



MEMORANDUM

Date: July 7, 2017

To: The Honorable Chair and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

A handwritten signature in black ink, appearing to be "CH Huckelberry", is written over the typed name and title.

Re: **Strategy for Community Action and Support for Davis Monthan Air Force Base, the Air National Guard at Tucson International Airport, and Other Arizona Military Bases**

In 2016, federal funding for defense continued to be under scrutiny, and the US Air Force announcements created some uncertainty as to the long-term viability of the A-10. At that time, it was clear the community needed to develop strategies to protect the future of Davis-Monthan Air Force Base (DMAFB), our third largest employer, and the 162nd Wing of the Arizona Air National Guard. These two installations have been instrumental in the long-term growth and viability of the region for decades. Together, they contribute nearly \$2 billion annually to southern Arizona's economy. Ensuring the continued viability of these installations, as well as Fort Huachuca in Sierra Vista, is critical to our region's economic future.

Pima County, the City of Tucson, DM50 and the Southern Arizona Defense Alliance, along with others, funded a study to identify various avenues forward for possible mission transition. Another goal of the study was to clarify what the funding organizations could do to improve community awareness of the values of these assets, as well as identify actions to advocate for these installations with key leaders at the state, federal and US Department of Defense levels.

The attached report addresses the above goals and provides 15 recommendations to strengthen a number of factors that make up mission decisions and what happens in the future at our installations. Advocacy is critical in conveying the community's interest and desirability to the decision makers. The 15 recommendations are guidelines based upon extensive experience of the authors in mission placement, as well as steps needed to strengthen the case of the community in the US Department of Defense decision-making process. Pima County is already actively engaged and executing some of the recommendations and will undertake a coordinated approach with our study partners to ensure these recommendations are executed. Examples of County engagement include our current leadership roles in the REPI (Readiness and Environmental Protection Initiative) program, the Community Partnership program, Military Spouse Initiative program through the Pima County Veteran's One-Stop, Expansion of the South Wilmot Road Gate, as well as other coordinated programs.

The Honorable Chair and Members, Pima County Board of Supervisors
Re: **Strategy for Community Action and Support for Davis Monthan Air Force Base, the Air
National Guard at Tucson International Airport, and Other Arizona Military Bases**

July 7, 2017

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This report will be our guide as we execute these and other programs to ensure our military installations are as competitive as possible in the coming series of decisions at the state and federal levels.

CHH/mjk

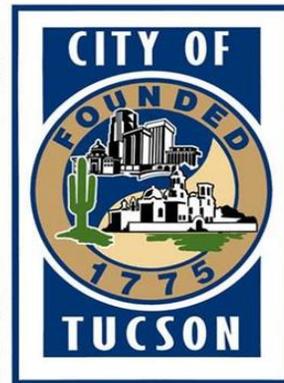
Attachment

c: Jan Leshar, Chief Deputy County Administrator
Dr. John Moffatt, Director, Economic Development
Patrick Cavanaugh, Deputy Director, Economic Development

**Strategy for Community Action and Support
for Davis Monthan AFB, the Air National Guard at Tucson
International Airport and other Arizona Military bases**



**Written for the Joint Steering Committee, consisting of the DM50, the
Southern Arizona Defense Alliance, the City of Tucson and Pima County**



by

The Partnership of S'relli Consulting, LLC and Mr. Fred Pease

Eugene D. Santarelli, Lieutenant General (Retired)

Gerald F. "Fred" Pease Jr., Deputy Assistant Secretary of the Air Force (Retired)

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Attachments

Attachment 1 - Encroachment

Attachment 2 – SADA 2016 Community Survey

Acronyms

12AF.....	Twelfth Air Force
AATC.....	Air National Guard and Air Force Reserve Test Center
ACC.....	Air Combat Command
AETC.....	Air Education and Training Command
AFB.....	Air Force Base
AFCP.....	Air Force Community Partnership
AFMC.....	Air Force Material Command
AFRES.....	Air Force Reserve
AFSC.....	Air Force Sustainment Center
AMARG.....	Aerospace Maintenance and Regeneration Group
ANG.....	Air National Guard
ARC.....	Air Reserve Component
ARW.....	Air Refueling Wing
ASD.....	Average Sortie Duration
BMGR.....	Barry M. Goldwater Range
BRAC.....	Base Realignment and Closure
CEQ.....	Council on Environmental Quality (White House)
CSAR.....	Combat Search and Rescue
DM.....	Davis-Monthan AFB
DM50.....	Davis-Monthan 50 (community support group)
DoD.....	Department of Defense
ECG.....	Electronic Combat Group
FAA.....	Federal Aviation Administration
FW.....	Fighter Wing
FY.....	Fiscal Year
HQ.....	Headquarters
ICBM.....	Intercontinental Ballistic Missile
JSC.....	Joint Steering Committee
MAJCOM.....	Major Command
NEPA.....	National Environmental Policy Act
OLCC.....	Ogden Air Logistics Complex
RG.....	Reconnaissance Group
RPA.....	Remotely Piloted Aircraft
SADA.....	Southern Arizona Defense Alliance
SADL.....	Situational Awareness Data Link
SECAF.....	Secretary of the Air Force
TIA.....	Tucson International Airport
UA.....	University of Arizona
UAV.....	Unmanned Aerial Vehicle
USSOUTHCOM.....	US Southern Command
WAATS.....	Western Army National Guard Aviation Training Site

Executive Summary

The best way to ensure a successful future for military units in Tucson is to address issues and work with Tucson's military units, their commands, the Air Force and the Department of Defense to make the most of the opportunities and resolve the challenges now.

This report was produced under a contract funded by the DM50, the Southern Arizona Defense Alliance (SADA), the City of Tucson and Pima County. The authors of this report have over 80 years of Air Force experience and were senior Air Force leaders in the fields of flying operations, installations, environment, basing, command and control, ranges, airspace, air traffic control and actions involving the National Environmental Policy Act processes. This report identifies fifteen recommendations that City and/or County officials, in conjunction with Community Group leadership, can implement together.

This report is intended to develop a better understanding within the Tucson community, and among other Arizona stakeholders, of the military value of Davis-Monthan AFB (DM), the Air National Guard (ANG) 162nd Wing (162W) at Tucson International Airport (TIA) and other military organizations in the greater Tucson area.

DM and the 162W are invaluable Air Force installations. DM is one of the oldest bases currently in the Air Force inventory built specifically for aviation operations. The 162W is the largest ANG fighter wing in the US. Tucsonans have supported DM and its contributions to the Nation's defense for over 90 years and the 162W for over 60 years. Recent community surveys have demonstrated that there continues to be clear support among Tucsonans for DM and the 162W (see Attachment 2). Additionally, DM is Tucson's third largest employer with a positive financial impact of over \$1.5B in the community (DM FY15 Economic Impact). The 162W provides an additional \$280M to the local economy (missionstrongaz.org).

The goals of this report are to: 1) improve community awareness based on factual information, about the military value of DM, the 162W and other bases in Southern Arizona; 2) to enhance effective interactions of key leaders in the State of Arizona and with DoD, the Air Force and National Guard leaders; 3) to provide an executable roadmap for the City of Tucson, Pima County and other community leaders so the Air Force and the community can ensure the continuation of a long-term and mutually beneficial relationship; and 4) successfully plan for future mission transitions at DM and the 162W.

Conclusions

Tucson military units are highly regarded by the Air Force. The overwhelming attributes afforded by Tucson's geography, operating conditions and efficiency have prompted the Air Force to do its part to maintain DM and the 162W as viable locations for future flying operations. Also, Tucson's intellectual capital and overall quality of life, added to the unique and irreplaceable nature of the 309th Aerospace Maintenance and Regeneration Group, wholly increase the military value of Tucson's Air Force units in the minds and plans of Air Force senior leaders.

Community support groups can work with Tucson and Pima County leaders to pool resources, coordinate support and advocacy efforts and develop common messaging to better represent the majority of Tucsonans to the Air Force and to Congress. City and County officials can work governmental issues even more closely with the Air Force in the future to streamline mission transitions at DM and TIA.

List of recommendations in this report

(Passages are in bold and italicized in the body of the report)

This list of recommendations is a direct citation of recommendations in the body of the report. In most cases the recommendations follow a section that explains the rationale for each recommendation. To fully understand the recommendation, a review of the section from which it came may be necessary. The parenthetical page reference is the location of the recommendation in the report.

1. Early in this process, the consultants recommended that Tucson, Pima County and community support groups take a broader Southern Arizona perspective to include all military missions. (page 10) (***City and County, DM50 and SADA focus required for this perspective***)
2. Tucson leaders should continue to foster closer relationships with both the Ogden Air Logistics Complex and Air Force Sustainment Center Commanders and continue to explore opportunities for new, mutually beneficial programs and increased community support. (page 10) (***City and County lead with military leaders, DM50 and SADA support***)
3. It is important to demonstrate that this strategy represents a proactive Tucson commitment for a long-term, mutually beneficial relationship with the Air Force and not a reactive effort based on a single event like a Base Realignment and Closure process. (page 11) (***City and County, DM50 and SADA focus required for this perspective***)
4. Tucson community leaders can work with Air Force leadership to facilitate a smooth basing process for future missions/aircraft and mission expansion at DM by effectively addressing those challenges. (page 11) (***City and County lead with military leaders, DM50 and SADA support***)
5. Attracting, recruiting and retaining qualified members for the Air Reserve Component requires a significant and supportive local population with intellectual capital and a job market conducive to supporting part-time military members. (page 16) (***City and County lead with military leaders, DM50 and SADA support***)
6. The Tucson community should continue to work with DM and Air National Guard (ANG) leadership to explore mutually beneficial options to meet operational readiness needs and continue to mitigate noise issues. Actions like support for the second runway at TIA that will

support ANG operations to the south of TIA, and exploring additional compatible airfields near Tucson to support joint civil-military operations could help mitigate noise issues over the greater metropolitan area. (page 23) ***(City and County lead with military leaders; DM50 and SADA support)***

7. Community leaders and local governments should work with the Air Force and congressional leaders to normalize land ownership on the base to reduce base operating expenses. (page 26) ***(City and County lead with DM50, SADA and DM AFB support)***

8. Tucson and Pima County's elected leaders, who have unique access to senior decision makers, both in the Executive Branch and the Congress, must lead the planning and advocacy efforts to keep Tucson's attributes in the minds of Department of Defense and congressional leaders. (page 29) ***(City and County lead)***

9. The Tucson community should work to develop stronger community partnership programs that support Air Force Reserve Component recruiting and job creation. (page 34) ***(City and County lead)***

10. Community leaders should continue to advocate to the Air Force and the Congress their desire to be active participants in the Air Force strategic basing and mission transition processes as appropriate. (page 36) ***(City and County lead)***

11. Intergovernmental efforts in the areas of land acquisition, entry access, security, emergency response, infrastructure sharing, mentoring, conservation, flood control, water quality, etc., are opportunities for the future. Community leaders should continue to embrace the Air Force Community Partnership program to develop mutually beneficial ideas for the region and the Air Force. (page 38) ***(City and County lead)***

12. The City of Tucson, Pima County and Arizona planning agencies should endeavor to be significant contributors to the viability of DM and the 162W by working closely with Air Force planning agencies during the mission basing process. (page 39) ***(City and County lead, interface with the State and Tucson military leadership)***

13. Planning must be done within the context of economic sustainability, growth and fiscal health of the entire Tucson community. Land use, conservation, economic efficiency, zoning, water use and safety are all major concerns of Tucson and Pima County's elected leaders. They are also concerns of local military commanders. (page 40) ***(City and County lead, interface with the State and Tucson military leadership)***

14. The Tucson and Pima County communities should increase their efforts to work with local military installations to find more efficient, mutually beneficial ways of doing business using existing programs like the Air Force Community Partnership. (page 40) ***(City and County lead)***

15. The best way to ensure a successful future for military units in Tucson is to address issues now and work with Tucson's military units, their commands, the Air Force and the Department of Defense to make the most of the opportunities and resolve the challenges. (page 40) (***City and County lead with Tucson military leadership, DM50 and SADA support***)

About the Authors

Lieutenant General (Retired) Gene Santarelli served 32 years in the Air Force as a pilot and in command positions. He is currently a consultant to the Department of Defense and the Tucson Community. Since his military retirement, he has worked with the State of Arizona, the cities of Tucson and Glendale and served as Co-Chair of the Arizona Governor's Task Force on Military Installations. He provided advice on military-community relations, Base Realignment and Closure methodology and the resolution of encroachment issues, including innovative zoning and legislative strategies.

On active duty, he commanded the 836th Air Division and 355th Wing at DM from 1990 to 1993. During that time DM was one of 15 tactical air bases evaluated for closure in the Base Realignment and Closure process. He worked closely with the Tucson community to ensure their understanding of the value of DM to the Air Force. The base was not selected for closure and in fact has become a net receiver of additional missions in the recent past. Additionally, in two Pentagon assignments and multiple command positions, he worked strategic basing initiatives and military community relations issues.

Deputy Assistant Secretary of the Air Force (Retired) Gerald F. (Fred) Pease Jr. served 42 years in the Air Force in uniform and as a Senior Executive, retiring as a Deputy Assistant Secretary of the Air Force in 2014. He was an F-4 and F-15 fighter pilot and squadron commander with 31 combat missions during Desert Storm. He also held a series of senior level policy positions in the fields of operations, airspace, air traffic management, unmanned aircraft, ranges, environment and installations. As the Air Force Deputy Assistant Secretary for Basing and Infrastructure Analysis, he planned and directed Air Force metrics formulation, analysis and realignment and closure recommendation processes during the 2005 Defense Base Realignment and Closure (BRAC) process. He also co-chaired the Air Force Base Closure Executive Council and was a principal Air Force witness testifying before the 2005 BRAC Commission.

Tasking and purpose of the report

For the last year, under an agreement between S'relli Consulting (consultants) and the Joint Steering Committee (JSC), consisting of the DM50, the Southern Arizona Defense Alliance (SADA), the City of Tucson and Pima County (clients), the authors provided information, strategies, advice and engagement with the US Department of Defense (DoD), US Air Force, Air Combat Command, Air Force Material Command, other Major Commands or Centers as appropriate, Davis-Monthan AFB (DM) and 162nd Wing (162W) leadership, and other projects as assigned by the clients. The consultants have provided these services, reporting regularly throughout the process to the Executive Committee of the JSC.

The purpose of this report is to provide a roadmap for Tucson Community support to the military to ensure an enduring and mutually beneficial relationship. It is intended to improve community awareness and develop a better understanding of the military value of DM, the 162W, Arizona Air National Guard (ANG), located at Tucson International Airport (TIA), and other military organizations based in the greater Tucson area. The content of this report is based on the personal experience of the authors, DoD public data, an analysis of that data, discussions with senior DoD leaders and other information necessary to provide fact-based community awareness. This report provides an executable long-term strategy for Tucson and Pima County so the Air Force and the community can more effectively plan for mission transitions at DM, TIA and Southern Arizona. It provides specific steps and recommendations for DM50, SADA, the City of Tucson, Pima County and other Arizona community delegations that will lead to proactive and effective interactions with key DoD, Air Force and National Guard leaders.

Approach used to develop the strategy in this report

The strategy development methodology used in the preparation of this report was a multi-step process. The original concepts were based on the professional assessment of both authors, building on their 20+ years of Executive level service in the Air Force. Additionally, unlike some previous reports, the consultants conducted a thorough vetting of these concepts, throughout the effort, with Tucson community leaders and senior leaders at all levels of the Air Force chains of command. Moreover, progress reports were released to the public during the strategy development and vetting process.

The core of the strategy focuses on a long-term view (10 to 50 years), emphasizing operational and installation efficiency and effectiveness. It highlights Tucson's close proximity to overland supersonic airspace and one of the largest overland training ranges in the DoD. Those attributes provide significant operational cost savings, an invaluable desert environment, ideal for the current national security training focus and a superb environment for the world's

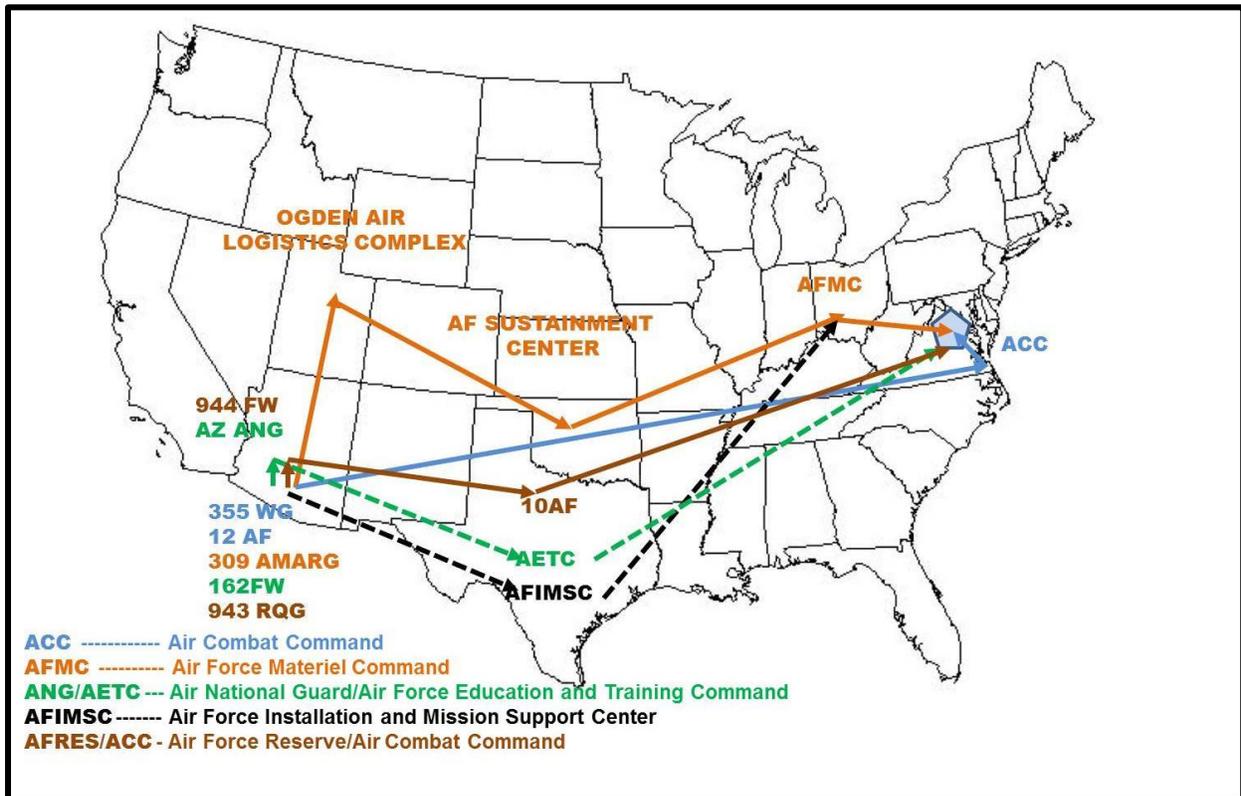
largest military aircraft storage and regeneration facility. It builds on the recent Air Force Community Partnership program to establish mutually beneficial initiatives for DM and the Tucson community. These strategic elements are developed further in later sections of this report.

