

Village of Orangeville

Comprehensive Plan

Military Compatibility Element

The Military Compatibility Element of the Village of Orangeville Comprehensive Plan addresses military and community compatibility planning and long-term sustainability of military operations at Youngstown ARS. This Element is organized by the following subsections:

- Section 1 - Introduction
- Section 2 – Youngstown ARS Joint Land Use Study
- Section 3 – Installation Setting
- Section 4 – Planning Issues
- Section 5 – Implementation Measures
- Section 6 – Key Terms

1. Introduction

Sustainment of the mission at Youngstown Air Reserve Station (ARS) is an overarching goal of the Village of Orangeville. To reflect this commitment, the Village of Orangeville participated in a Joint Land Use Study (JLUS), a compatibility planning process intended to identify existing and future compatibility issues between the base and the community. The Youngstown ARS Joint Land Use Study was completed in 2019 and was the result of a collaborative process between the Village of Orangeville, Youngstown ARS, Youngstown - other partner jurisdictions, businesses, industry and other diverse stakeholder groups. The resulting Joint Land Use Study defined a shared strategic plan for area jurisdictions, Youngstown ARS, and Youngstown-Warren Regional Airport to work cooperatively and collaboratively to reduce and/or eliminate compatibility issues which can negatively impact the mission of the base, and compatibility issues created by the base which can negatively impact the surrounding communities.

Youngstown ARS is in Vienna Township in Trumbull County Ohio. It is nearly equidistant from the major cities of Cleveland, Ohio and Pittsburgh, Pennsylvania. Youngstown ARS is situated in a rural setting and is 11 miles north of the City of Youngstown and 10 miles east of the City of Warren and includes approximately 320 acres. The cantonment area consists of 230 acres while 90 acres surround the assault landing runway. The map on the following page shows Youngstown ARS and the surrounding vicinity.

Military activities can negatively impact the surrounding community through factors such as noise, limits to renewable energy infrastructure, and the use of local governmental services (i.e., roads, housing, and schools). A number of factors influence whether community and military plans, programs and activities are compatible or in conflict. A Joint Land Use Study utilizes 24 compatibility factors to comprehensively assess and characterize local issues as illustrated below.

JLUS Compatibility Factors

COMPATIBILITY FACTORS			
AQ	Air Quality	LAS	Land / Air Space Competition
AT	Anti-Terrorism / Force Protection	LU	Land Use
BIO	Biological Resources	LEG	Legislative Initiatives
CC	Changing Climate	LG	Light and Glare
COM	Communication / Coordination	NOI	Noise
CR	Cultural Resources	PS	Public Services
DSS	Dust / Smoke / Steam	PT	Public Trespassing
ED	Energy Development	RC	Roadway Capacity
FSC	Frequency Spectrum Capacity	SA	Safety Zones
FSI	Frequency Spectrum Impedance / Interference	SNR	Scarce Natural Resources
		VO	Vertical Obstructions
HA	Housing Availability	V	Vibration
IE	Infrastructure Extensions	WQQ	Water Quality / Quantity

The adopted JLUS recommends policies, actions, strategies and guidelines that should be incorporated into the Village of Orangeville Comprehensive Plan, regulations and plans to address existing and future compatibility issues between the base and the village. The Military Compatibility Element is intended to incorporate the policies, actions, strategies and guidelines recommended by the Youngstown ARS Joint Land Use Study.

3. Installation Setting

Military Strategic Importance

The 910th AW is the host command at Youngstown ARS and is supported by multiple organizations under the Wing's direct command authority. The 910th AW mission is to "provide a current, qualified mission-ready force" with a supporting vision to "provide unrivaled tactical airlift, aerial spray and agile combat support - always ready to answer our nation's call". In wartime, the 910th AW mission is to employ the C-130 Hercules aircraft in combat tactical airlift operations. These operations include low-level infiltration into a combat environment, where aircrews can deliver personnel and materials by airdrop and air-land techniques.



