

Citizen's Brochure for the Westover Air Reserve Base Air Installation Compatible Use Zone (AICUZ) Study

United States Air Force
February 2013





What is AICUZ?

The Air Installation Compatible Use Zone (AICUZ) Program concerns people and their comfort, safety, and protection. This pamphlet briefly summarizes the *Air Installation Compatible Use Zone Study for Westover Air Reserve Base (February 2013)* — an analysis of the effects of aircraft noise, accident potential, land use compatibility, and adjacent development for present and future neighbors of Westover Air Reserve Base (ARB).

Is there a problem?

Military airfields attract development to adjacent areas. In the absence of controls to ensure compatible land use, inappropriate uses may be made of property near or adjacent to an installation that may eventually cause conflicts between flight operations and surrounding landowners. Because land close to Westover ARB is subject to aircraft noise and the potential for aircraft accidents, certain types of development are not suitable in certain areas.

What has been done?

Westover ARB strives to be a good neighbor by voluntarily restricting flying activities that could adversely affect the surrounding area. For example, flying operations are normally conducted between the hours of 7:00 a.m. and 10:00 p.m. An operation is one arrival/departure or one takeoff/landing. A closed pattern operation consists of both an arrival and a departure, and is counted as two operations. For 2009 we estimated five operations per month between 10:00 p.m. and 7:00 a.m. This was about 2% of the total operations each month. Since 2009 they have decreased to about two night operations per month. Practice approach and departure operations are normally conducted during the

day when expected noise disruptions are less than they would be during the night. Flight pattern altitudes and the runway approach angles have been adjusted over the years in an effort to reduce noise impacts while maintaining safe operations. The base has demonstrated a spirit of cooperation by participating with communities in the area-wide planning process. Continued cooperation between Westover ARB, local governments, and the local populace will further reduce the potential for land use conflicts. The AICUZ Study provides information to help ensure that future land use will be compatible and beneficial.

What are the benefits?

In addition to protecting the public safety and health, other benefits include protecting the taxpayer's investment in national defense provided by Westover ARB and protecting economic benefits to the surrounding communities generated by Westover ARB activities and employment. The local economy is enhanced by Westover ARB's expenditures for salaries, contracts, construction, retirement pay, health insurance payments, and off-installation accommodations for travelers. In terms of total economic impact in the region, in Fiscal Year 2012, Westover ARB employed 3,902 people, with an annual payroll of just under \$140 million. In Fiscal Year 2012, Westover's overall economic impact in the region was \$237,936,752. Furthermore, Westover ARB spent approximately \$46.6 million on construction, services, and procurement of materials, equipment and supplies. Westover ARB is a strong partner in the economic future of the region.



Why AICUZ now?

The 2013 AICUZ Study is an update to the Westover ARB AICUZ Study conducted in 1996. Since the previous AICUZ was conducted, Westover ARB has adopted new flight operations and maintenance procedures required by the U.S. Air Force (USAF) headquarters, largely due to wartime and efficiency considerations. The Study reaffirms Air Force policy of promoting public health, safety, and general welfare in areas surrounding Westover ARB. The report presents changes in flight operations since the last study, and provides updated noise zones and future noise zones and compatible use guidelines for land areas surrounding the Base. It is hoped this information will assist the local communities, and serve as a tool for future planning and zoning activities.

What does AICUZ mean to me?

The purpose of the AICUZ Program is to protect public safety and health, as well as the protection of the national defense mission of the USAF. The AICUZ Program consists of the identification and analysis of many factors including the Day-Night Average Sound Level (DNL) metric, aircraft flight paths and altitudes, and accident potential zones (APZs).

The AICUZ Program uses a DNL metric, developed and approved in the early 1970s by the U.S. Environmental Protection Agency to describe the noise environment. DNL is the energy-averaged sound level measured over 24 hours¹.

¹ DNL includes a 10 dB penalty applied to nighttime (10:00 p.m. to 7:00 a.m.) sound events to account for increased annoyance from late night noise. The Air Force program is based upon the amount of noise generated during an Average Busy Day (ABD),

The AICUZ Study contains noise zones plotted in increments of 5 decibels (dB), ranging from a DNL of 65 dB up to 80+ dB. Noise Zones and APZs reflecting 2009 conditions are displayed in Figure 1, while noise zones projected for conditions in 2014 are shown in Figure 2. Figure 3 presents a comparison of the 1996 and 2009 Noise Zones.