The vetting and validation process was designed to give the consultants the opportunity to socialize the concepts and strategy and receive feedback from key leaders from Tucson all the way to senior leaders in the Air Force and DoD in Washington D.C.

The first step in this process was to ensure the JSC had a thorough understanding of the approach. This included a review of the initial proposal, with specific input from the JSC, and a series of local and State meetings. One aspect of the initial discussions was an explanation to community groups of a comprehensive methodology necessary to systematically engage the key elements of the chains of command of the Air Force Major Commands (MAJCOMs) with interests in Tucson. (For a detailed description of Air Force MAJCOMs see pages 30-32.)

Effective advocacy requires communication with key commanders in the Air Force’s subordinate commands to understand their issues and requirements. Those issues and requirements change from specific/detailed issues at the local level to big picture/general issues as one moves up the chain to Washington, D.C. following the arrows in the graphic below.

Major organizations in Air Force Chains of Command with interests in Tucson



The second step included meetings with local DM and ANG unit leaders, including commanders from 12th Air Force (12AF), the 355th Fighter Wing (355FW) (DM's host command), 563rd Rescue Group, 55th Electronic Combat Group, 309th Aerospace Maintenance and Regeneration Group (AMARG) and the 162W. These meetings gathered the local military perspective of current and potential new missions and enabled the consultants to test the concepts behind the strategy. Although local commanders are not strategic planners, they helped scope the near-term direction they had received from their higher headquarters. Their views and opinions helped clarify the possibilities and probabilities for new missions.

The consultants met with local leadership including the City of Tucson and Pima County officials, prominent business and academic leaders and other civic and community leaders. These meetings highlighted specific concepts, ways to improve awareness within the local community and the roles of the community as a supporting partner in strategic basing decisions and planning. Consultants addressed areas where partnerships would benefit both the base and the community and new ideas for community support.

The consultants met with selected Arizona State officials in Phoenix to include the Adjutant General, the governor's Policy Advisor for Public Safety and governmental staff. These meetings focused on awareness and constituent perspectives of the military missions in Tucson and the relationship with other Arizona military installations. Discussions addressed routine joint training opportunities among the various military locations, including both the Arizona National Guard and active Air Force/DoD units. Lastly, the consultants engaged local congressional offices to ensure their awareness of the effort and to inform them of the strategy and process.

The third step involved travel to the headquarters of the three Air Force chains of command with the major equities in the greater Tucson area and Southern Arizona. They are Air Combat Command (ACC), Air Education and Training Command (AETC) and Air Force Material Command (AFMC). Many of the units based at DM come under ACC, located at Langley AFB, VA. Consequently, it was important to discuss the various ACC operations at the base, strategic basing plans, and the ACC role, in conjunction Air Force Installation and Mission Support Center, in the Air Force's new basing and installation support processes.

A visit to San Antonio headquarters resulted in a comprehensive conversation with the Commander and senior staff of AETC concerning strategic planning and initiatives in support of the 162W, the Barry M Goldwater Range (BMGR) and the interface with plans for Luke AFB, all three of which fall under the functional control of AETC. Additionally, we met leadership at the Air Force Civil Engineering Center (AFCEC) which is responsible for DM installation support. This meeting addressed specific opportunities to improve community involvement in mission transition planning and potential partnership initiatives.

In the past, local support groups have focused their efforts mainly on the two fighter wings. ***Early in this process, the consultants recommended that Tucson, Pima County and community support groups take a broader Southern Arizona perspective to include all military missions.*** The recommendation was based on the fact that engagement with AFMC wasn't as robust as engagement with ACC and one of DM's "anchor" elements is the AMARG, an AFMC unit (see discussion on page 14). The consultants developed a strategy for working more closely with the AMARG and discussed the ideas during visits to the Ogden Air Logistics Complex (OLCC), at Hill AFB, Utah and the Air Force Sustainment Center, at Tinker AFB, OK, both of which report to AFMC, headquartered at Wright-Patterson AFB, OH.

Discussions with the Commander, OLCC included a review of DM attributes and the potential for increased support in the future for the AMARG mission. Specifically, the commander recognized that the intellectual capital generated by the University of Arizona and Pima Community College in engineering career fields would be a valuable recruiting resource for the OLCC, and has already taken action in that area. OLCC's requirement for continuing engineer recruitment is critical to their mission which provides...

logistics, support, maintenance and distribution for the nation's premier fighter aircraft: the F-35 Lightning II, F-22 Raptor, F-16 Fighting Falcon and A-10 Thunderbolt. In addition, it maintains the C-130 Hercules, T-38 Talon and other weapon systems, as well as the Minuteman III ICBM. The complex is one of the leading providers of software, pneudraulics, secondary power systems, composites and ICBM rocket motors for the Department of Defense. The complex is also the Air Force's Landing Gear Center for Industrial and Technical Expertise, handling all Air Force landing gear and a majority of other DoD landing gear. Personnel in remote locations perform aircraft, missile and electronics maintenance, regeneration and storage.

(<http://www.hill.af.mil/About-Us/Fact-Sheets/Display/Article/397018/ogden-air-logistics>)

Subsequent discussions were held with the OLCC's parent command, the Air Force Sustainment Center (AFSC) at Tinker AFB, OK. The Commander, AFSC, serves as the numbered Air Force commander (like the 12AF Commander) for Air Force logistics. The AFSC is the "supporting command for the readiness of Logistics and Sustainment activities around the world. The AFSC provides critical sustainment for the Air Force's most sophisticated weapons systems..." (<http://www.afsc.af.mil/About-Us/Fact-Sheets/Display/Article/465910/air-force-sustainment-center/>). Discussions focused on Tucson's support for the AMARG and other issues as discussed with the OLCC Commander. The conversation included a recommendation for dialogue and a closer relationship between Tucson and Pima County leaders, community support groups and the AFSC Commander. ***Tucson leaders should continue to foster closer relationships with both the Ogden Air Logistics Complex and Air Force Sustainment Center Commanders and continue to explore opportunities for new, mutually beneficial programs and increased community support.***

The fourth step of the process was to meet with a series of functional leaders in the Pentagon and with the Arizona Congressional offices in Washington, D.C. Discussions with Air Force senior leaders focused on their thoughts on current DM attributes and missions and what they viewed as potential future missions. Also discussed were issues associated with logistics support to DM units (355FW and the AMARG), installation support, environmental processes and communicating the comprehensive nature of the Air Force safety program to the public. Discussions with DoD senior leaders focused on strategic basing, water issues, military readiness, training and environmental issues. On Capitol Hill, meetings in the Arizona congressional offices allowed the consultants to get a sense of Air Force issues in Arizona as seen by the Arizona congressional delegation. The discussions also allowed the consultants to share and socialize the strategy and concepts of the project.

The concepts and strategy for Tucson community support to the Air Force were well received, with virtually everyone providing positive feedback. There was unanimity of agreement of the validity of the core of the strategy – namely an emphasis on DM and Southern Arizona’s inherent attributes that support effective and efficient military operations, flying training, and preservation of the AMARG as America’s airpower reservoir. ***It is important to demonstrate that this strategy represents a proactive Tucson commitment for a long-term, mutually beneficial relationship with the Air Force and not a reactive effort based on a single event like a Base Realignment and Closure process.***

Throughout this vetting and validation process, all were equally supportive of the direction in which local support for the Air Force is heading. They concurred with the development of a comprehensive focus that encompasses DM and the 162W, all active duty Major Commands, the Air Force Reserve (AFRES) and the ANG. All recognized the value of an effort to better synchronize community planning with Air Force planning to accommodate potential new mission transition.

Air Force leadership understands the many positive aspects of Tucson and Southern Arizona, and both Air Force and community leaders appreciate the value of working together to mitigate the effects of a small number of challenges (see page 20-27). ***Tucson community leaders can work with Air Force leadership to facilitate a smooth basing process for future missions/aircraft and mission expansion at DM by effectively addressing those challenges.*** As for the Air Force, senior leaders committed to supporting continued updated F-35 noise data studies to help bases and communities validate aircraft operational impacts once more is understood about operations of this new aircraft. Also, safety offices will support subject matter expert publications that explain the highly successful Air Force safety record, and aircraft/engine reliability. Several senior leaders were intrigued by other potential operational initiatives supported by the relatively unencroached operational training space available in Southern Arizona.

The last step of this process is to provide continuing support to the JSC as requested. It will involve continued work with the JSC to develop a detailed follow-on plan of action to implement the strategy. Implementation will include assisting with organizing the members of the JSC for continued education and awareness efforts with local community, State agencies and military organizations. Continuing to work with military organizations will ensure they see the strong support from the Tucson community for all facets of current and potential future operations in the greater Tucson area.

Davis-Monthan Base History

On April 12, 1926, the sixty-ninth congress of the United States authorized the Secretary of the Interior to lease to the city of Tucson, Arizona, 1,280 acres (sections 26 and 27) for the establishment and maintenance of a municipal aviation field. It was located about 5 miles from the University of Arizona “Old Main”.



University of Arizona Old Main 1889 (University of Arizona website)

The act was contingent on two provisions: the first being that “Government departments and agencies operating aircraft shall always have free and unrestricted use of said field and the right to erect and install upon said land such structures and improvements as the heads of such departments and agencies may deem advisable, including facilities for maintaining supplies of fuel, oil, and other materials for operating aircraft...;” and the second being that “...in case of emergency, or in event it shall be deemed advisable, the Government of the United States may assume absolute control of the management and operation of said field for military purposes.” On May 25, 1932, President Hoover exercised that provision with Executive Order 5850, officially transferring the airfield to the military.



D-M airfield circa 1932 (image from DMAFB Office of Natural/Cultural Resources)



The original two sections of land referenced in the 1926 law in relation to the base today.

DM has had a long history of training air and missile crews in bombers, fighters, reconnaissance aircraft and strategic and tactical missile operations. From the time the War Department designated the airfield as a landing site in late 1925 there have been military personnel stationed here to service the frequent military aircraft that landed. Starting in 1940 and continuing through World War II, the base was B-24 and B-29 training base. After WWII, B-29s, B-50s, and B-47s were the primary aircraft assigned to DM.

Later, in the 1960's, the base simultaneously hosted a Strategic Missile Wing, a reconnaissance wing (U-2 aircraft) and a combat crew training wing (F-4 fighter aircraft). In the 1970's, the base hosted a fighter wing (A-7 aircraft). On March 2, 1976, the wing received the first A-10A. Other units assigned to DM were the 41st Electronic Combat Squadron, and the 602nd Tactical Air Control Wing.

In addition to assigned units, Davis Monthan has hosted, and continues to host, a significant number of Air Force, DoD and foreign military flying units, drawn to the base by the same outstanding flying weather and training opportunities available in southern Arizona, that attracted military and civilian aviation to Tucson in the 1920's. (DM FY15 Economic Impact)

Factors relating to the military value of Air Force Bases

The number of military bases has fluctuated over the last 100 years depending on national security issues, peaking at over 650 Air Force bases during the height of World War II. After the two world wars, many of these fields were closed or transferred to civilian use. In the 1960's and 1970's, over 400 DoD installations were closed and from 1988-1995 twenty-six Air Force bases were closed. (en.wikipedia.org/wiki/Base_Realignment_and_Closure)

Establishment and closure of bases in the past has been determined by a number of factors, the most predominant being military value. For the Air Force, military value criteria in the last 20 years has trended toward more emphasis on operational factors such as proximity to available operating space, the main attribute that supports training and readiness. The second most important factor has been the capacity and condition of infrastructure and its adaptability to

future needs. Also considered are the attributes of the physical location of the base and whether other military and governmental activities would benefit by the installation's presence. For example, the bases in southern Arizona, mostly fighters, benefit greatly from the close proximity of the 161st Air Refueling Wing (ARW), a prime factor for basing that ANG refueling unit in Phoenix and one of the reasons why the Air Force recommended adding additional refueling aircraft to the 161ARW in BRAC 2005.

After years of reviews of military installations' value, certain attributes represent the common factors that keep a particular base open. Although all bases have unique attributes, there are certain bases that have one-of-a-kind qualities, one example might be Andrews AFB, MD which is the host unit for Air Force One, which has a unit of the National Park Service, Suitland Parkway, specifically established to provide safe and efficient transport from Andrews AFB to the National Capital Region. We call these unique attributes "Anchor Factors". DM has four anchor factors. The 162W shares two of those anchor factors, weighing heavily in the determination of the military value of both locations.

Tucson's Anchor Factors

1. Operational Attributes

DM and the 162W are close to some of the best training space in the United States. Large tracts of land with low population density near the operational training areas, training airspace free of commercial air traffic, a training range with over 3 million acres of open federal and state lands buffering its borders as a hedge against future operational encroachment and very favorable weather make southern Arizona bases prime locations for military fighter training. Additionally, the close proximity of DoD units with complementary missions throughout Southern Arizona allows for the potential of routine joint training and is also a key attribute of military value.

2. 309th Aerospace Maintenance and Regeneration Group (AMARG)

The 309th AMARG is one of the most important anchor factors of DM. It is one of a kind. The AMARG is the largest long-term storage facility in the world and is commonly known around the world as the "Boneyard." However, this major industrial facility is far more than just a place "where airplanes go to die."



The AMARG is known as a one of a kind storage facility, but its repair and regeneration capabilities are also noteworthy

In reality, it is more accurately described as “America’s Air Power Reservoir.” It is a key and irreplaceable element of the Air Force’s worldwide logistics program, serving not only Air Force needs but also those of other DoD services, civilian governmental agencies and allied military and civilian organizations and agencies. Its history dates back to 1946 when it was established at DM to store excess WWII military aircraft. The location was chosen because of Tucson's low humidity, hard soil and reduced potential for corrosion. The AMARG currently represents a “reservoir” enterprise valued at \$34B for the US Government which allows our nation to adjust to security threats and fiscal realities and adds to the reputation that Tucson enjoys as a critical center of US national security efforts.

3. Physical Size of Davis Monthan AFB

DM is a large base, about 10,763 acres, which includes the 2600 acre AMARG. It is larger than the average fighter base and is about the same size as Nellis AFB, in Las Vegas, NV. The base’s size allows flexibility to beddown many different flying and non-flying missions that require large land footprints.

4. Recruiting Potential for civilians for the AMARG and the Air Reserve Component (Air National Guard and Air Force Reserve - ARC)

Tucson's University, medical, law schools and community colleges have a myriad of disciplines that complement the missions of Tucson military units. The AMARG can benefit from Tucson's intellectual capital to fill their needs for qualified technicians and engineers to execute their maintenance, storage, reclamation and regeneration roles. Additionally, DM is one of few bases in the Air Force that has significant ANG, AFRES and active duty units on the same base. In an annual report submitted to Congress on March 4, 2016, the Secretary of the Air Force said "The Air National Guard and Air Force Reserve provide the nation a vital capability that is functionally integrated and operationally indistinguishable from the active force...this maximizes our total force and secures (our) top priorities of taking care of people, balancing today's readiness with tomorrow's modernization, and making every dollar count." *Attracting, recruiting and retaining qualified members for the Air Reserve Component requires a significant and supportive local population with intellectual capital and a job market conducive to supporting part-time military members.*

Tucson's Operational Advantages

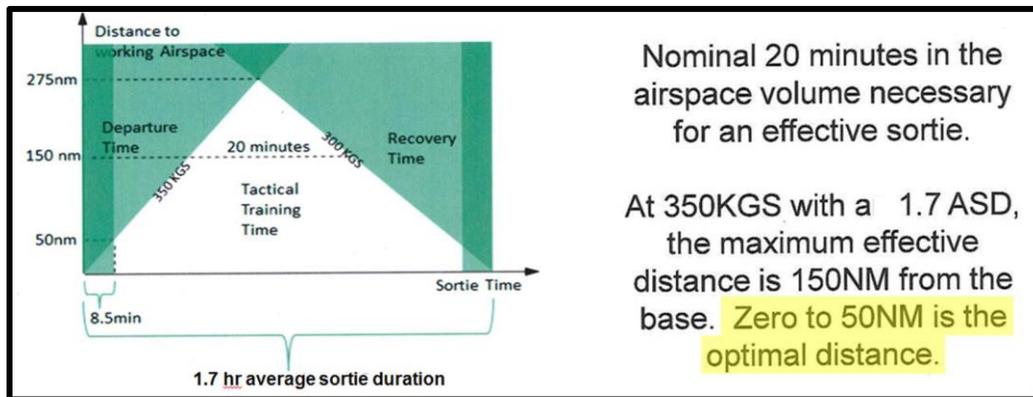
As indicated above, the Tucson area offers many advantages for flying operations and aircraft storage. Attributes such as climate and the proximity to operational airspace and land ranges are among the most favorable in the US. These operational advantages apply to all existing military missions and are the reason why the Air Force has proposed DM be considered for new missions, such as the F-35, F-16 training and Remotely Piloted Aircraft operations.