A Youngstown ARS modified C-130 Hercules aircraft simulates spraying pesticides during a field exercise

Source: <https://www.youngstown.afrc.af.mil/>

Goal #8 **Create a Military Compatibility Area Overlay District (MCAOD).** The Village of Orangeville should amend the Village of Orangeville Zoning Ordinance to add a Military Compatibility Area Overlay District (MCAOD) containing Military Compatibility Areas that reflect the types and intensity of compatible uses and map them for the public on an online platform. The MCAOD is the collective geographic area of all of the MCAs combined. The MCAs established should be used by the Village of Orangeville to identify areas where specific compatibility issues are more likely to occur and address ways to avoid compatibility issues. The MCA applicable to the Village of Orangeville is:

- **Vertical Obstructions MCA.** Includes the estimated Inner Horizontal Surfaces and Approach-Departure Clearance Surfaces for the runways at Youngstown-Warren Regional Airport and Youngstown ARS.

Where appropriate, the Village of Orangeville should incorporate the MCAOD and MCA boundaries on the zoning map and future land use maps and include the zone regulations in the Zoning Ordinance and on their official maps (hardcopy, electronic and web-based as applicable) for easy access and understanding by the public.

G. Land Use

The basis of land use planning and regulation relates to the government’s role in protecting the public’s health, safety, and welfare. Local jurisdictions’ comprehensive plans and zoning ordinances can be the most effective tools for preventing or resolving land use compatibility issues. These tools ensure the separation of land uses that differ significantly in character. Land use separation also applies to properties where the use of one property may adversely impact the use of another. For instance, industrial uses are often separated from residential uses to avoid impacts from noise, odors, and lighting.

Compatibility is based on land use and not the zoning district since each zoning district allows multiple land uses. An assessment of land uses in the zoning districts within the Village of Orangeville and the Youngstown ARS safety zones is necessary to establish land use compatibility.

Land development and supporting projects that occur in areas where Youngstown ARS conducts operations have the potential to impact the ability of the military to be successful. The combination of the military footprints makes up the mission influence area MCA for Youngstown ARS. Any development within the MCA that has the potential to affect Youngstown ARS operations may impact the military mission. Types of development that may impact the Youngstown ARS MCA include but are not limited to:

- Renewable energy projects such as solar arrays or wind turbines
- Tall structures and towers such as buildings, communication towers, water towers, etc.

In addition, changes in land use plans or zoning ordinances that affect how land could be used in the future within the MCA has the potential to impact Youngstown ARS operations.

Policy 9-1 **Establish Regional Response Capabilities.** The Village of Orangeville and Youngstown ARS should collaborate to develop response plans that enable a regional response capability for emergencies resulting from shale gas operations. Response procedures

should focus on health and safety as priority one, along with provisions to protect property, equipment and minimize impacts to ongoing military operations.

Policy 9-2 **Establish a Road Use and Maintenance Agreement.** The Village of Orangeville should cooperatively develop a Road Use and Maintenance Agreement to minimize impacts from shale gas operations truck traffic on local roadways. The agreement should also ensure the shale gas operations are held responsible for any road maintenance needs resulting from their activities.

Policy 9-3 **Establish an Interlocal Agreement.** Youngstown ARS and the Village of Orangeville should develop an interlocal agreement for communications and coordination of emergency management activities in the event of an emergency resulting from shale gas operations.

Policy 9-4 **Implement Best Lighting Practices in Zoning Ordinances.** The Village of Orangeville should identify and implement best practices for lighting through zoning regulations based on the findings and conclusions gathered in Strategy LU-4A to protect the favorable lighting conditions currently experienced around Youngstown ARS and the Youngstown-Warren Regional Airport.

H. Vertical Obstruction

Vertical obstructions are created by buildings, trees, structures, or other features that may encroach into the navigable airspace or line of sight radar signal transmission pathways used by the military. These obstructions can be a safety hazard to both the public and military personnel and potentially impact military readiness.

Vertical obstructions can compromise the value of low-level flight training by limiting the areas where such training can occur. These obstructions can include a range of items from man-made, such as telephone poles, utility transmission towers, and radio antennas, to natural, such as tall trees and land features. Vertical obstructions can also interfere with radar transmissions, compromising the integrity of data transmission between the transmitter and receiver. Though most critical near the transmitter, the geographic area impacting the transmissions, or radar viewshed, can be broad depending on the distance between the transmitter and receivers.