The APZs are based upon statistical analysis of past DoD aircraft accidents. APZs consists of a clear zone (CZ), APZ I, and APZ II (see Figure 1). The CZ, the area closest to the runway end, is the most hazardous. The overall risk is high enough that DOD generally acquires the land through purchase or easement to prevent development. APZ I is an area beyond the CZ that possesses a significant potential for accidents. APZ II is an area beyond APZ I having a lower, but still significant, potential for accidents. While the aircraft accident potential in APZs I and II does not warrant land acquisition by the USAF, land use planning and controls are strongly encouraged in these areas for the protection of the public. An additional constraint involves areas that the Federal Aviation Administration (FAA) and DOD have identified for height limitations for structures. USAF obstruction criteria are based upon those contained in Federal Aviation Regulation Part 77, Subpart C, amended April 1971.

Table 1 provides a quick reference of compatible land uses within the various noise zones and APZs around Westover ARB. More detailed information can be found in Section 4 of the Westover ARB 2013 AICUZ Study.

which includes night operations. Only 2% of operations at Westover ARB occurred at night during the baseline year of 2009. They have been reduced by the base to the point that they are not part of its ABD. Thus, the 10 dB penalty does not apply to this study of aircraft noise at Westover ARB.



How can I help?

Historically, the citizens in the communities surrounding Westover ARB have worked together with the USAF and local municipalities in cooperative efforts to plan land use to better serve the community and the installation. North Wind, Inc. and HNTB Corp. provided aircraft noise mapping and analysis and prepared this update. The Air Force has developed solutions intended to maximize the benefits of Westover ARB while minimizing annoyances. Continued involvement by the citizens from the surrounding communities is needed to ensure solutions best address mutual concerns. We

request your careful and considered review of the recommendations contained in Westover ARB's AICUZ Study.

Who prepared the AICUZ Study?

The AICUZ Study was developed by concerned people at Westover ARB under the supervision of Air Force Reserve Command and Headquarters USAF. This Citizen's Brochure is a summary of the AICUZ Study, with only the major points of the report included. The complete AICUZ Study is available at the Westover ARB Public Affairs Office, at 413-557-2063.

Table 1. Land Use Compatibility Guidelines

Generalized Land use	Clear Zones and Accident Potential Zones			DNL Noise Contours (dB)			
	Clear Zones	APZ I	APZ II	65-69	70-74	75-79	80+
Residential	No	No	Yes ¹	No ⁴	No ⁴	No	No
Manufacturing	No	Yes ²	Yes ²	Yes	Yes	Yes	Yes
Transportation, Communications, and Utilities	No	Yes ²	Yes ²	Yes	Yes	Yes	No
Trade, Business, and Offices	No	Yes ²	Yes ²	Yes	Yes	Yes	No
Shopping Districts	No	No	Yes ²	Yes	Yes	Yes	No
Public and Quasi-Public Service	No	No	Yes ²	Yes	No ⁴	No ⁴	No
Recreation	No	Yes ²	Yes ²	Yes	Yes	No	No
Public Assembly	No	No	No	Yes	No	No	No
Agriculture and Mining	No ³	Yes ²	Yes ²	Yes	Yes	Yes	Yes

Source: Department of Defense Instruction No. 4165.57 Air Installations Compatible Use Zones (AICUZ), Appx. 2, Table 1, Appx. 3, Table 2, May 2, 2011.

Notes:

- (1) Suggested maximum density of 1-2 dwelling units per acre.
- (2) Only limited low-density, low-intensity uses recommended.
- (3) Except limited agricultural uses are permitted.

- (4) Unless sound attenuation materials are installed.

This chart is for general information. Refer to Table 4.3 and Table 4.4 in the AICUZ Study, which includes a more comprehensive summary of land use compatibility with respect to aircraft noise and accident potential.



Summary

The AICUZ Study includes the following community recommendations:

- Consider the health, safety and general welfare implications of this AICUZ Study when municipal or regional staff or officials make recommendations or decisions on zoning, site plans, special permits, etc.
- Follow the example begun by the Town of Ludlow to incorporate AICUZ policies and guidelines into the zoning ordinances and comprehensive plans of the cities of Chicopee and Springfield and the towns of Granby and South Hadley. Use overlay maps of the AICUZ, CZs, APZs and noise zones and Air Force Land Use Compatibility Guidelines to evaluate existing and future land use proposals. For example, the Town of Ludlow has been successful in the implementation of an Aircraft Flight Overlay Zoning District.
- Modify existing zoning ordinances and subdivision regulations to support the compatible land uses outlined in this study and deter incompatible land uses where appropriate.
- Implement defined height and obstruction ordinances that reflect current Air Force and FAA Part 77 requirements.
- Petition the state legislature for the home rule legislation in Chicopee, Springfield, Granby and South Hadley (as Ludlow did) to prohibit development of places of worship, schools, nursing homes, hospitals and day care facilities within APZs and noise zones and to enact building codes requiring sound attenuation for construction within noise zones.
- Modify building codes to ensure that new construction within the AICUZ area has the recommended noise level reductions incorporated into its design and construction.
- Continue to inform Westover ARB of planning and zoning actions that have the potential of affecting base operations.
- Develop a working group representing city planners, regional planners, and base planners to meet regularly to discuss AICUZ concerns and major development proposals that could affect airfield operations.
- Enact real estate disclosure ordinances for properties within CZs, APZs and high noise zones to inform prospective buyers about proximity to airport operations and potential for safety hazards and noise concerns.
- Partnerships between local conservation organizations, Westover ARB and Westover Metropolitan Airport should be sought and cultivated to help preserve sensitive natural areas.
- Develop a working group/roundtable consisting of local officials and citizens to meet regularly and exchange recent planning updates, requests and initiatives by the local jurisdictions.