Operational efficiency resulting from proximity to required critical mission attributes, offers substantial cost productivity. The value of realistic training can be assessed by determining distance to a critical mission attribute (size and quality of the training areas), times the cost per operating hour. Less transit time to realistic training areas enables more training time to be spent doing the actual mission training itself, which equates to increased military readiness. For a wing of fighter aircraft the cost/benefit could be in the multi-millions of dollars per year. Because of Tucson's geographic proximity to important training areas, Tucson units enjoy operational efficiencies which improve their quality of training and their readiness.

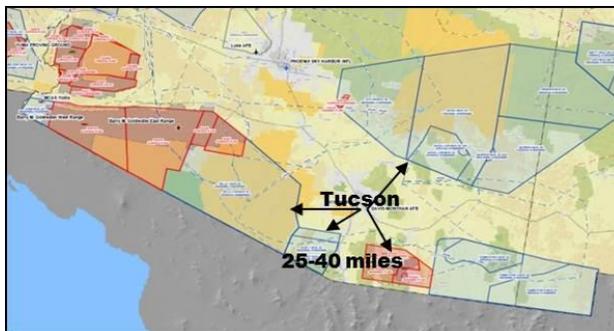
Based on the operational advantages found in the Tucson area, the Air Force will continue to consider DM and the 162W as prime candidates for future flying mission beddowns. It should come as no surprise why the bases have been operating for decades.

The following graphic, which was extracted from an Air Force briefing to Congress, shows effective training time in white and marginally effective transit time in green. The Air Force has determined that 20 minutes is the minimum length of tactical training time required for a productive fighter mission. The formula assumes that the flight (sortie) is, on average,

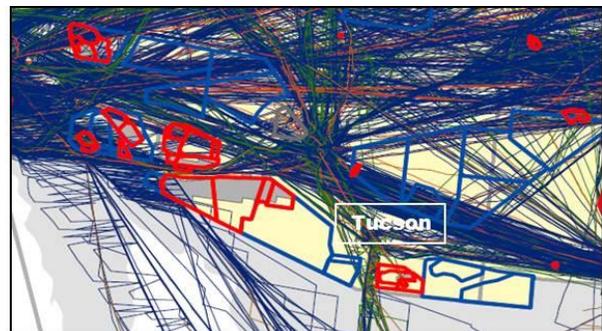
1.7 hours long (average sortie duration –ASD). The Air Force calculations determined that the minimum training duration could be achieved by accessing training space, with appropriate attributes, as far away as 150 miles from the base. The departure and recovery time (in green) would be conducted at 350 nautical miles per hour ground speed (KGS). The Air Force states that 150 miles is the maximum effective distance, and the optimum distance is 0-50 miles. In other words, the more tactical training time (in white), the more tactical training (in white) each individual sortie produces.



The next graphic demonstrates that Tucson units are located not only in unencroached operational airspace but also in “optimum” range to meet fighter mission requirements.

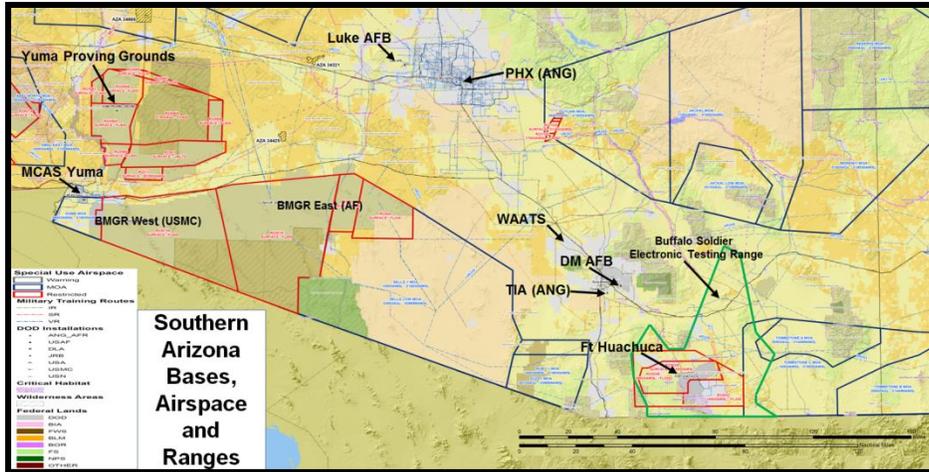


Close proximity to training airspace



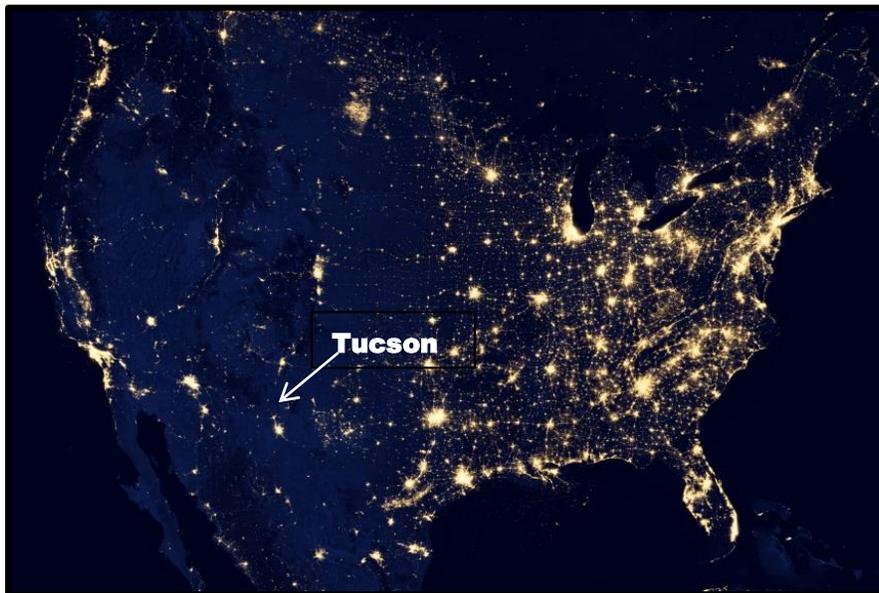
Airspace not encroached by Civil air traffic

Southern Arizona also has one of the largest military training ranges in the DoD. Managed by Luke AFB, the Barry M. Goldwater Range (BMGR) is used by all military units in the southwest. Tucson based units benefit from their close proximity to the BMGR’s critical mission attributes, such as large areas of supersonic airspace, large tactical ranges with realistic targets, instrumentation, air refueling tracks, low lighting conditions and lack of operational encroachment. Additionally, proximity to other military services with complementary missions enables the possibility of joint warfighting training on a frequent basis. In fact, such is the military value of the BMGR, that many US and allied military flying units deploy to DM to benefit by its proximity to this world class training space.



Southern Arizona has dark skies, an excellent accommodation for night vision devices used by military flyers for realistic training. Arizona also has a significant interest in keeping those skies dark. The Arizona space and astronomy industry employs more than 3,300 individuals and has an economic impact of \$252.8 million (Arizona Commerce Authority). The state also hosts 30 observatories and the International Dark-Sky Association (headquartered in Tucson).

In some areas in the US, dark skies are only found over the ocean, not an optimum situation for aircraft with an air-to-ground mission that require dark skies to perform their flights with night vision devices (see Attachment 1).

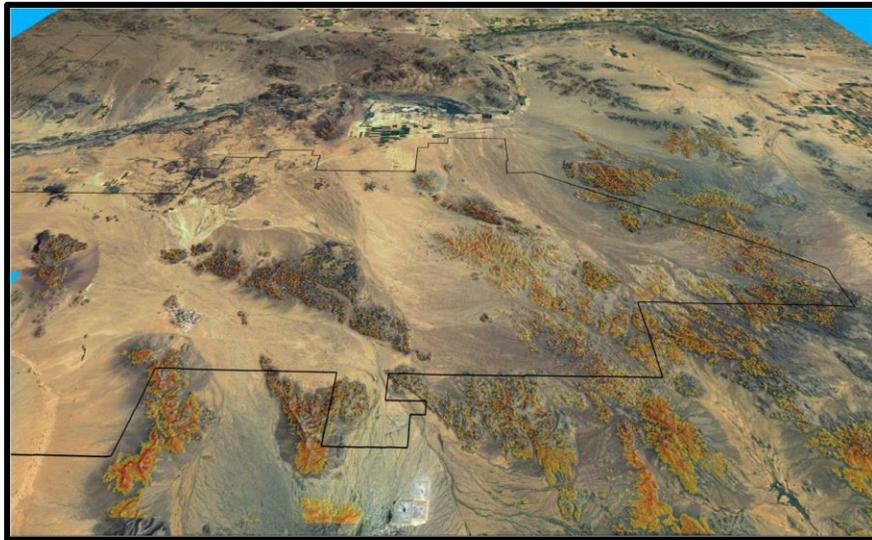


Tucson's dark skies policies significantly benefit both Astronomy and the military (NASA Photo)

Davis Monthan has a 13643-foot runway. Fighter operations require a runway at least 8,000 feet long. DM's long runway, a legacy of its bomber history, has the flexibility to

accommodate any aircraft in the Air Force inventory. The entire length of the runway can be used for not only diverse AMARG missions but also airlift missions during contingencies. Additionally, DM has alternate airfields within 50 miles, an important factor in the rare circumstance when weather or other events render the runway temporarily unusable.

Southern Arizona military flyers and maintainers benefit from a desert training environment which is ideal for the current national security focus.



Desert terrain in the Barry M Goldwater Range vicinity

DM has benefitted from a substantial Military Construction effort in the past 10 years associated with combat search and rescue and electronic combat mission expansions at the base. Although the base still has continuing infrastructure needs, the overall quality of its infrastructure is above average.

Tucson is one of the very few locations in the US where three different Air Force Major Commands have significant interests virtually in the same location. Air Combat Command, (12AF and the 355FW), Air Force Materiel Command (AMARG and Raytheon) and Air Education and Training Command (162W, 372nd Training Squadron) all have subordinate units in Tucson. Additionally, the Reserve Component - AFRES 943rd Rescue Group and 924th Fighter Group at DM and the ANG-AFRES Command Test Center at TIA and the ANG (162W at TIA and DM) likewise have significant local units. Other agencies that have an important presence at DM include the FAA Terminal Radar Approach Control and the U.S. Customs and Border Protection's Office of Air and Marine which runs their largest air operations program out of DM.

Operational flying training units like those at DM and TIA also benefit from having weapons design, development, manufacturing and testing in close proximity. There is

potential synergy based on mutual interests between operational training units, the ANG/AFRES Command Test Center and Raytheon weapons development efforts.

Tucson is a great place to live! In addition to favorable state legislation including the military family relief fund, in-state tuition, etc., Tucson private and civic leaders host many events for the benefit of military families.



Challenges

As Tucson grew from the 1930s to the beginning of the 21st century, urban growth crowded the DM runway in an arc that ran predominantly from the northwest to the northern sides of the base. This growth pattern near air bases was typical of many areas that were essentially rural prior to the 1950s, especially in the southwest, such as San Diego, Las Vegas, Phoenix, and of course, Tucson. (See Attachment 1)



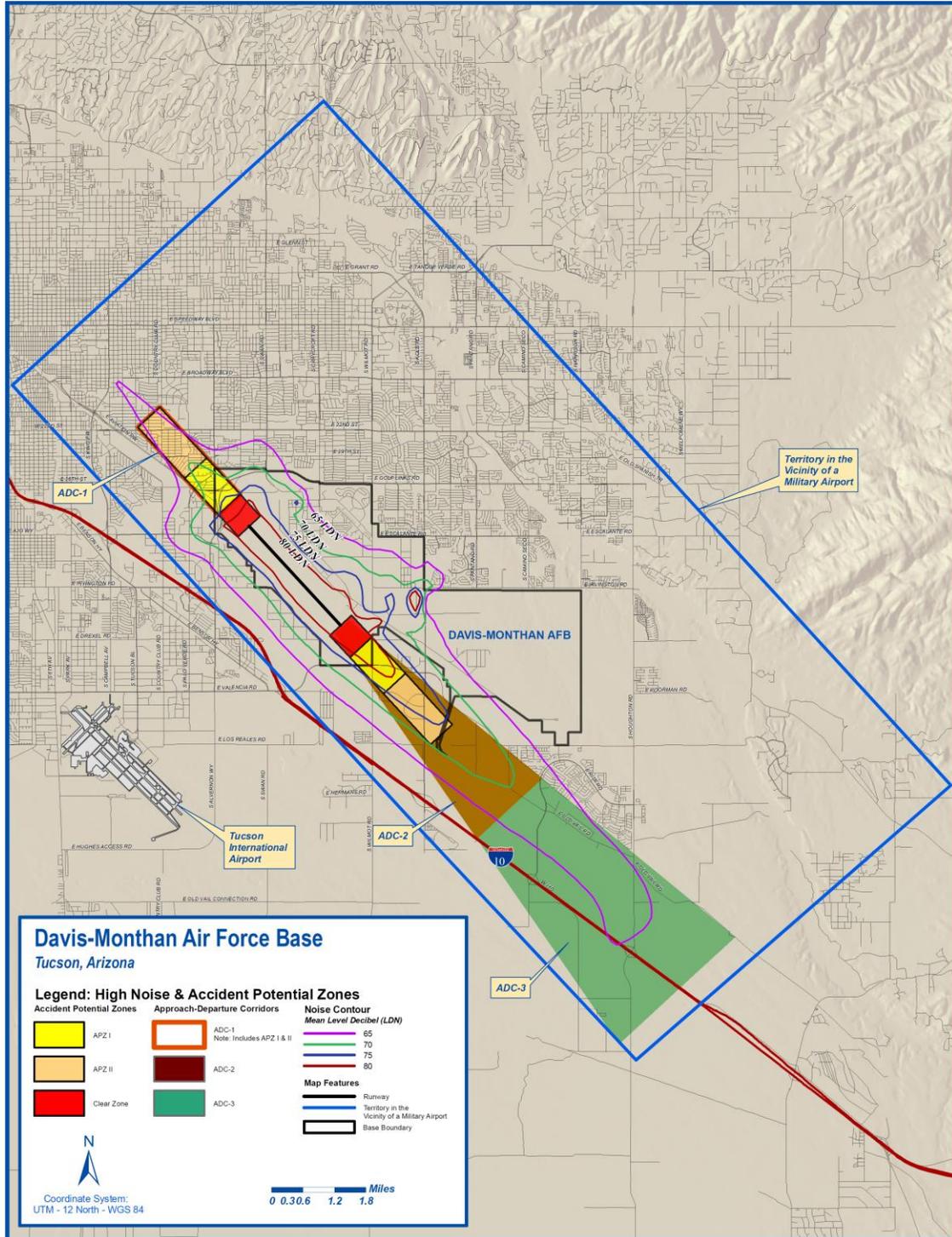
To address this issue, Arizona passed laws from 2001 to 2007 that mandate zoning and noise planning requirements to ensure compatible land use around Arizona military airports. (<http://www.legislativestatemap.org/Arizona.html>). Additionally, County initiatives like those which include base support in Bond Initiatives and working with the base to secure federal funding to buy land to protect the departure corridor continue to be pursued.

Mitigating aircraft noise

Noise is defined as unwanted sound. Most people make a distinction between interference and annoyance when it comes to sounds, both wanted and unwanted. Interference is an objective, measurable term regardless whether the sound is annoying or enjoyable. However, annoyance and enjoyment have subjective and evaluative components. That is why the response to the sound of military aircraft is highly variable, ranging from vociferous objection to cheering military jet noise as the “sound of freedom”.

Closely linked to urban encroachment around the airfield, noise from any source is an issue that community agencies work with many of their community partners. Urban noise can run the gamut from street traffic, early morning trash collection, emergency sirens, loud stereos, to noise generated by airplanes. Community planners work with military and commercial airports and other transportation nodes to mitigate the impacts of these types of sounds in the community, especially at night. Some in the Tucson community have postulated that airfield noise could depress home prices around DM. However, a December 2016 analysis by the Tucson Association of Realtors showed that home sales within a one-mile radius of the DM from

2010 through November 2016 increased almost 31% while home prices in the greater Tucson area increased only 14% during the same time period.



The Air Force, Tucson and Pima County have worked to minimize noise and accident potential by focusing the majority of flying operations to the southeast of the base

Aircraft noise receives much community attention in Tucson and local commanders work closely with community planners to lessen the impact of aircraft operations as much as feasible. Noise at Air Force bases is mitigated by ground tracks, altitudes and takeoff/landing direction. Proper long-term land use planning is also vital. A far looking example of positive planning was “the implementation of compatible land uses around the Base [DM] through a cooperative program that includes the City of Tucson and Pima County, who have the authority and responsibility to implement compatible land use planning and regulation...” (Arizona military regional compatibility project, Arizona Department of Commerce, February 2004)

Recent Air Force studies to consider both DM and the ANG at TIA as alternatives for the beddown of the F-35 have brought this issue to the forefront in Tucson. When the Air Force fielded the aircraft in 2009, initial analysis indicated it would be much louder than the fighter aircraft it was designed to replace. However, new aircraft estimated operating profiles and procedures change as more is learned about the aircraft and as new, more accurate data is collected. As the fielding of the F-35 has continued, the Air Force collected and analyzed newer aircraft noise data. As of 2013, updated F-35 data, based on much more experience testing and flying the F-35, show that the aircraft generates about the same sound levels as the latest version of the F-16, which has operated the Tucson metro area for more than 10 years.