The purpose of the Vertical Obstruction MCA is to regulate the height of all structures within the area that is defined by FAA guidance and Air Force instruction using criteria known as “imaginary surfaces.” The imaginary surfaces are 3-dimensional geospatial areas comprising approach and departure airspace corridors and surrounding navigable airspace. Vertical obstruction heights are a major concern for flight operations and training due to the potential for a structure to extend into navigable airspace, which could impede safe flight operations and put both pilots and citizens on the ground at risk of an aircraft mishap. County and village zoning codes do not regulate the height of structures within airfield imaginary surfaces for Youngstown-Warren Regional Airport which could lead to potential vertical obstructions to pilot navigation.

Part 77 Vertical Obstruction Compliance

The 500-foot rule, promulgated by the FAA, states that every citizen of the U.S. has “a public right of freedom of transit in air commerce through the navigable air space of the United States.” The rule was formally announced in the 1963 Court of Claims ruling in *Aaron v. United States* and declares that flights

500 feet or more Above Ground Level (AGL) do not represent a compensable taking because they enjoy a free right-of-passage without liability to the owners below.

Another important outcome of the Act is Federal Aviation Regulation Title 14, Part 77, which provides the basis for the evaluation of vertical obstruction compatibility. This regulation provides information to assess the potential for a vertical obstruction based on the elevation of the airfield, the height and resulting elevation of the proposed structure or facility, and the location of the structure or facility relative to the airfield in question. This regulation determines compatibility based on the height of proposed structures or natural features, relative to their distance from the ends of a runway. Using a distance formula for this regulation, local jurisdictions can easily assess the height restrictions near airfields.

Policy 10-1 Establish Vertical Obstruction MCA Overlay District. The Village of Orangeville should consider creating a VO MCA Overlay District in planning documents to regulate the height of structures within FAA Imaginary Surfaces surrounding the Youngstown ARS and Youngstown-Warren Regional Airport.

Policy 10-2 Ensure Federal Aviation Regulation (FAR) Part 77 Compliance. The Village of Orangeville should require a determination Finding of No Significant Impact from the FAA subject to the requirements of Part 77 to be submitted with a development application for local government approval to demonstrate that a proposed structure will not create a vertical obstruction within the navigable airspace.

5. Implementation Measures

This section identifies the recommended courses of action (strategies) for responding to the compatibility issues identified in the proceeding section. The strategies were developed through a collaborative effort among representatives of local jurisdictions, Youngstown ARS, state and federal agencies, local organizations, the public, and other stakeholders that own or manage land and resources in the region.

The JLUS strategies incorporate a variety of actions that promote compatible land use and resource planning. Upon implementation, existing and potential compatibility issues arising from civilian / military interactions can be avoided, significantly mitigated, or removed. These strategies are the heart of the JLUS Study and are the culmination of the entire planning process.

A critical variable for the implementation of strategies is the establishment of the JLUS Implementation Coordination Committee to oversee the execution of the JLUS. It is through this committee that local jurisdictions, the installation, and other stakeholders can enhance their collaboration and adjust actions over time to ensure resolution of the key issues is achieved well into the future through the implementation of realistic and applicable strategies.

The key to successful implementation is balancing the needs of all involved stakeholders. To produce a balanced plan, several guidelines were used as the basis for strategy development. These guidelines are listed below.

Recommended strategies must not result in a taking of property value, as defined by state law. In some cases, the recommended strategies can only be implemented with new enabling legislation.

To minimize regulation, many of the strategies are only recommended for within a specific geographic area where a compatibility issue has been identified (e.g., vertical obstructions) instead of for the whole JLUS Study Area.

To meet the needs of all parties, it was determined that strategies without 100% buy-in from all stakeholders may be expanded and tailored to individual circumstances. These strategies ultimately constitute multiple strategies that address one issue in different ways.

Since state and federal regulations are subject to change, the party responsible for implementation should ensure there are no conflicts between the strategy and existing state or federal laws before executing any of the suggested strategies.

