which would result in an increased potential Bird/Wildlife Aircraft Strike Hazard incidents and other mishaps. The clear zones and accident potential zones would remain unchanged.	The impacts on contractor health and safety would be the same as those described for Alternative 1. The impacts on flight safety from 25 percent greater aircraft operations would remain not significant but be slightly greater than those described for Alternative 1.	The impacts on contractor health and safety would be the same as those described for Alternative 1. The impacts on flight safety from 45 percent greater aircraft operations and the delivery of up to 31 additional aircraft would remain not significant but be slightly greater than those described for Alternatives 1 and 2.	No impacts would occur.
Water Resources			
Short- and long-term, not significant, indirect, adverse impacts on groundwater and surface water could occur. Construction would increase impervious surface area and decrease area for groundwater infiltration by approximately 34,700 square feet (0.79 acres), which could decrease groundwater recharge and increase stormwater runoff. Temporary increases in hazardous materials and petroleum product use would negligibly increase the potential for an accidental release to occur and for the contamination to reach nearby groundwater aquifers and surface water features. No direct impacts on wetlands would occur. The construction and renovation projects would not occur within wetlands or the 100- or 500-year floodplains.	Impacts would be similar to those described for Alternative 1. Increased aircraft operations would slightly increase the potential for an accidental release of hazardous materials or petroleum products to contaminate groundwater aquifers and surface water.	Impacts would be similar to those described for Alternative 2. Compared to Alternatives 1 and 2, the 31 additional aircraft to maintain would slightly increase the potential for an accidental release of hazardous materials or petroleum products to contaminate groundwater aquifers and surface water. The project to install sufficient shelters for all T-7A aircraft would occur on the Vance AFB aircraft parking ramp, which is an entirely existing impervious surface, and would result in no additional impervious surface area or impacts on water resources.	No impacts would occur.