	F35	F-16 C/D
Non-AB T.O.	111 db	110 db
Arrival 1000'	93 db	90 db
Low approach 1500'	89 db	103 db
Traffic Pattern 2000'	79 db	89 db

(F-35 data from Edwards AFB tests Sep 2013)

The Tucson community should continue to work with DM and Air National Guard (ANG) leadership to explore mutually beneficial options to meet operational readiness needs and continue to mitigate noise issues. Actions like support for the second runway at TIA that will support ANG operations to the south of TIA, and exploring additional compatible airfields near Tucson to support joint civil-military operations could help mitigate noise issues over the greater metropolitan area.

Communicating the Air Force Safety Record

Aircraft today are safer and much more reliable than in the past. During World War II, the B-17, B-24 and B-29, all of which were stationed at Davis Monthan, had accident rate of 30,

35 and 40 accidents per 100,000 flight hours, respectively. (Flying Magazine May 2012). A review of the data for all Air Force Class A mishaps* reveals remarkable improvements in safe flying operations. In 1950, there were 1,744 Class A mishaps, with 665 aircraft destroyed and 781 lives lost. In 1980, there were 84 Class A mishaps with 74 aircraft destroyed and 94 fatalities. From 1980 to 2000, the Air Force Class A mishap rate was 1.6 per 100,000 flying hours. From 2002 to 2012, the average Class A mishap rate was 1.09 per 100,000 flight hours. In 2015, the Class A mishap rate was 1.12 per 100,000 flight hours. A look at fighter aircraft flying over Tucson for the past 40+ years shows similar positive trends:

Acft	1 st 10 yrs	Last 10 yrs of service life	Lifetime
A-7	7.64	4.07	5.71
F-16	7.84	2.08	3.48
A-10	4.53	.50	1.97

*Class A Mishap - Direct mishap cost totaling \$2,000,000 or more (\$1,000,000 for mishaps occurring before FY10); a fatality or permanent total disability; destruction of a DoD aircraft.

Thirty-eight years ago, in October 1978, an Air Force A-7 pilot flying an approach into DM lost engine power near the University of Arizona. The pilot did his best to steer the aircraft away from the campus towards a field. However, the crash tragically resulted in the deaths of two sisters who were UA students. The Air Force started to reduce overflights of UA and, by 2003, a former professor and City Councilman, who had witnessed the accident (and referred to the pilot as a hero), was quoted as saying “the reduction has been adequate enough and the safety concerns at the UA in the ‘70s are not the same anymore.” (Arizona Daily Wildcat, Friday, October 24, 2003).

However, safe aircraft operations over Tucson remain an issue with some who, based on the 1978 accident, opine that single engine aircraft are too dangerous to safely fly over Tucson. A study of engine reliability historical data would logically reach a different conclusion. Data demonstrate the progress that has been made in fighter engine reliability. The chart below shows current single engine aircraft mishaps (right side of chart) are at or very near zero, and when compared 1960s-70s aircraft (left side of chart).

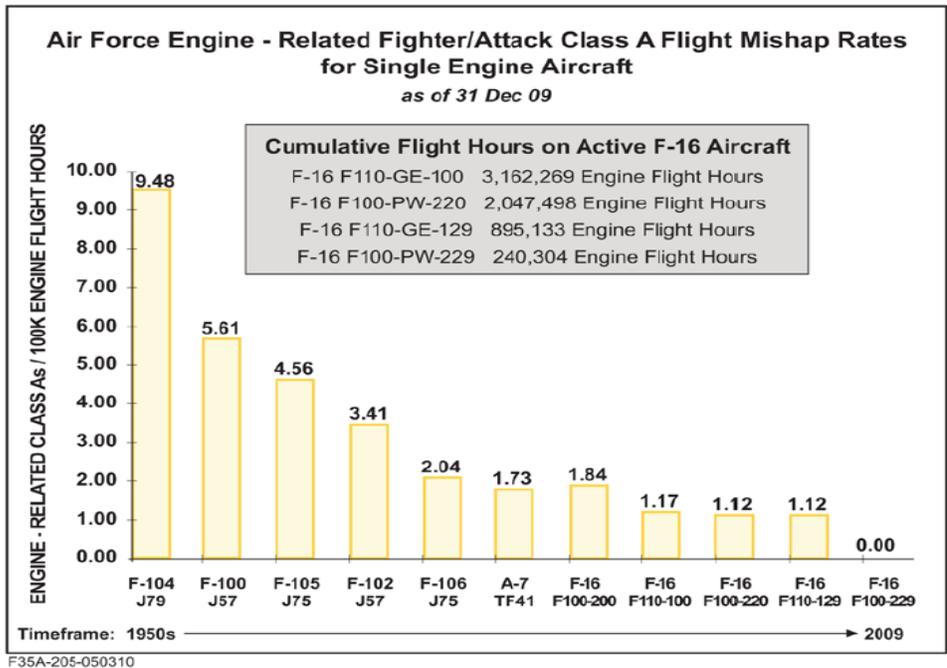


Figure JX3.4-1. Air Force Engine-Related Mishap Rates

Source: AFSC 2010.

Note: "Engine-related" excludes mishaps caused by Foreign Object Damage, BASH, or failure of support systems external to the engine (e.g., fuel starvation).

The Air Force safety program has been recognized by the aviation industry as remarkable, "...the trend of safety is not new. Since the early part of the new century, accident rates have been lower, substantially lower, than historic trends have been." (Flying Magazine May 2012). In fact, with current automated engine performance tracking methods, problems are very frequently identified before a failure and preventive maintenance precludes the mishap.

Nevertheless, the Air Force continues to closely track and analyze engine safety and reliability and shares its findings with the public. As recently as 2013, in a 900+ page final analysis of an F-35 beddown, the Air Force wrote:

"Additionally, although the F-35A is a new aircraft, the single engine that powers it is a composite product of 30 years of engineering, lessons learned from previous aircraft engines with a similar core, and tens of thousands of hours during operational use of F-15C aircraft. The propulsion system design for the F-35A includes a dedicated system safety program with an acceptable risk level that was more stringent than F-15C engines. The engine safety program focused on the major contributors of what previously caused the loss of an aircraft and provided redundancies in case of control system failures, and additionally, allowed for safe recovery of the aircraft even with system failures. Throughout the design and testing process, the safety initiatives took the previous best practices for single engine safety and built upon them to promote flight safety progress. Examples of design characteristics that are damage tolerant and

enhance safety include a dual wall engine liner, a fan blade containment shell, and a shaft monitor for vibration, torque, and alignment.” (Initial F-35A Operational Basing EIS)

As in the past, the Air Force will continue to update its information, operations and programs as necessary to communicate operational and safety enhancements of its aircraft fleet.

Diverse land ownership pattern inside the fence

Since the first legislation establishing the core 1280 acres of DM in 1926, the base has expanded to over 10,000 acres. The land pattern is a patchwork of Air Force lands, state lands, county lands and private leases. *Community leaders and local governments should work with the Air Force and congressional leaders to normalize land ownership on the base to reduce base operating expenses.*

Balancing the political “Fair Share” argument with operational logic

DM and the 162W together operate over 170 assigned Air Force aircraft. DM has 83 A-10Cs, 14 EC-130s, 5 HC-130Js, a dozen HH-60Gs (DM wing fact sheet - Feb 2015). The 162W operates 70 F-16 C/D (162W fact sheet - Nov 2015). Together they represent the largest concentration of Air Force aircraft in any one city. It is clear that DM and the 162W are two of the most efficient locations for aircraft operations in the Air Force inventory and that is the reason for their longevity and continuing consideration as prime sites for future missions. Operational efficiency and unique attributes are also the reason for the establishment of infrastructure to support transient training deployments to DM from other bases and units, like the F-15E training deployment from North Carolina in January 2017, to train in Southern Arizona’s vast and realistic operating spaces.



F-15E from North Carolina training at DM (Air Force photo)

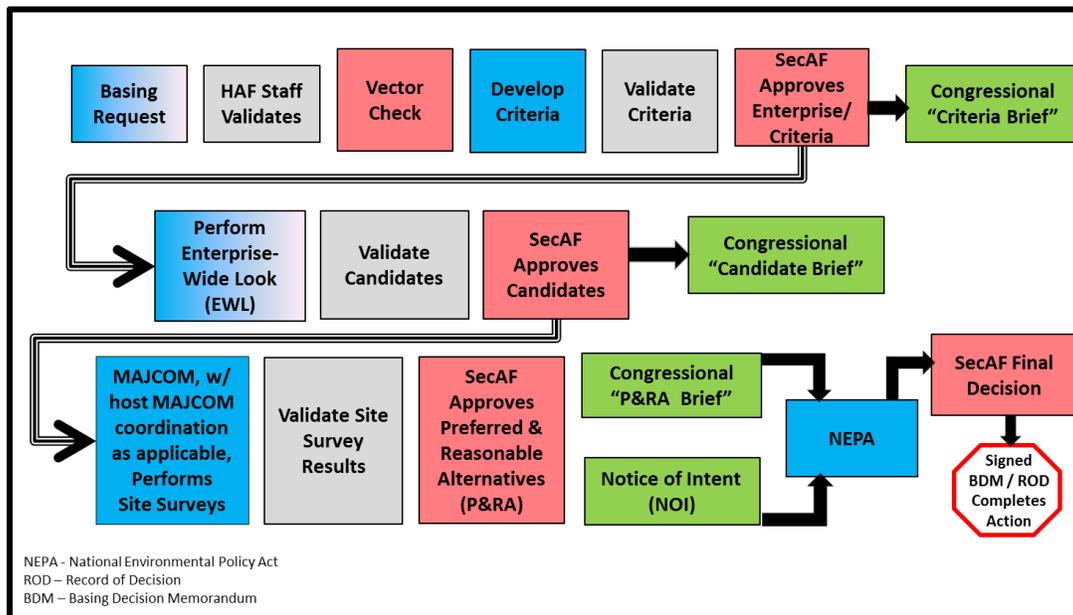
When other military communities with flying missions look at Tucson, they see DM, one of the largest bases in Air Combat Command, and they see the 162W, the largest ANG wing in the US (by almost a factor of 3 times). The reason for that number of assigned and visiting aircraft has been delineated several times in this report – operational efficiency. However, many

factors play roles in mission beddowns and sometimes politics can override operational efficiency factors if the efficiency argument is not made convincingly.

Current Air Force Basing process

The current basing process used by the Air Force was developed in 2009 to address all basing actions on Air Force bases, whether the proponent was the Air Force, another DoD service or another governmental agency. The system was developed to have a coordinated approach at all levels of the Air Force. The chart below explains the process. Blue indicates a Major Command (e.g. ACC, AETC) responsibility. Grey indicates an Air Staff (i.e. Pentagon) responsibility. Red indicates a SECAF responsibility and green are the points in the process when the congressional delegation is notified and/or updated on the results of the process. At the end of the process, the congressional delegation is notified of the SECAF decision and the scoring prior to the final decision being announced.

Air Force Strategic Basing Process



When a basing requirement is determined, either within the Air Force or by another service or governmental agency, the strategic basing process is started. The initial stage of the process (first line in the chart above) validates the proposal and the criteria, ensuring the widest, most equitable review of candidates across the entire Air Force enterprise.

This ensures a needs driven and balanced analysis process. The SECAF makes two decisions in this stage, first validating the proposal and then approving the list of candidate bases. The congressional briefing at the end of this stage informs the congressional delegation what criteria the Air Force is using and all the bases that met the criteria.

The second phase is a narrowing phase wherein the proponent and the Air Staff review the candidates and validate the best bases that could accommodate the mission based on the criteria developed by the Air Force and briefed to Congress. The results of this phase often result in a shorter list of candidates. It also ensures a fact-based approach to basing instead of the proponent saying, "I want to go to Base X". The Congress will also be briefed at the end of this phase.

The third and final phase is a closer look to ensure that all data needed for validation of the final list is correct. A site survey is conducted for all the candidates, the bases are reviewed and attributes are weighed for the selection of the Preferred and Reasonable Alternatives to go forward into the formal National Environmental Policy Act (NEPA) process. When that list is completed, the Congress is notified again and the formal NEPA process begins with a Notice of Intent in the Federal Register that the Air Force is going to enter a formal environmental process.

After the NEPA process is complete, the SECAF makes the final decision, a record of decision is signed and the Congress is notified. Portions of the NEPA document will include information that was collected throughout the strategic basing process, notably the purpose and need for the action itself and any narrowing of candidates that was done by the Air Force.

Many people in the community ask why the Air Force continually looks to Tucson area military installations to beddown new missions. The Air Force has established criteria for basing decisions based on the needs of different missions and types of aircraft. The following are current metrics the Air Force uses for fighter basing (like the F-16 and F-35) and demonstrate the reason why DM and the 162W are almost always on a short list for consideration for new fighter missions.

Air Force Fighter Operations Criteria	
<p>Mission (60 pts) : Optimized for fighter Ready Aircrew Program (RAP)</p> <ul style="list-style-type: none"> - Weather (5) <ul style="list-style-type: none"> • ≥ 3000/3 for ≥ 350 days/yr (5) • ≥ 3000/3 for ≤ 240 days/yr (0) • Linear score from 240 to 350 - Airspace: (55) <ul style="list-style-type: none"> • Meets 100% RAP flying reqmnts (55) • Meets 0% RAP flying reqmnts (0) • Linear score from 0-100% • Use proximity, volume, & availability attributes to determine compatibility with RAP 	<p>Capacity (25 pts)</p> <p><u>Exist for 1 Ops Sqdn</u></p> <ul style="list-style-type: none"> ■ Facilities: (12) <ul style="list-style-type: none"> ■ Ops (4) ■ Logistics (4) ■ Base Support (4) <ul style="list-style-type: none"> ■ Child Care Ctrs (1) ■ Fitness Ctrs (1) ■ Dorms (1) ■ Medical Care (1) ■ Does not support (0) ■ Runway: (10) <ul style="list-style-type: none"> ■ 1 RW, 8000' min (10) ■ No RW or needs MILCON (0) ■ Ramp: (3) <ul style="list-style-type: none"> ■ Exist for 1 sqdn (3) ■ Does not support (0) <p><u>Exist for 3 Ops Sqdns</u></p> <ul style="list-style-type: none"> ■ Ops (4) ■ Logistics (4) ■ Base Support (4) <ul style="list-style-type: none"> ■ Child Care Ctrs (1) ■ Fitness Ctrs (1) ■ Dorms (1) ■ Medical Care (1) ■ Does not support (0) ■ 1 RW, 8000' min (10) ■ No RW or needs MILCON (0) ■ Exist for 3 sqdn (3) ■ Does not support (0)
<p>Cost (5 Pts)</p> <ul style="list-style-type: none"> ■ Area construction cost factor 	<p>Environmental (10 pts)</p> <ul style="list-style-type: none"> ■ Air Quality (3) <ul style="list-style-type: none"> ■ Attainment (3) ■ Nonattainment/maintenance (0) ■ Encroachment (7)

When the Air Force needs to realign or beddown new missions, it conducts a comprehensive analysis of possible installations based on operational, installation and environmental factors. Of the three elements, operational factors compose the majority of the final score. The reason for this weighting is clear. Operational factors are closely linked to increased readiness, and efficiencies in the operational portfolio can be subsequently used to produce cost savings while increasing readiness. A comparison of the above chart and the previously mentioned attributes of DM and the 162W demonstrates why the installations always score very competitively compared to most other bases.

Insight into future basing actions

Many of the same principles that were used in basing process since 2005 are still being used in the AF strategic basing decision process today and will most likely be used in the future with some minor modifications. Although military value will continue to drive Air Force basing decisions, engagement by community leaders with Air Force leadership is crucial. Additionally, political factors will still be a key additional factor for the Air Force to consider during their basing process. Since political representatives' focus is on jobs gained and lost, absent a congressionally-directed BRAC process, the Air Force will endeavor to replace missions that are retired or moved with other missions to offset job losses.

Some basing criteria advantages are inherent in DM's geographical location. Excellent weather and proximity to large military airspace/ranges are important military value attributes and have been discussed before in this report. However, many decisions are based on "fair share" and political issues. *Tucson and Pima County's elected leaders, who have unique access to senior decision makers, both in the Executive Branch and the Congress, must lead the planning, messaging and advocacy efforts to keep Tucson's attributes in the minds of Department of Defense and congressional leaders.*

Relationship of DM, TIA, Ft Huachuca, WAATS and Raytheon

The inter-relationship of military operations in Tucson and Southern Arizona, although complex, presents regular opportunities for joint service training, testing and development. Air Force aircraft flying from Tucson use Libby Army Airfield at Ft Huachuca for traffic pattern and instrument approach training. The Army and Air Force Unmanned Aerial Vehicle (UAV) Launch and Recovery units also operate from Libby. This provides pilots the opportunity to practice approaches at a facility that supports both manned and unmanned aircraft operations.

Military operations at DM and TIA have similar inter-relationships. Aircraft operating from DM frequently practice approaches at TIA and 162W aircraft practice at DM. The 162W operates the Total Force Training operation at DM. Additionally, the ANG 214th Reconnaissance Group operates Remotely Piloted Aircraft (RPA) from DM.

The Air Force decision to retain A-10s until the early 2030s will maintain the current force at the base and possibly even grow those operations. Significant A-10 modifications, upgrades and systems testing of systems will create requirements that could be satisfied by the current capabilities at the AMARG and at the AATC.

Also, if the Army continues AH-64 Attack Helicopter operations, conducted from the National Guard Bureau's Western Army Aviation Training Site, (WAATS) in Marana, A-10 units from DM and 162W F-16s would have the opportunity for future inter-service Joint Attack Tactics training.