In addition to the primary guidelines listed above, consideration was given to the 2018 National Defense Strategy (NDS) when developing recommendations. The NDS is used to establish objectives for military planning regarding force structure, force modernization, business processes, supporting infrastructure, and required resources.

Implementation Measures, identifies the implementation measures the Village of Orangeville should take to implement the goals and policies of the Military Compatibility Element. The implementation program lists each specific implementation measure, a reference to the policy it is implementing, who is responsible to implement the program, and the timeframe for implementation.

Implementation Measures Table

#	Implementation Measure	Goal/Policy	Partnerships	Timeframe			
				2023 - 2024	2025 - 2026	2026 - 2028	On-going
Communication and Coordination							
1	Emergency Service Radio Communications	Goal #1	All JLUS partners and Youngtown ARS		■		
2	Upgrade to Digital Radio Compliant with MARCS Network	Policy 1-1	All JLUS partners and Youngtown ARS		■		
3	Intergovernmental Agreement for Single-Use Frequency	Policy 1-2	All JLUS partners and Youngtown ARS	■			
4	Emergency Management Coordination	Goal #2	All JLUS partners and Youngtown ARS				■
5	Development Review Coordination	Goal #3	All JLUS partners and Youngtown ARS				■
6	Coordination with the Military Aviation and Installation Assurance Siting Clearinghouse	Policy 3-1	All JLUS partners and Youngtown ARS	■			

#	Implementation Measure	Goal/Policy	Partnerships	Timeframe			
				2023 - 2024	2025 - 2026	2026 - 2028	On-going
Communication and Coordination continued							
7	Adopt Military Notification Procedures for Development Projects through Tax Abatement Process	Policy 3-2	All JLUS partners and Youngtown ARS		■		
8	Planning Issue Coordination	Goal #4	All JLUS partners and Youngtown ARS				■
9	Foster Enhanced Public Awareness Through Accurate Mapping	Policy 5-3	All JLUS partners and Youngtown ARS	■			
10	Outreach and Awareness	Goal #5	All JLUS partners and Youngtown ARS	■			
11	Need for Public Education Regarding the Youngstown Mission	Policy 5-1	All JLUS partners and Youngtown ARS		■		
12	Educate the Real Estate Industry and Development Community	Policy 5-2	All JLUS partners and Youngtown ARS	■			
Amendments to Regulations/ Agreements/Future Studies							
13	Lighting Impacts	Goal #6	All JLUS partners and Youngtown ARS				■
14	Future Land Use Impacts on Youngstown ARS Night Flying Mission	Policy 6-1	All JLUS partners and Youngtown ARS			■	
15	Assess Future Ambient Lighting Impacts on Night Flying Operations	Policy 6-2	All JLUS partners and Youngtown ARS			■	
16	Compatibility Regulations	Goal #7	All JLUS partners and Youngtown ARS		■		
17	Potential Light and Glare Impacts on Pilot Visibility from Solar Projects	Policy 7-1	All JLUS partners and Youngtown ARS	■			
18	Implement the Military Aviation and Installation Assurance Siting Clearinghouse Coordination Procedures	Policy 7-2	All JLUS partners and Youngtown ARS	■			
19	Require Use of Solar Project Siting Tools	Policy 7-3	All JLUS partners and Youngtown ARS	■			
20	Create a Military Compatibility Area Overlay District (MCAOD)	Goal #8	All JLUS partners and Youngtown ARS		■		