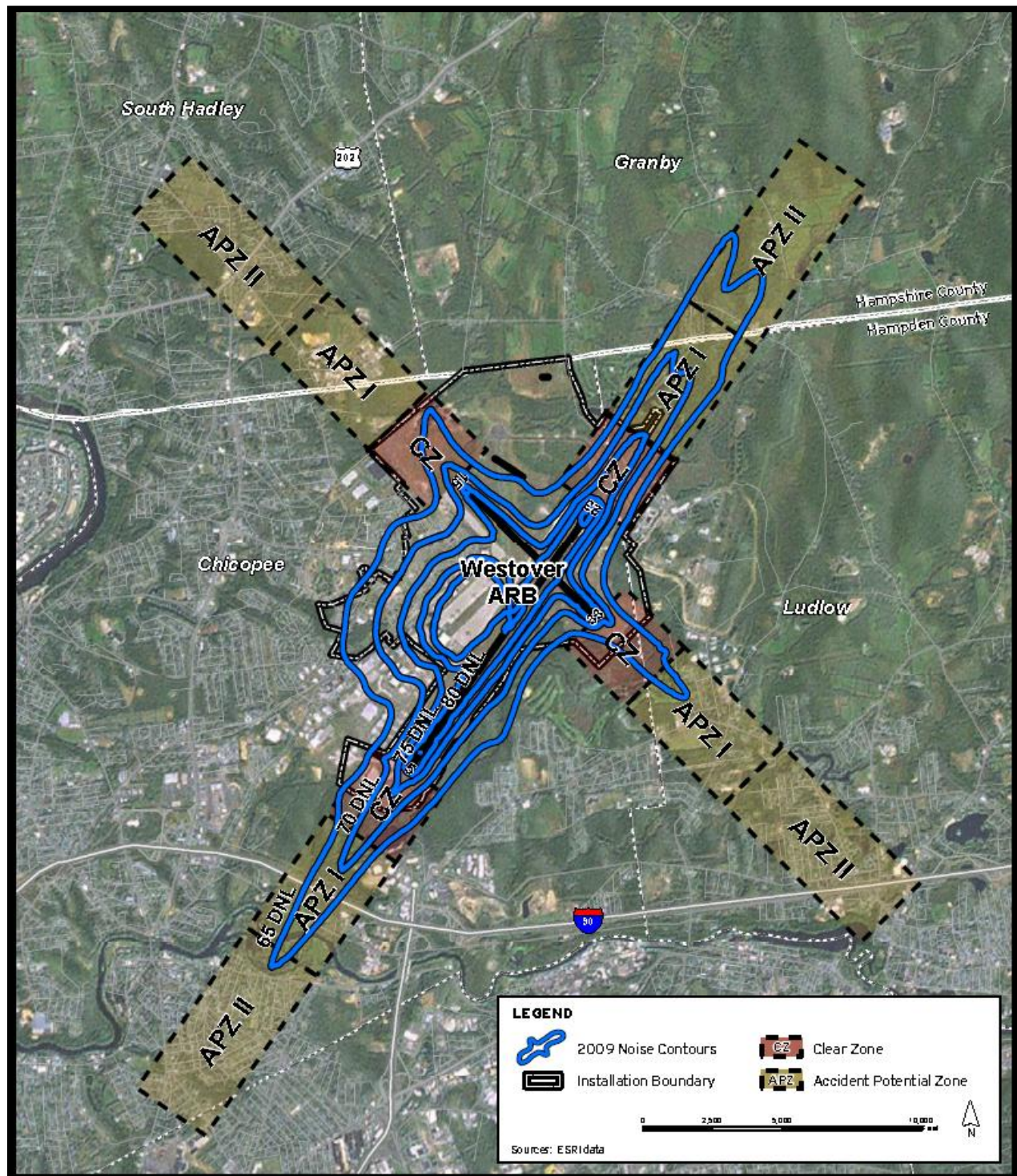


Figure 1. 2009 DNL Noise Zones, Clear Zones, and APZ

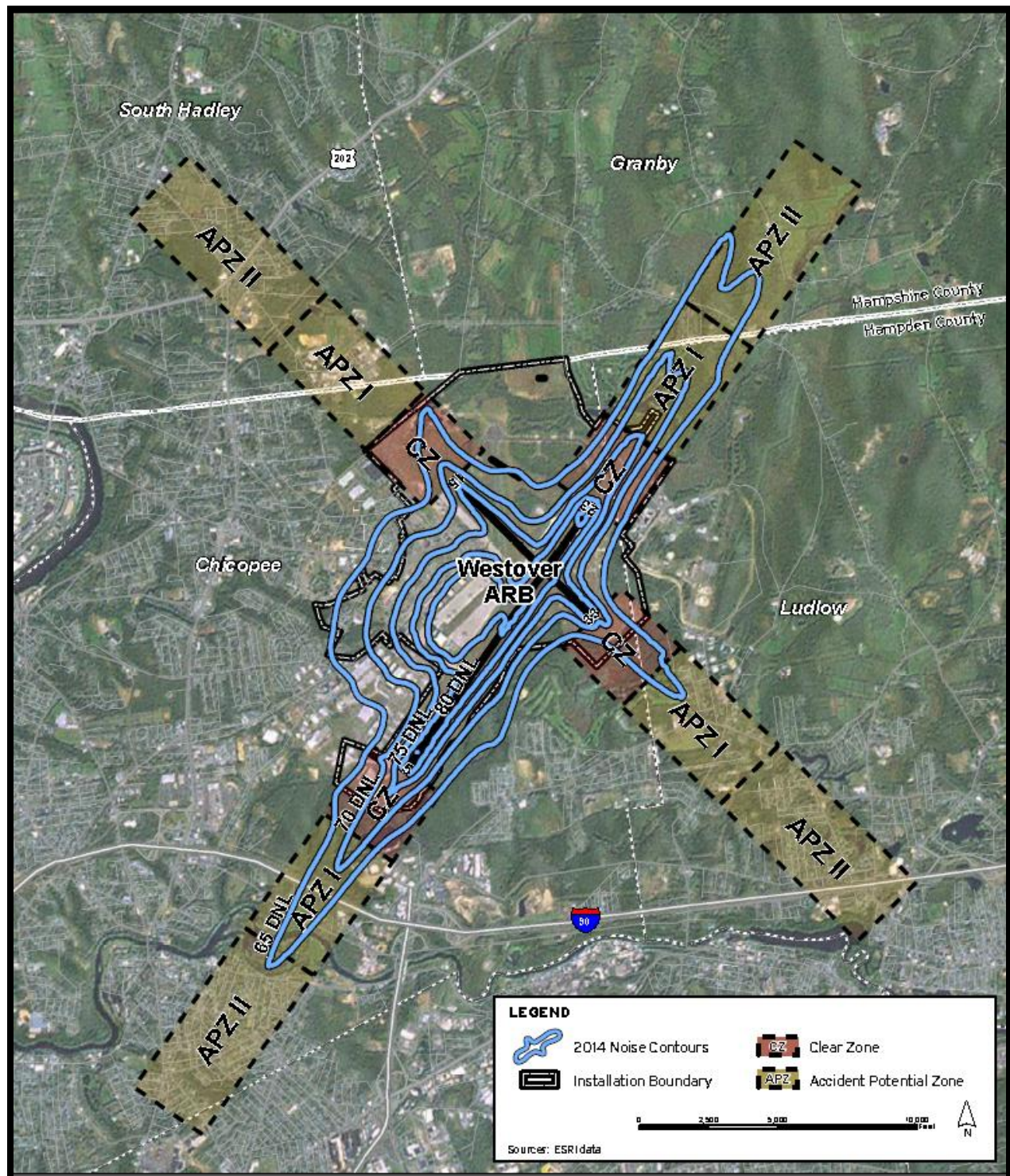