Additionally, the electronic combat EC-130 unit from DM tests and practices their techniques using the Buffalo Soldier Electronic Testing Range at Ft Huachuca. This range also offers electronic warfare testing and training opportunities for other units operating from DM and TIA.

In their efforts to "normalize" RPA operations, the Air Force continues to keep DM in their plans. In a recent decision to base a Predator RPA Mission Control Element at Shaw AFB, SC, DM is listed as a reasonable alternative, indicating it might be on a "short list" for future basing consideration. A decision to establish an RPA unit at another location in 2018 also includes DM as a potential location. DM currently has the 214th Reconnaissance Group, (AZ ANG) which operates the MQ-1 Predator RPA. Expanding to a wing organization is reasonable. Since the new unit will likely to be a Total Force Unit, DM remains a strong competitor.

The Air Force decision to maintain F-16 Flying Training Units in the Air Force to help resolve the fighter pilot shortfall provides the possibility for the 162W to increase their operations, perhaps at the 162W location at DM.

The 162W's Total Force Training operations at DM support a variety of fighter training aircraft like F-16s, F-15Es, Navy F/A-18s and others, from visiting active, AFRES, ANG, Navy, allied and coalition air forces. Total Force deployments to DM create the potential for multiple dissimilar aircraft training opportunities that are rarely available for US, allied and coalition aircrew and provide the realism that is experienced during real world deployed operations.

Raytheon designs and develops weapons systems used by the operational units of the 355FW and the 162W. There are tremendous possibilities for new innovations and improved products when developers, front line users and testers have the opportunity (and proximity) to interact on a daily basis.

These inter-relationships and complementary missions among all the installations in Southern Arizona offer tremendous potential for the future and are of significant military value.

Descriptions of Air Force Major Commands (MAJCOMs)

Airmen of the Army Air Corps and then the US Air Force have been a presence in Tucson since the 1920s. Current missions at DM and the 162W are varied, but the common denominator is the superb operational environment. This list offers notable military missions *in* our area:

- Military flying training at DM dates to the 1920s and has been continuous for over 90 years.
- Jet fighter training – a variety of high performance aircraft - over 55 years
- Close Air Support dedicated mission training – over 35 years
- Electronic Warfare aircraft (EC-130) based here since 1980's – over 25 years.
- Combat Search & Rescue units based at DM for over 25 years.
- The Total Force Training operations (Snowbird) – since 1975
- Customs & Border Patrol Air Operations for over 20 years
- The Air Defense Detachment – established following 9/11/2001.

Other vitally important Air Force missions:

- 309th AMARG – America's Airpower Reservoir - since 1946 to present.
- 12th Air Force (Air Forces Southern), 612th Air and Space Operations Center - since 1993.
- 214th Reconnaissance Group – Worldwide RPA operations – since 2007.

Every Air Force component (active duty, AFRES, ANG, civilians and Civil Air Patrol), and three of the ten Air Force Major Commands, (ACC, AFMC and AETC), have interests in

our community. The ANG has both a state role and a federal role. When acting in their Federal role, ANG units are “operationally-gained” (i.e. perform functions as directed), by a MAJCOM. In the case of the 162W, in their flying training role, that MAJCOM is AETC.

Shield	MAJCOM	Location of Headquarters	Mission
	<u>Air Combat Command</u>	<u>Joint Base Langley-Eustis, Virginia</u>	Provide Air Force component units for <u>United States Central Command</u> , <u>United States Southern Command</u> , <u>United States Northern Command</u> , and <u>United States Strategic Command</u>
	<u>Air Education and Training Command</u>	<u>Joint Base San Antonio/Randolph Air Force Base, Texas</u>	Recruits, trains, and educates airmen
	<u>Air Force Global Strike Command</u>	<u>Barksdale Air Force Base, Louisiana</u>	Develop and provide combat-ready forces for nuclear deterrence and global strike operations
	<u>Air Force Materiel Command</u>	<u>Wright-Patterson Air Force Base, Ohio</u>	Conducts research, development, testing and evaluation, and provides the acquisition management services and logistics support necessary to keep Air Force weapon systems ready for war
	<u>Air Force Reserve Command</u>	<u>Robins Air Force Base, Georgia</u>	Provides operational capability, strategic depth and surge capacity as an integrated Total Force partner in every Air Force core mission
	<u>Air Force Space Command</u>	<u>Peterson Air Force Base, Colorado</u>	Development and operation of military space and cyberspace technologies
	<u>Air Force Special Operations Command</u>	<u>Hurlburt Field, Florida</u>	Provide Air Force component units for <u>United States Special Operations Command</u>

	<u>Air Mobility Command</u>	<u>Scott Air Force Base, Illinois</u>	Provide global air mobility through airlift and aerial refueling for all of the United States armed forces
	<u>Pacific Air Forces</u>	<u>Joint Base Pearl Harbor Hickam, Hawaii</u>	Provide Air Force component units for <u>United States Pacific Command</u>
	<u>United States Air Forces in Europe - Air Forces Africa</u>	<u>Ramstein Air Base, Germany</u>	Provide Air Force component units for <u>United States European Command</u> and <u>United States African Command</u>

(https://en.wikipedia.org/wiki/List_of_Major_Commands_of_the_United_States_Air_Force)

Air Force MAJCOM Operations in Tucson

The variety of military organizations that operate from Tucson bases requires community awareness of the differing perspectives of each Air Force component and MAJCOM. The active duty force, comprising a majority of the Air Force presence in Tucson comes from three MAJCOMS, Air Combat Command (ACC), Air Education and Training Command (AETC) and Air Force Material Command (AFMC).

Air Combat Command

ACC units include 12AF, (an operational component headquarters for USSOUTHCOM and an administrative headquarters for ACC bases in the western US), the 355th Fighter Wing, the 924th Fighter Group, the 563rd Rescue Group and the 55th Electronic Combat Group.

The 355FW includes A-10 operations and exercises host command responsibilities for base support to all units stationed at DM. Access to training airspace and support for all flying operations at DM is under the 355FW purview. The challenges associated with aircraft operations in the Tucson area, (encroachment, noise and safety) are addressed by 355FW Commander, particularly if it pertains to current base operations. Strategic basing decisions and the selection of new missions for DM, normally the responsibility of ACC headquarters and the

Pentagon, are not the responsibility of the 355FW Commander. However, as the host base commander, the 355FW Commander is the primary interface between the Air Force and Tucson community leaders.

The 924th Fighter Group (AFRES), an associate unit of the 355FW, also conducts A-10 training under the auspices of ACC and shares the same military training mission interests of the active duty members of the 355FW. However, being “citizen soldiers”, many have civilian jobs in addition to their jobs as A-10 trainers and maintainers. The desirability of Tucson and the desert southwest is a powerful attraction for not only the ANG, but also Air Force Reserve recruiting and retention. ***The Tucson community should work to develop stronger community partnership programs that support Air Force Reserve Component recruiting and job creation.***

Another ACC unit, the 563rd Rescue Group (563RG) whose parent organization is the 23rd Wing, Moody AFB, GA, directs flying operations for the only active duty rescue wing dedicated to Combat Search and Rescue (CSAR) in the Air Force. The group is responsible for training, readiness and maintenance of one HC-130 aerial refueling squadron and two HH-60 helicopter squadrons, two pararescue squadrons, two maintenance squadrons and an operations support squadron operating from two geographically separated operating locations.

The 563RG has some of the same operational needs as the fighter community. For example, both need access to low altitude training airspace and a training range. Additionally, the 563RG needs to have access to land in various locations throughout southern Arizona (and the Southwest in general) to train for pararescuemen deployment and recovery in a realistic simulated combat environment. The desert and mountainous terrain available in Arizona perfectly replicate conditions in areas of current overseas areas of interest. Since 2006, ACC has sponsored a joint training exercise, Angel Thunder, hosted by DM, for US military services, allied and interagency partners. Angel Thunder 2015 was “the largest and most realistic joint service, multinational, interagency combat search and rescue exercise designed to provide training for personnel recovery assets using a variety of scenarios to simulate deployment conditions and contingencies.” (<http://www.dm.af.mil/AboutUs/Library/AngelThunder.aspx>)

The 55th Electronic Combat Group (55ECG) provides combat-ready EC-130H Compass Call aircraft, crews, maintenance and operational support to combatant commanders. The group also plans and executes information operations, including information warfare and electronic attack, in support of theater campaign plans. The 55ECG conducts aircrew training for 20 aircrew specialties and supports testing and evaluation for new aircraft systems. Proximity to Ft Huachuca’s Buffalo Soldier Electronic Testing Range and Nellis AFB, NV makes DM a good location for this mission.

Air Force Materiel Command

The AMARG, a subordinate of the Air Force Sustainment Center and Air Force Materiel Command, is America's Airpower Reservoir. Much more than just a storage facility, the AMARG reclaims and returns thousands of critical parts, worth millions of dollars, annually to the Air Force supply system. Regeneration operations provide the DoD and allied air services rebuilt aircraft to meet needs for operations and testing and aircraft replacements when needed. Community partnerships with this organization can provide opportunities for skilled jobs/careers, intern programs, and practical, engineering work experience.

Air National Guard/Air Education and Training Command

The 162W at TIA, is a "gained" unit of AETC, is the largest ANG fighter wing in the country, with 70 F-16 C/D aircraft and MQ-1 Predator RPA detachments at DM and Ft Huachuca. The wing's federal mission is to maintain well-trained, well-equipped units available for prompt mobilization during war and provide assistance during national emergencies such as natural disasters or civil disturbances. This includes a 24/7 air sovereignty alert detachment based at DM, to provide a rapid reaction force for regional defense in the Southwest. Also, the 162W is the parent unit for the Total Force Training detachment at DM. (162W fact sheet)

Most notably, however, the 162W is the "face of the Air Force" to allied air services who receive Air Force sponsored fighter training at TIA. The 162W has been providing well-trained coalition war-fighting partners for more than 25 years. The 162W has trained pilots from 28 countries that fly the F-16, while developing strategic partnerships and building strong international relationships based on performance, friendship and trust. (162W fact sheet)

The 162W MQ-1 detachment operates the Predator unmanned aerial vehicle in daily combat missions via satellite, providing troops on the ground with almost around the clock intelligence, surveillance and reconnaissance. Their launch and recovery unit at Fort Huachuca houses and operates four MQ-1 Predator drones and trains pilots and senior operators to conduct takeoffs and landings. It is one of five such units in the United States. These detachments will also work with stateside partners to fulfill state missions as required. (162W fact sheet)

Providing family and community support to those dealing with long separations due to operational deployments differs from supporting families whose Air Force members are conducting combat operations from home station. Community leaders need to understand the different support requirements.

The Air National Guard - Air Force Reserve Test Center (AATC), located at TIA, is a tenant unit hosted by the 162W. AATC conducts operational test on behalf of Air

Force MAJCOMs as requested. It is a total force team dedicated to fielding low-cost, low-risk, off-the-shelf improvements to Air Reserve Component (ARC) F-16, A-10 and other aircraft. The activities of AATC complement long-range Air Force modernization and product improvement programs and have enabled transformational modernization efforts. Their efforts in the field of Night Vision Devices for fighter aircraft (first fielded in the ARC) and low-cost datalink for Air Force network enabled operations (Situational Awareness Data Link -SADL) were significant additions to Air Force warfighting capabilities. Additionally, their work with Litening Targeting Pods increased the number of precision strike aircraft in the Air Force inventory and revolutionized how the Air Force delivers joint fires and conducts non-traditional intelligence, surveillance and reconnaissance. AATC is staffed with approximately 35 military personnel from the Guard, Reserve, and active Air Force. (www.aatc.ang.af.mil/)

The different perspectives and requirements of the individual MAJCOMs (ACC, AETC and AFMC) and the specific interests and requirements of the active duty, AFRES and ANG may take precedence over what appears logical from the community perspective. These perspectives sometimes result in mixed messages from military leaders. *Community leaders should continue to advocate to the Air Force and the Congress their desire to be active participants in the Air Force strategic basing and mission transition processes as appropriate.*

Community Support





Continuing engagement within the community on military issues in Tucson

DM and TIA are locations that continue to be evaluated for new missions due to military value. They will be selected, when appropriate and not selected in some evaluations. The fact that they continue to be considered for new missions makes it essential that community planning is updated and supportive of Air Force planning.

Community support in the Tucson area is laudable and community support group leaders need to maintain their future support at the high levels that exist today. They need to ensure that public awareness and understanding are continued areas of focus. Regularly published factual articles and discussions about this important industry within our community are essential. These should address all aspects of military operations within Southern Arizona.

The Air Force Community Partnership (AFCP) program is described as a “framework through which installation and community leaders are developing creative ways to leverage their capabilities and resources to focus on achieving reduced costs by finding shared value...to find creative ways to accomplish the Air Force mission and enhance communities.”

<https://community.apan.org/wg/airforcepartnerships> .

Tucson and DM leaders initiated a Community Partnership program in 2015. This successful program has already provided benefits for the Air Force and the Tucson community in the form of federal funding, common communications for the integration of First Responders, recreational opportunities and job creation. Future partner initiatives have the potential to provide significant value to not only to the community but also to military families in greater Tucson in the areas of cost efficiencies, education and employment.

There is more potential good that can be done to establish mutually beneficial projects for the Tucson community and its military installations. *Intergovernmental efforts in the areas of land acquisition, entry access, security, emergency response, infrastructure sharing, mentoring, conservation, flood control, water quality, etc., are opportunities for the future. Community leaders should continue to embrace the Air Force Community Partnership program to develop mutually beneficial ideas for the region and the Air Force.*

Successful community engagement during mission transition NEPA processes

Nearly every significant mission beddown action undertaken by the Air Force will require some form of environmental evaluation. Environmental documents generally have sections that deal with 1) purpose and need, 2) affected environment; 3) alternatives; 4) analysis of impacts to the environment, including endangered species, air and water, cultural sites, property values and noise. Socio-economic aspects and cost are also analyzed.

Many of the above categories not only affect local and state governmental planning but also require their coordination and input. The National Environmental Policy Act (NEPA) recognizes the important role that local and state governmental agencies can play in the environmental process and provides for their participation as cooperating agencies.

“Cooperating agency” is defined as any Federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment...A State or local agency of similar qualifications...may by agreement with the lead agency become a cooperating agency. (40 CFR part 1508) (ceq.eh.doe.gov/nepa/regs/ceq/toc_ceq.htm)

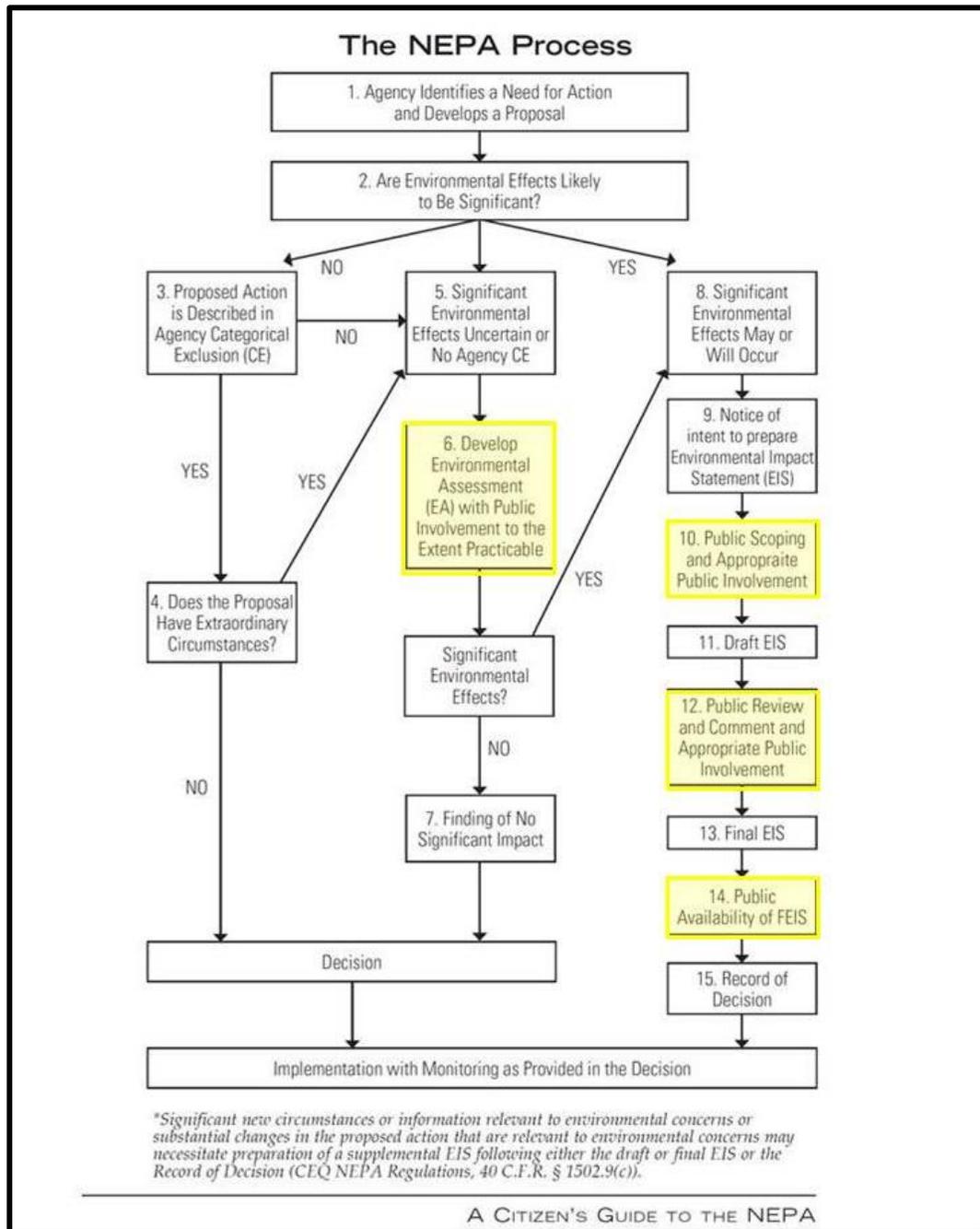
The White House Council on Environmental Quality (CEQ) Chair addressed this issue in a February 4, 2002 memo to State and local governmental entities by saying:

...regulations addressing cooperating agencies status implement the NEPA mandate that Federal agencies responsible for preparing NEPA analyses and documentation do so “in cooperation with State and local governments” and other agencies with jurisdiction by law or special expertise. The attached memorandum reminds Federal agencies of the importance of including State, Tribal and local governmental entities in the NEPA process and emphasizes the importance of establishing cooperating agency status when appropriate.