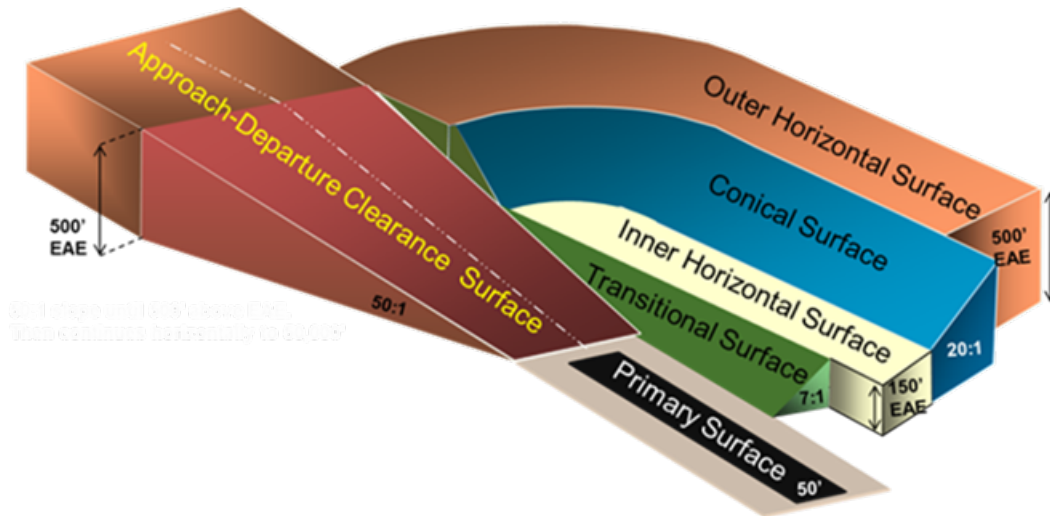
#	Implementation Measure	Goal/Policy	Partnerships	Timeframe			
				2023 - 2024	2025 - 2026	2026 - 2028	On-going
Amendments to Regulations/ Agreements/Future Studies continued							
21	Establish Regional Response Capabilities	Policy 9-1	All JLUS partners and Youngtown ARS		■		
22	Establish a Road Use and Maintenance Agreement	Policy 9-2	All JLUS partners and Youngtown ARS, Eastgate Regional COG	■			
23	Establish an Interlocal Agreement	Policy 9-3	All JLUS partners and Youngtown ARS	■			
24	Implement Best Lighting Practices in Zoning Ordinances	Policy 9-4	All JLUS partners and Youngtown ARS			■	
25	Establish Vertical Obstruction MCA Overlay District	Policy 10-1	All JLUS partners and Youngtown ARS		■		
26	Ensure Federal Aviation Regulation (FAR) Part 77 Compliance	Policy 10-2	All JLUS partners and Youngtown ARS	■			

6. Key Terms

Area Operations Area (AOA). The Area Operations Area (AOA) is an area that encompasses the entire airport's approach or departure airspace including the circling space.

Avigation Easement. An easement that grants one or more of the following rights: the right of flight; the right to cause noise, dust, etc. related to aircraft flight; the right to restrict or prohibit certain lights, electromagnetic signals, and bird-attracting land uses; the right to unobstructed airspace over the property above a specified height; and the right of ingress/egress upon the land to exercise those rights.

Imaginary Surfaces. Federal Aviation Regulation Part 77, adopted by the Department of Defense, specifies a series of imaginary height surfaces surrounding a military installation. The imaginary surfaces of an active runway are used to define the required airspace that must remain free of vertical obstructions in the vicinity of aviation operations to ensure safe flight.



NOT TO SCALE

Joint Land

Use Study (JLUS). A Joint Land Use Study is a planning process accomplished through the collaborative efforts of stakeholders in a defined area to identify compatible land uses and growth/development guidelines for application to areas adjacent to military installations. Joint Land Use Studies are primarily funded by the Department of Defense (DoD), Office of Local Defense Community Cooperation (OLDCC).

Military Compatibility Area (MCA). A formal designation of a geographical area where military operations may impact local communities, and conversely, where local activities and uses may affect the military's ability to conduct its mission. An MCA delineates a geographic area where strategies are recommended to support compatibility planning between local governments and the military installation.

Military Notification Area. The Military Notification Area is a geographic area where jurisdictions notify the military of a proposed action, prior to approval of that action, due to its potential to impact operations at Youngstown ARS or the airspace surrounding it.

Part 77 Vertical Obstruction Compliance. FAA Regulation Title 14 Part 77, commonly referred to as Part 77, provides the basis for evaluation of vertical obstruction compatibility. This regulation provides information to evaluate the potential for vertical obstruction based on an evaluation of the airfield, the height and resulting elevation of the new building or structure, and the location of the building or structure relative to the airfield in question.

Vertical Obstructions. Buildings, structures, trees, or other features that may encroach into the navigable airspace or in the line of sight radar signal transmission pathways used by the military.