Figure 2. 2014 DNL Noise Zones, Clear Zones, and APZ

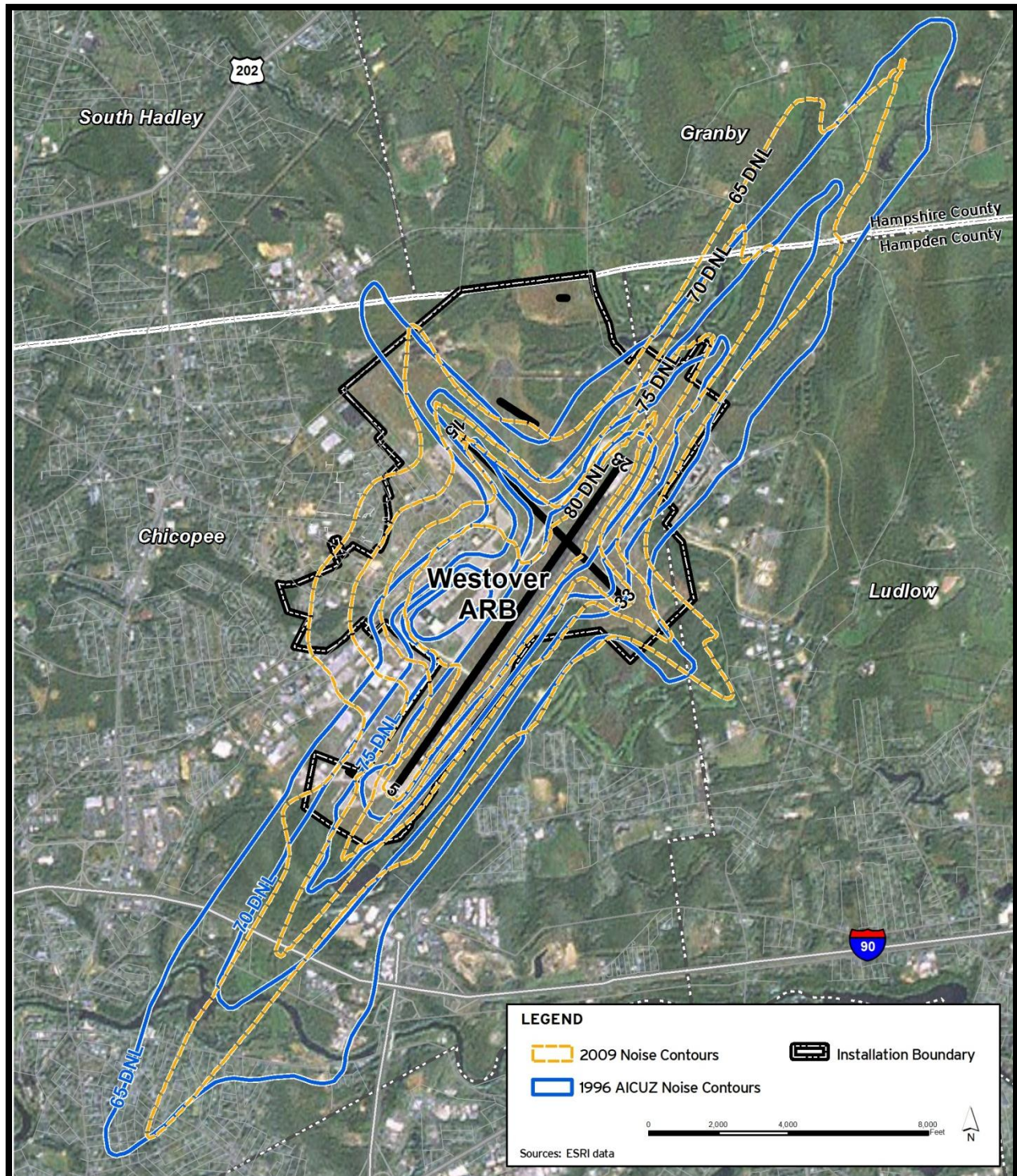


Figure 3. Comparison of 1996 AICUZ and 2009 Existing Noise Zones