The following chart, when used in conjunction with the Air Force Strategic Basing chart, serves as a roadmap for the execution of the NEPA process. Steps with public interaction are highlighted in yellow. Cooperating agency interaction is essential throughout the entire process.

Local governmental engagement in the NEPA process as cooperating agencies and continuing to work with the base to ensure coordination of key aspects of base operational status impacts are key to efficient mission transitions.

The City of Tucson, Pima County and Arizona planning agencies should endeavor to be significant contributors to the viability of DM and the 162W by working closely with Air Force planning agencies during the mission basing process.



Preparing for the future

Preparing for the future will require a comprehensive approach to maintaining the resiliency of DM and the 162W which together represent nearly \$2B in economic value to the Tucson community. ***Planning must be done within the context of sustainability, growth and the economic health of the entire Tucson community. Land use, conservation, economic efficiency, zoning, water use and safety are all major concerns of Tucson and Pima County's elected leaders. They are also concerns of local military commanders.***

The Tucson and Pima County communities should increase their efforts to work with local military installations to find more efficient, mutually beneficial ways of doing business using existing programs like the Air Force Community Partnership.

The overwhelming attributes afforded by Tucson's geography, operating conditions and operational efficiency mean that DM and the 162W will almost always be on the "short list" for new Air Force missions like those that currently exist and even entirely new missions as yet to be determined. ***The best way to ensure a successful future for military units in Tucson is to address issues now and work with Tucson's military units, their commands, the Air Force and the Department of Defense to make the most of the opportunities and resolve the challenges.***

However, many decisions are made based on political and economic dynamics and therefore there will be many times that a new mission beddown at DM or in the 162W might not be the final decision. Those instances can be used in a positive sense however since they will allow the community to review its programs, planning and efforts. The factors considered by the Air Force in the past will most likely continue to be important aspects of basing decisions in the future. They are:

1. Installation efficiency – cost of building and of doing business
2. Reserve Component integration - recruiting potential and job availability for Reserve Component members
3. Environmental elements - e.g. endangered species, air quality, noise, land use
4. Ability of Tucson and Pima County's infrastructure to support missions and personnel, e.g. utilities, schools, zoning

Community understanding of these factors, cooperation in addressing associated issues, and advocacy will continue to be important. A long-term view of these factors, will prepare the community for any contingency, whether it is new mission proposal or a Base Realignment and Closure process.

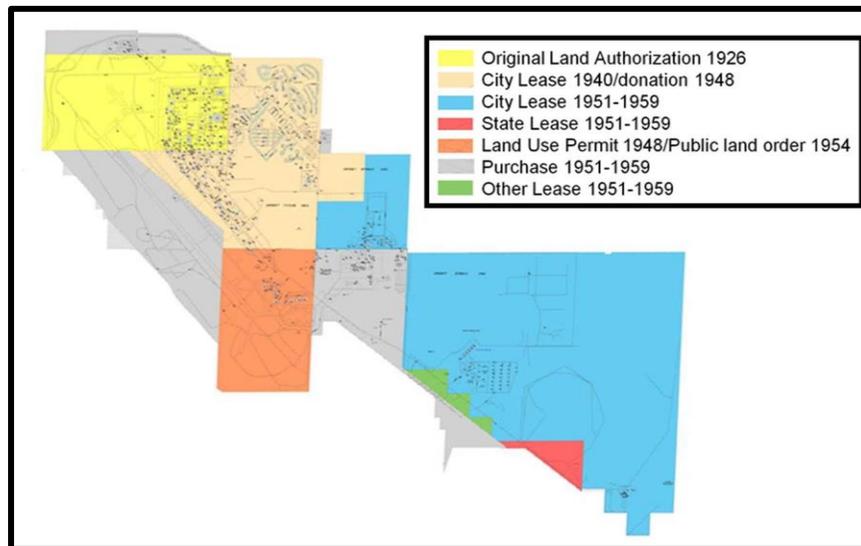
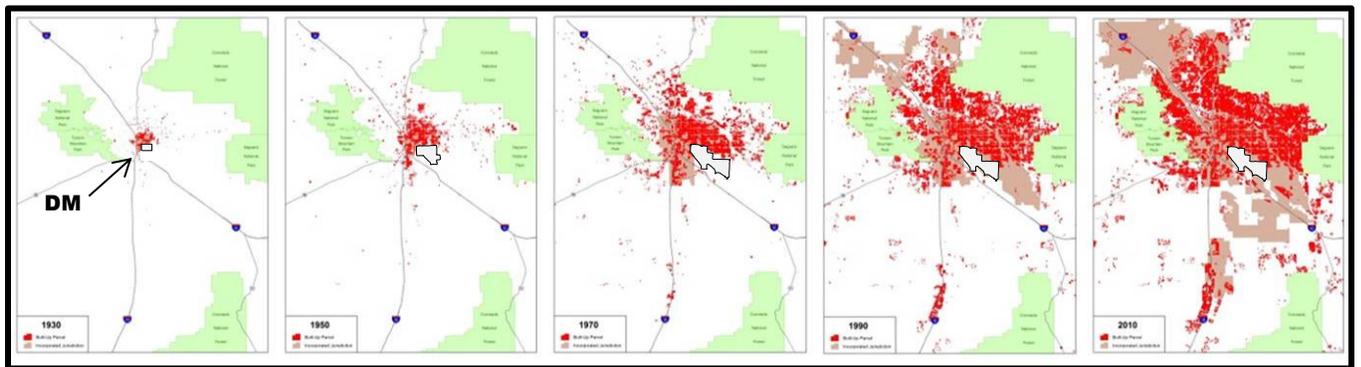
Attachment 1

Encroachment

Base/Urban Encroachment

The DoD defines the word “encroachment” as “the cumulative impact of urban and rural development that can hamper the military’s ability to carry out its testing and training mission.”

The illustrations below show the population growth of Tucson in 1930, 1950, 1970, 1990 and 2010. The result has been that the Tucson community has grown to the east and is much closer to the base on the north and west sides, compelling the base to expand to meet new mission needs to the southeast paralleling I-10 away from the population pressure (see illustrations below). This pattern of urban growth near air bases has become quite common, especially throughout the “Sunbelt”.



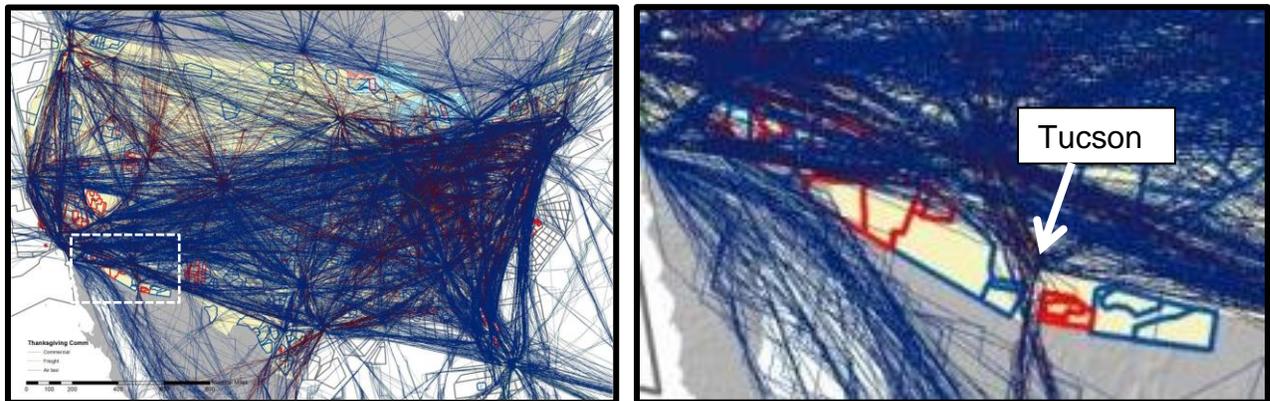
When the Air Force and communities discuss “encroachment”, the focus most often refers to base/urban encroachment...homes, businesses, schools, etc., close enough to the base to be within the airfield’s sound patterns.

Arizona was one of the first states to recognize the importance of legislation to address the regulation of the development of land that could restrict training, testing and other military base activities. A series of Arizona statutes defined territory in the vicinity of a military airport and rural low-level routes and directed communities to adopt and enforce zoning regulations. Certainly motivating factors were the traditional role Arizona has played in supporting the national defense of the United States and the fact that southern Arizona bases contribute about 96,000 direct and indirect jobs and \$9.1B to Arizona’s economy (The Maguire Company, “Economic Impact of Arizona’s Principal Military Operations” 2008).

As in many other communities around the world, the Air Force works with affected communities, in our case the City of Tucson and Pima County, to balance the successful accomplishment of the Air Force mission, the effects of flying operations on the community, the economic benefits of the base and the community’s growth and prosperity. Over the years, low-level training tracks and traffic pattern altitudes have been modified, and other actions have been taken to address urban/base encroachment issues. This process has required continuous dialogue with elected officials, informed community participants and the Air Force. It is a normal part of Air Force and community interaction worldwide.

Operational Encroachment

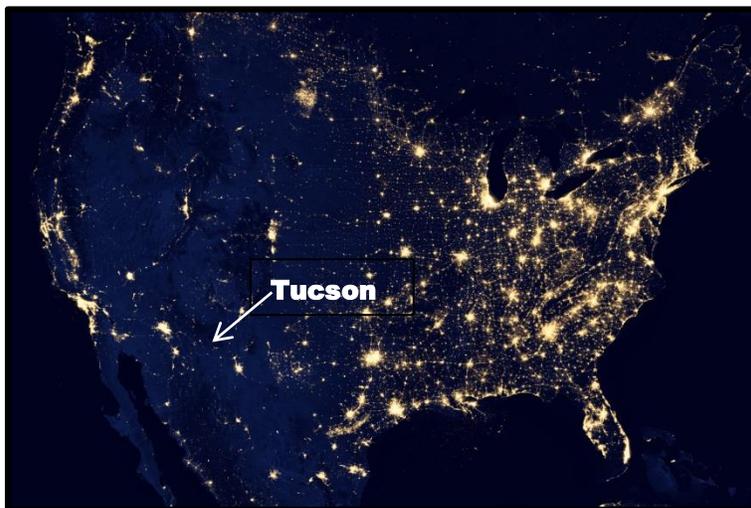
The term “encroachment” can and does mean much more. Since the 1990’s, the discussion of encroachment has also included encroachment factors which can affect operations away from the base. These factors are of significant importance to those senior military leaders who are responsible for determining an optimum location to beddown a particular military mission. For instance, without access to open airspace, fighter/bomber training can be significantly hampered.



The reason that DM has been a successful fighter/bomber base for over 75 years is because of the uncongested airspace in close proximity to the base and the excellent weather

found in Arizona. In the pictures above, the blue maze of lines represents the civilian flight tracks in the US. The red boxes represent the military airspace used for training. As demonstrated by these illustrations, the national airspace system is very complex and access through many military training areas is shared with commercial airlines. However, the main training areas used by southern Arizona bases are generally not used by civilian air traffic. This lack of operational encroachment in the training areas is much more evident in the picture on the right.

Another form of operational encroachment is the lack of natural low-light flying conditions. Due to technological and operational training advancements over the past two decades, the US military has become a world renowned “night fighting force”. Military pilots require low light conditions to successfully train with night vision devices. There are many areas in the nation where a low-light, overland operating environment is difficult to find. The illustration below demonstrates how light encroachment in parts of the US might limit realistic night training. Southern Arizona is an excellent location for low ambient light training, especially when one considers that one of the largest training ranges in the United States, the Barry M Goldwater Range, located south of I-8 between Gila Bend and Yuma, has some of the best night skies in the nation.



NASA Photo

Other factors resulting in operational encroachment include:

- Frequency interference – can affect military aircraft radios, radars and instrumentation
- Radio tower, power line and wind turbine construction – create physical interference
- Wind turbines rotational Doppler effect – creates radar interference
- Air traffic control delays – cause late take-offs and limits operational efficiency/effectiveness.
- Restrictions associated with:
 - Endangered species – limits to military ops, increased land management costs
 - Invasive species – limits to land use, increased land management costs

- Wetlands – limits to land use for construction and operations, increased costs
- Air quality factors - restrictions to aircraft basing, increased costs
- Water overdraw and water treatment capacity limitations – limits base viability

Most of these operational encroachment factors are associated with population growth and activities associated with that growth. These encroachment issues can not only limit the effectiveness of military operations at installations and in training areas, they can also affect the community as well. Their management and potential resolution are best addressed by effective and long-term base/community collaboration.

Encroachment and Basing Decisions

Senior military leaders look at encroachment in the very broadest sense when making basing and mission bed down decisions. They take all the above factors into consideration. Since military installations represent multi-billion dollar facilities, all the military departments pay close attention to urban encroachment and stress the importance of informed zoning during their discussions with local authorities. However, base/urban encroachment, an important factor, is just one of many. The lack of operational encroachment in Southern Arizona along training routes, in training areas and in night skies is also an important factor taken into consideration during the Air Force basing process. The process weighs criteria that maximize the value of the base to perform the military mission with an emphasis on efficient access to and from the base to proximate, unencumbered, available operating space with attributes needed to effectively accomplish the military mission.

Conclusion

Davis-Monthan’s considerable operational advantages are the main reason that Air Force leaders continually look to the base to host future flying and non-flying missions. Within the past year alone, Major Command led site survey teams recently analyzed the base to host a squadron of F-35A aircraft, a squadron of Taiwanese F-16 aircraft, a limited number of HC-130H Forest Service fire-fighting aircraft, and an operational center for MQ-9 Remotely Piloted Vehicles (drones). Additionally, Headquarters AF is assessing DM for feasibility regarding mission expansion in testing, training, and rescue operations.

It is a testament to Arizona, the City of Tucson, Pima County and Davis-Monthan’s succession of military leaders that training airspace and ranges in southern Arizona are generally “un-encroached” in most of these important operational areas and are adaptable to mission growth.

However, there are still significant challenges ahead to ensure that all aspects of urban and rural encroachment can be managed in the future. Both the Air Force and Southern Arizona communities have an important stake in the viability of the region’s military installations. The Air Force values Davis-Monthan as a vital military asset with significant operational advantages. And the Tucson community values its contribution to our nation’s defense for over 90 years and

benefits from Davis-Monthan's \$1.5B annual contribution to the local economy. The close community/base relationship that has developed over the decades is the optimum mechanism to ensure that all-encompassing encroachment issues will properly receive close attention, dialogue, planning and action.

Attachment 2 - Community Survey

Snapshot of Community Survey Results

•Presented to:



**Southern Arizona
Defense Alliance**

strongpoint
MARKETING

February, 2016



Methodology

Survey Execution

A random sample web-based survey of 500 respondents was executed between December 17, 2015 and January 4, 2016 in the area including all of Pima, Yuma, Cochise and Santa Cruz counties as well as those areas of Pinal County that could be considered part of the general Tucson area (Pinal County zip codes 85245, 85618, 85619, 85623, 85631, 85658, 85737).

In addition, an intercept-based survey of 103 respondents was executed between January 6 – 16, 2016 in areas adjacent to Davis-Monthan Air Force Base and Tucson International Airport in order to ensure a more robust sub-sample of those living closest to either of the areas that house aircraft in the Tucson region (respondents were screened with both a zip code and "major cross-streets" question).

Sample Size and Error

The total survey sample size is 603, with an associated margin of error = +/- 4% for questions asked by the entire sample.

Executive Summary of Findings

Regional awareness of Davis-Monthan and Ft. Huachuca is still strong

- Davis-Monthan and Ft. Huachuca have 92% and 84% awareness compared to last year's 93% and 88%. These results are consistent with the previous survey and show that respondents have maintained awareness. Overall awareness level has also grown significantly, from 24% of respondents with high overall awareness in 2014, to 37% in 2016.

There is still strong support for local military installations

- Greater than 76% of Southern Arizonans have strong support for local military installations, with more than one-half indicating their support is "very strong." Conversely, only 7% have little or no support for local military installations. Respondents close to DM and 162nd also have very strong support, with 73% at least strongly supporting local military installations.

The most important community issues and statements regard economic development

- The most important issues were the same as last survey and included "Education and work force development", and "Job creation and economic development". The statement what most people agreed with is, "Having a strong military presence is beneficial to the local economy", which also focuses on economic benefit.

3

Executive Summary of Findings

Respondents agree that military installations have economic/defense benefits

- Southern Arizona residents agree that local military installations are beneficial to the local economy (87%) and important to our national defense (85%). Most local residents (72%) also feel that the benefits of having a strong military presence outweigh any noise issues, with 70% of those living close to Davis-Monthan Air Force Base/162nd Fighter Wing indicating similarly.

Support for the F-35 is strong among respondents

- When asked if they are in favor or against bringing to F-35 to Southern Arizona, 77% said that they were at least "Somewhat in favor". This response rate is consistent from those near DM and 162nd with 74% saying that they support bringing the F-35 as well.

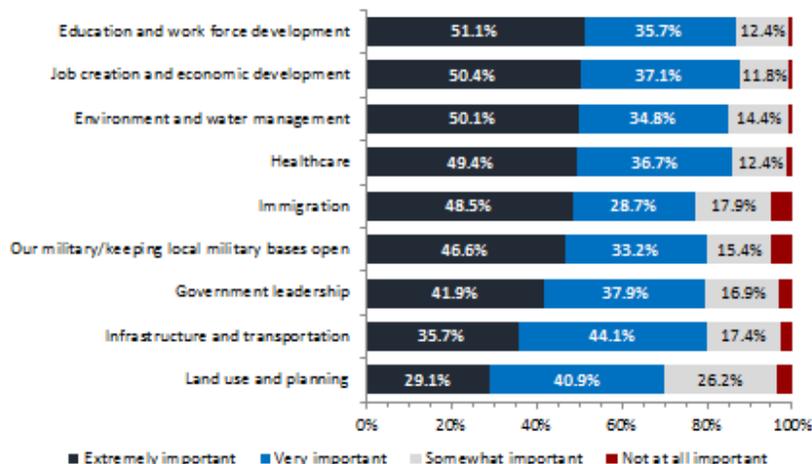
Positive messages are more effective than negative ones at eliciting response

- The most effective messages involve economically oriented issues. Message that include "11,000 direct jobs..." (78% more positive) and "\$5.6 billion in local economy..." (77% more positive) significantly increase positive attitudes toward the military in southern Arizona. Conversely, negative messages only provoke a small negative response (31% more negative for the most effective message).

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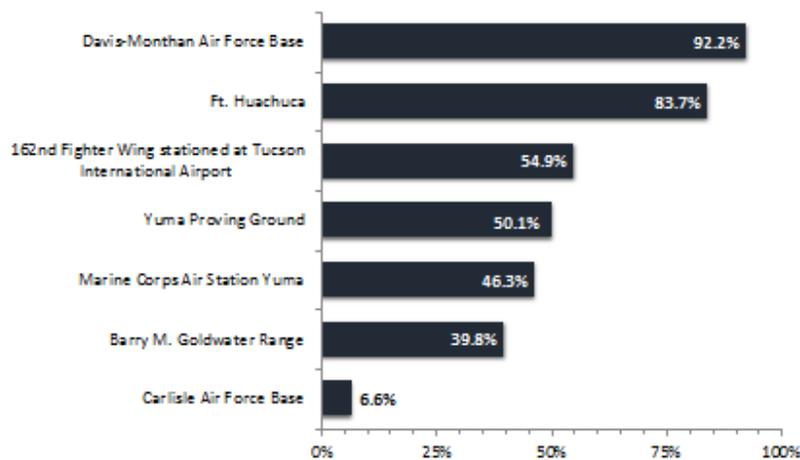
Issue of Importance to Southern Arizona

Education and work force development has the most "Extremely important" responses, Job creation and economic development is the overall most important issue with 87.5% saying it is "Very..." or "Extremely important".



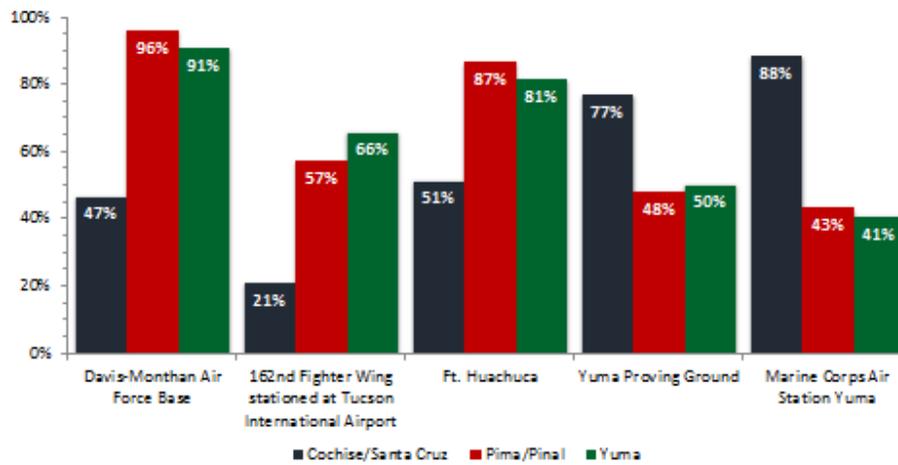
Military Installation Awareness

Davis-Monthan and Ft. Huachuca dominate regional awareness, while awareness of 162nd Fighter Wing and Yuma Proving Ground has increased 5.8% and 3.1%.



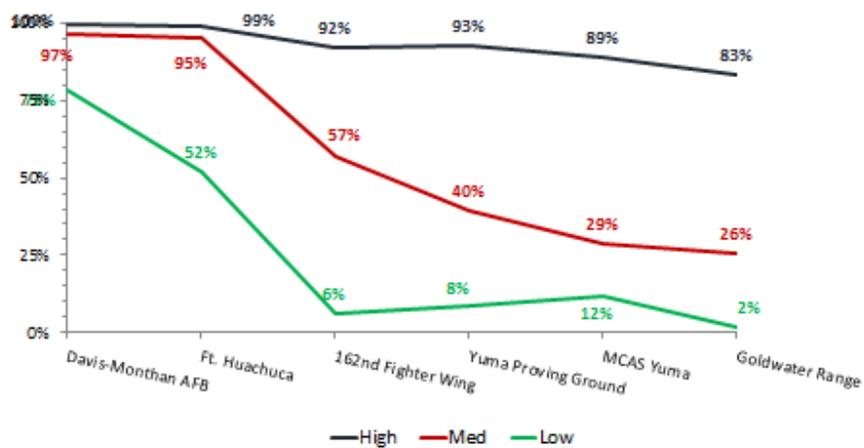
Military Installation Awareness by Region

Awareness of military installations has remained consistent in Pima/Pinal



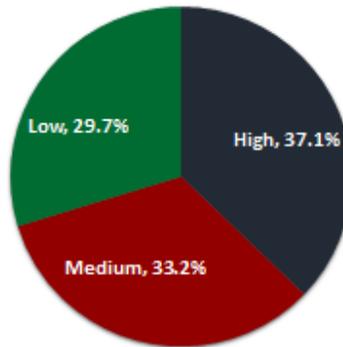
Installation Awareness Clusters

High awareness has remained consistent. Those in the medium awareness group have increased overall awareness, and low awareness individuals have decreased in 162nd and other bases.



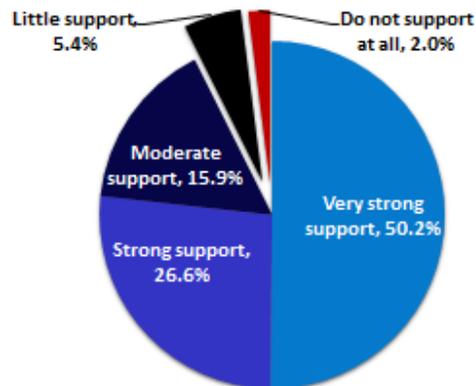
Installation Awareness Distribution

A majority of individuals had "High" awareness, being able to identify Davis-Monthan, Ft. Huachuca and at least 5 of 6 military installations. There is a relatively even distribution awareness groups in this analysis.



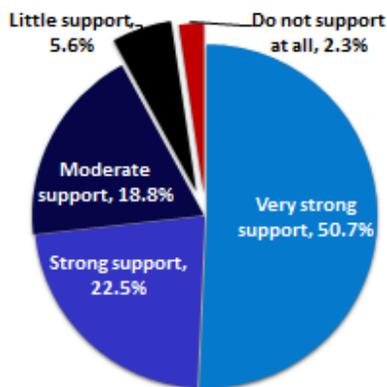
Level of Support for Military Installations in Southern Arizona

A vast majority of respondents (92.7%) have at least moderate support and 76.8% have at least strong support or military installations in southern Arizona.



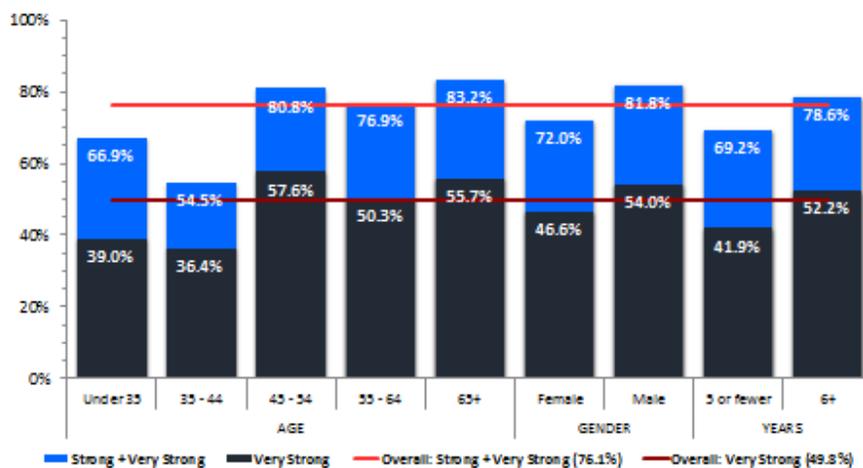
Support for Military Installations Close to DM/162nd

For those close to the base, support is still high, with 92% at least moderately supportive, and 73.2% at least strongly in support.



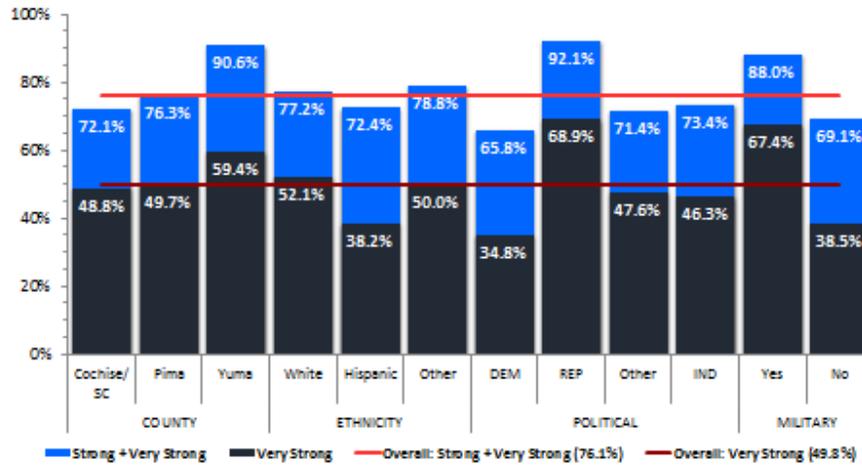
Support for Military Installations (Age, Gender, Years in Region)

Overall support is still high among each group, with strongest support among individuals age 45 – 54, men, and those that have lived in Southern Arizona more than 6 years.



Support for Military Installations (Region, Ethnicity, Political, Military)

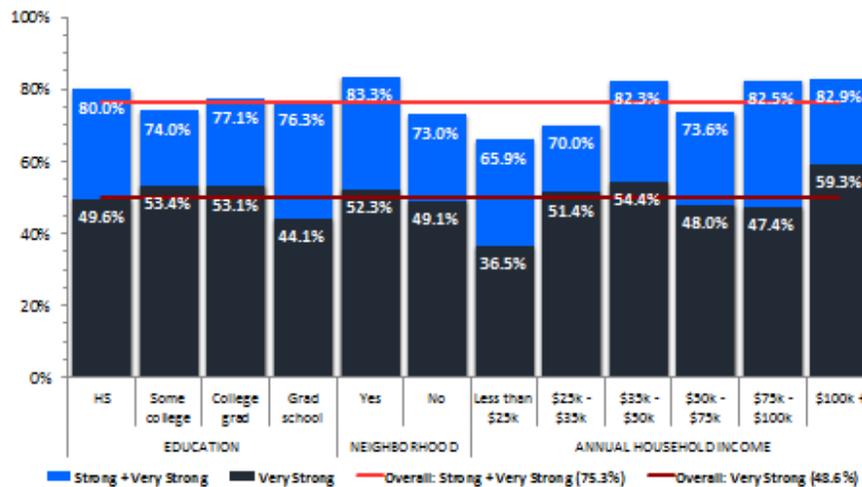
The highest levels of support are among respondents that live in Cochise, Hispanic/Latinos, Republicans, and those that have served/live with someone that served in the military.



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Support for Military Installations (Education, Neighborhood Association, Household Income)

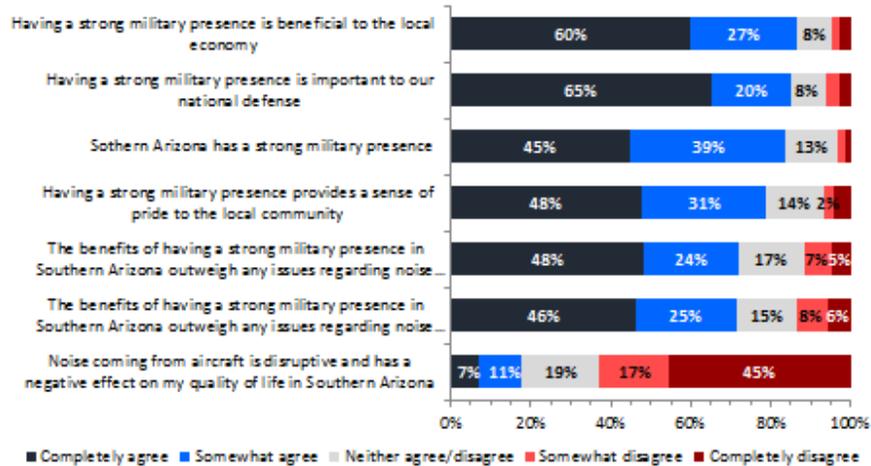
Support is highest among respondents with a high school education, are a part of a neighborhood association, and have a household income of more than \$100,000.



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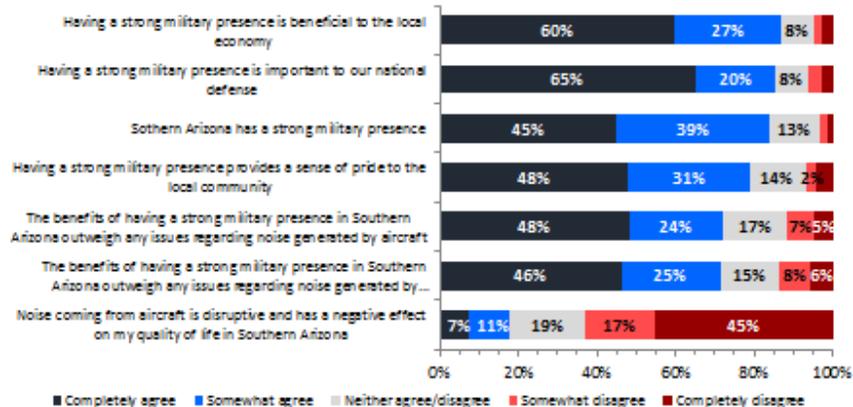
Agree with the Following Statements:

87% of respondents agree that the military, "... Is beneficial to the local economy", and 85% agree that "... A strong military is important to our national defense".

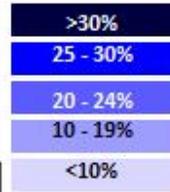
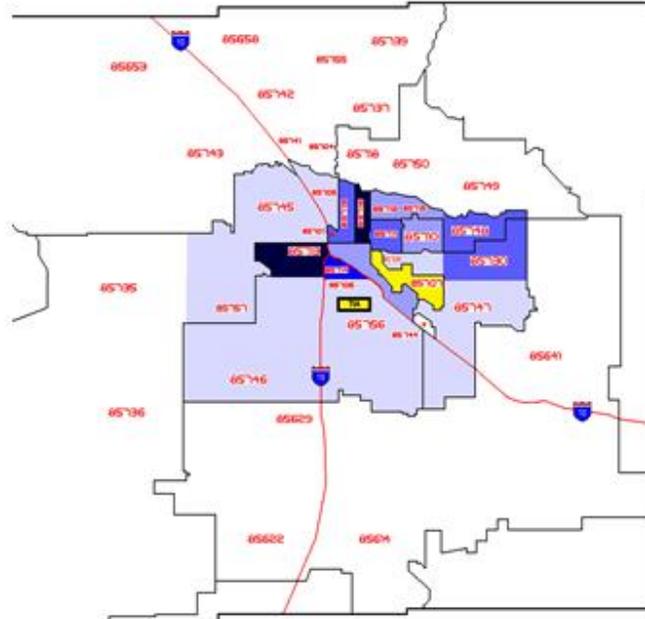


How much do you agree with the following statements:

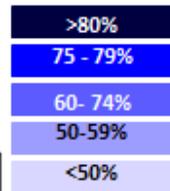
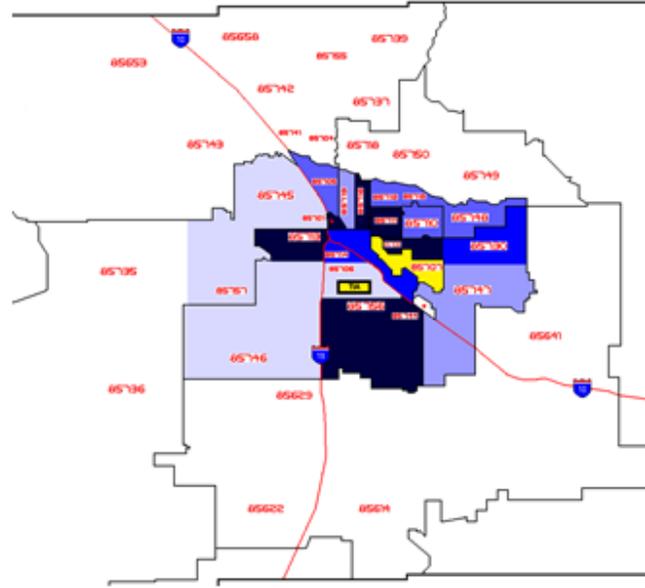
87% of respondents agree that the military, "... Is beneficial to the local economy", and 85% agree that "... A strong military is important to our national defense".



Agreement that aircraft noise negatively affects quality of life

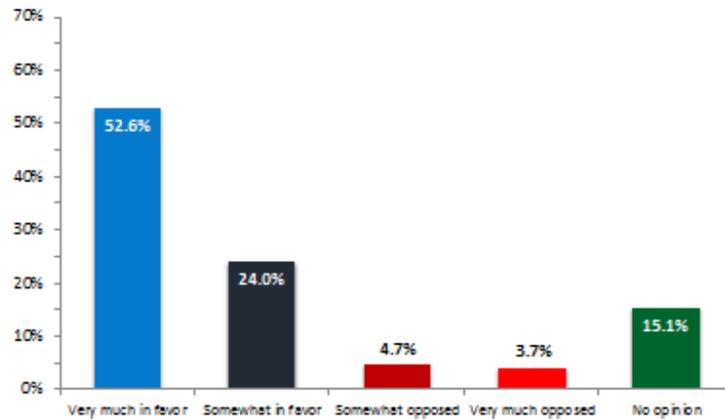


Agreement that benefits of a strong military presence outweigh noise issues (even if noisier than now)



Support for F-35 in Southern Arizona

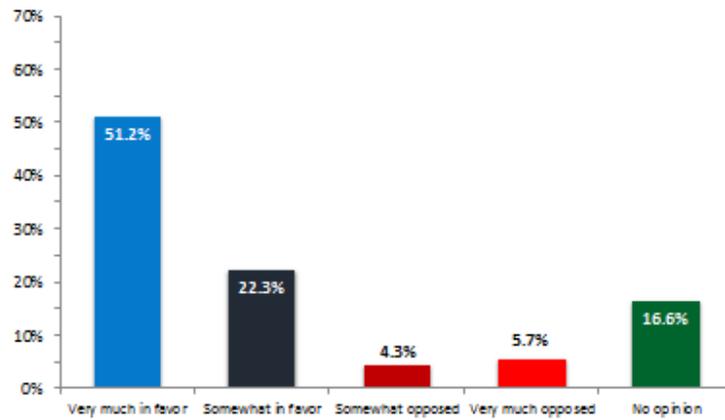
Overall support for the F-35 in southern Arizona is 76.6% (somewhat + very much in favor). Less than 1 in 10 respondents (8.4%) had a negative response to the F-35.



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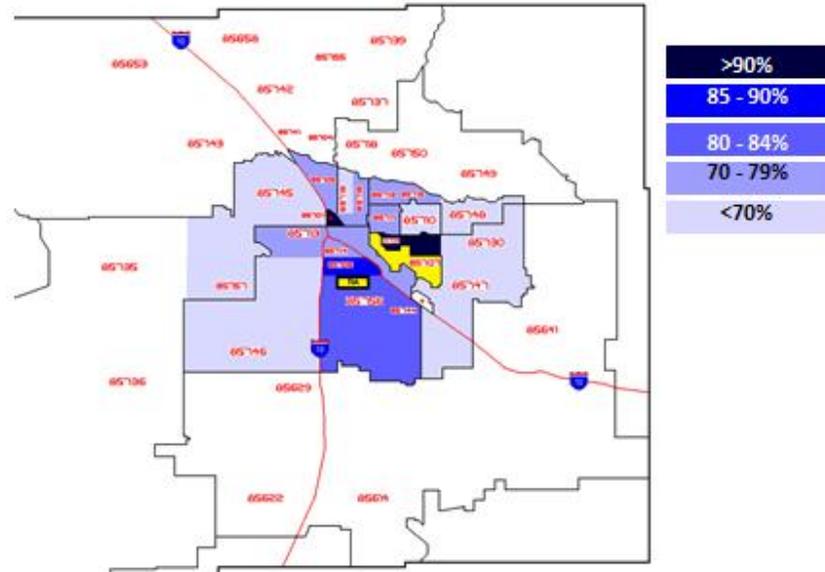
Support for F-35 from those close to DM/162nd

Support from those close to the base is high, but slightly lower than the general southern Arizona respondents at 73.5%.



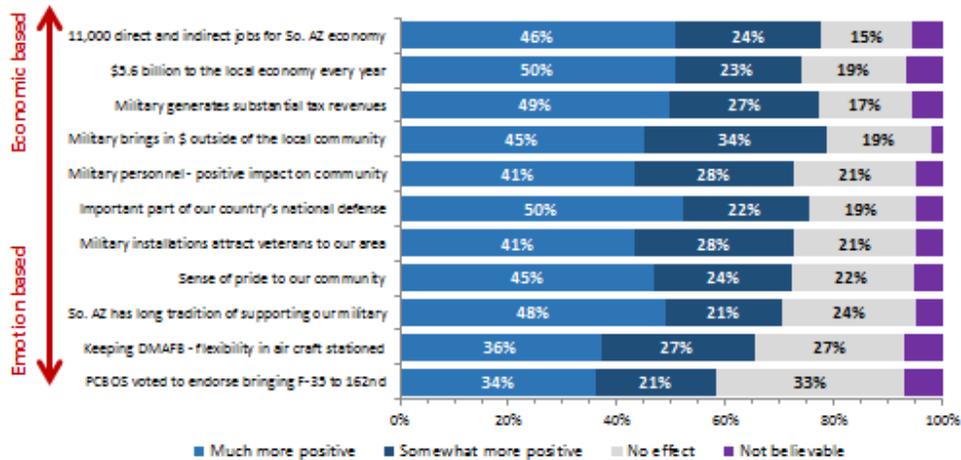
20

Support for the F-35



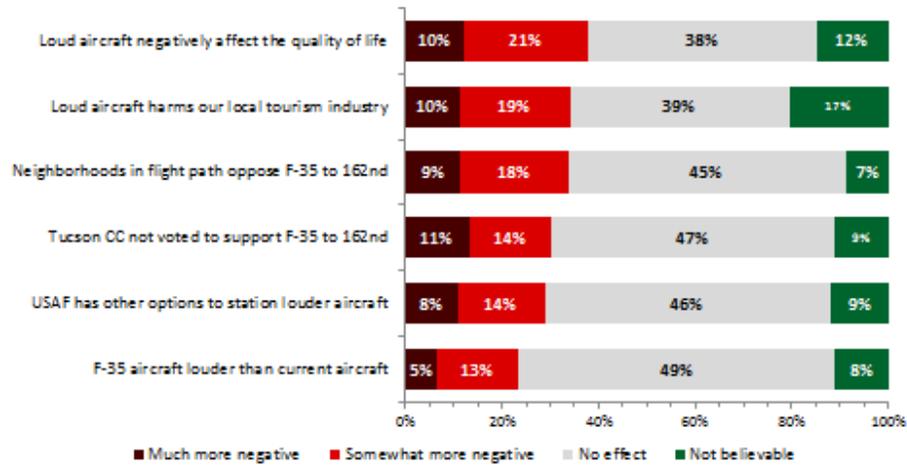
Effect of Positive Messaging on Military Installation Opinions

Economic messages are most effective with the top regarding "11,000 direct and indirect jobs" and bringing "in money from outside the local community"



Effect of Negative Messaging on Military Installation Opinions

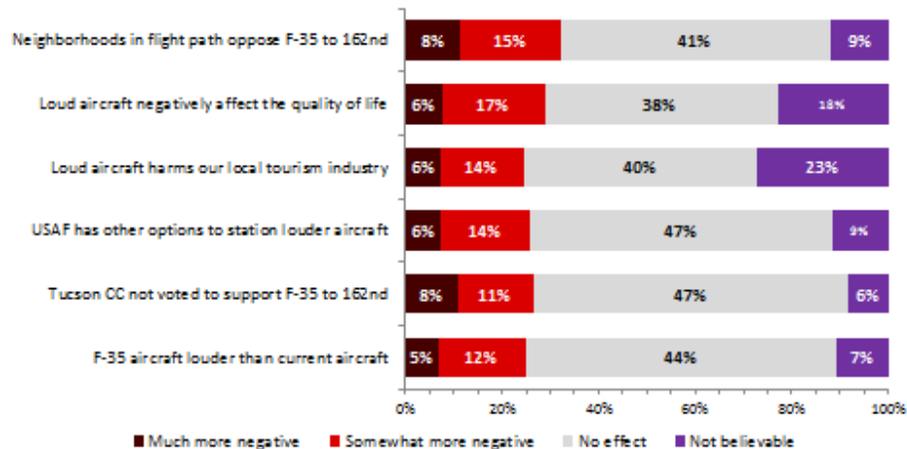
The most effective negative message elicited a 31% negative response, which was only 1/3 as effective as the positive messaging.



23

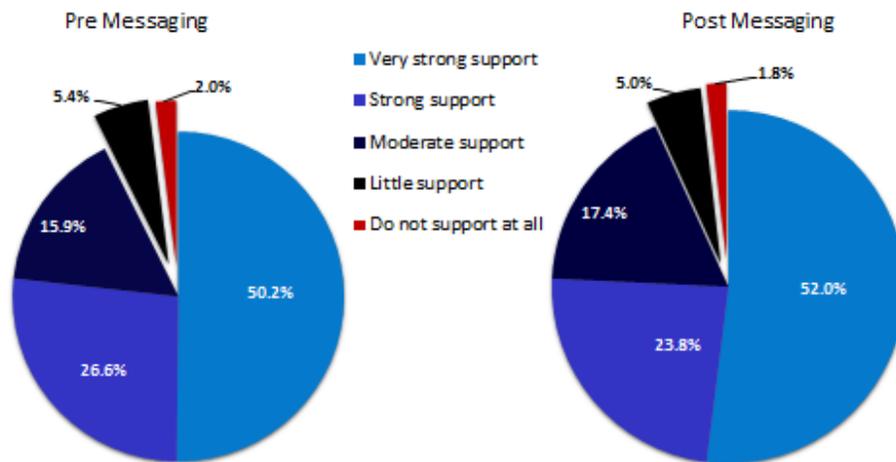
Negative Messaging and Those Close to DM/162nd

Negative messaging was slightly more effective on those close to DM/162nd, however these respondents were significantly more likely to find negative messaging "Not believable"



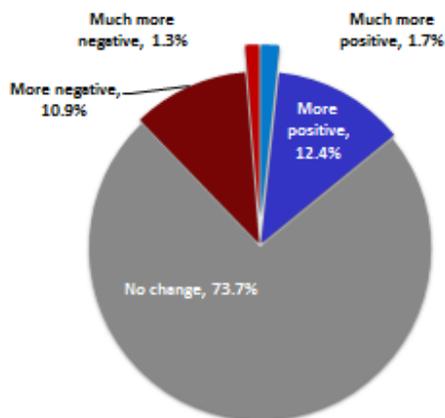
24

Level of Support for Military Installations Pre and Post Messaging

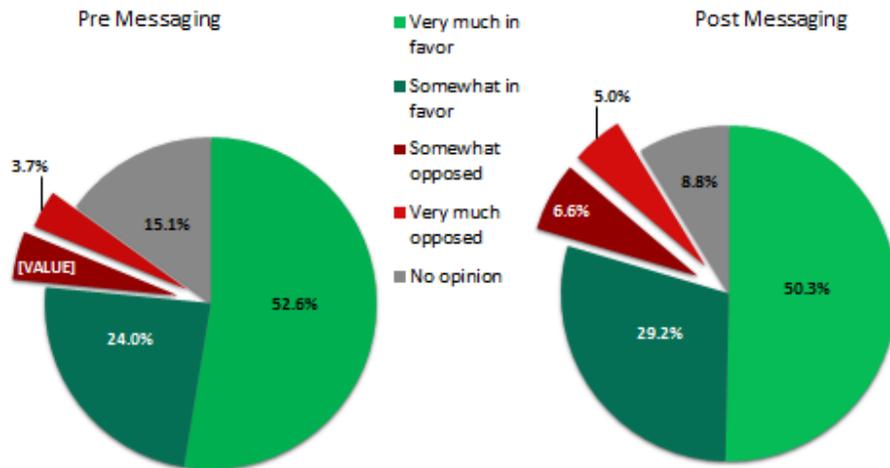


Support for Military Change Pre and Post Messaging

A vast majority of respondents had no change in their opinion on military installations in southern Arizona. The main change was on the positive side with 14.1% more positive compared to only 12.2% negative.

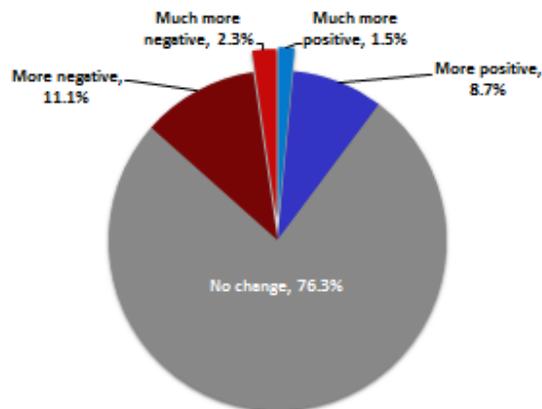


Level of Support for F-35 Pre and Post Messaging



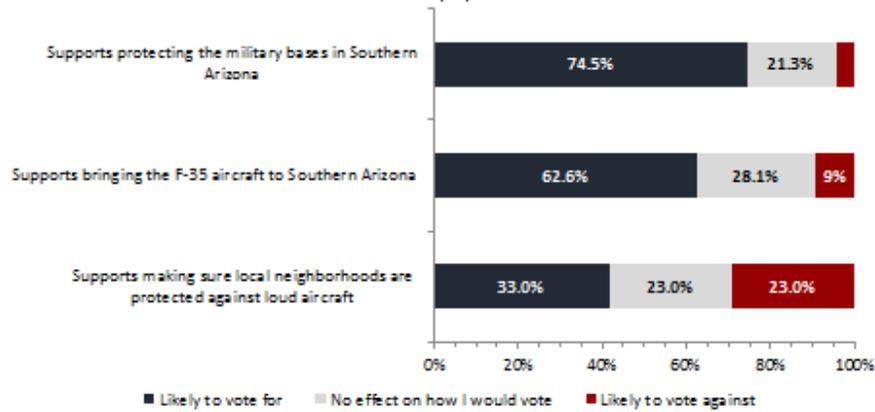
Change in F-35 Support Pre and Post Messaging

Overall there was not a large change in support after messaging, with 76.3% of respondents maintaining their original stance.



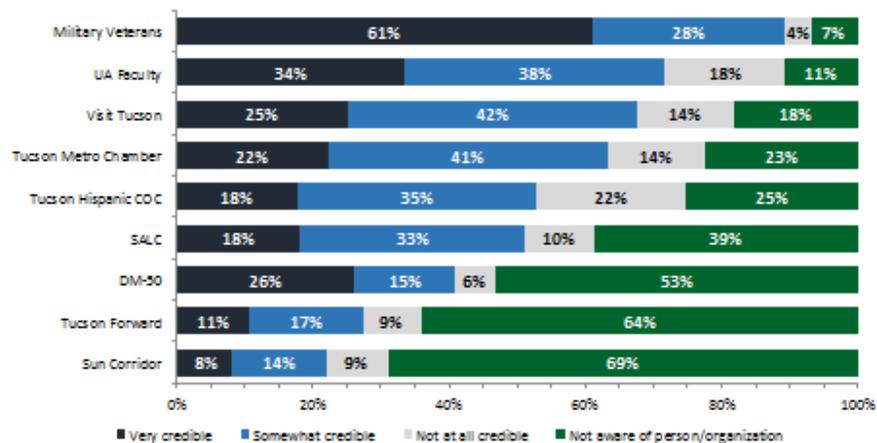
Message Effect on Elected Officials

The most effective stance an elected official can take is to protect "...the military bases in Southern Arizona". "Making sure local neighborhoods are protected against loud aircraft" was the least popular stance.



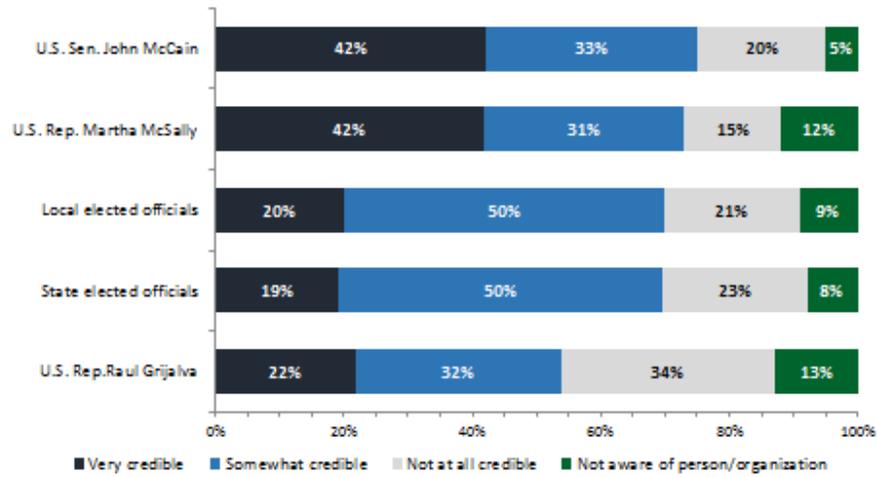
Organizations Who Are Credible to Speak on Military Installations

The most credible group is Military Veterans, with 89.4% of respondents agreeing that they are at least "Somewhat credible". DM-50, although not well known had the third highest "Very credible" rating.



Who Do You Feel is Credible to Speak on Military Installations?

Senator John McCain is the most credible individual with 75% saying he is at least "Somewhat credible", Martha McSally is a very close second with 73%.



How Do You Stay Informed?

The top resource, for the second straight time was local television news, after that friends/relatives/neighbors are still a valued source of information. The Arizona Daily Star is the top print source by a wide margin.

