

**Joint Base Andrews  
Naval Air Facility Washington  
Joint Land Use Study  
December 2009**



**The Maryland-National Capital Park and Planning Commission**

[www.mncppc.org](http://www.mncppc.org)





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**The Maryland-National Capital Park and Planning Commission  
Prince George's County Planning Department  
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Upper Marlboro, Maryland 20772**

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# Chapter 1: Study Purpose and Process

## 1.1 INTRODUCTION

Strategically located near Washington, D.C., Joint Base Andrews Naval Air Facility Washington has supported military air operations since World War II. The air base was originally located on a natural plateau surrounded by rural land populated with small farms. After World War II, rapid suburbanization of the Washington, D.C., metropolitan area brought new development to the vicinity of the base, with numerous residential neighborhoods, commercial properties, and public facilities springing into existence during the 1950s and 1960s. Development persisted around the base in the late twentieth century, intensified by the construction of the nearby Capital Beltway and the Green Line branch of Washington’s Metro system. New homes and businesses were added to the area as base air operations grew more complex, driven in part by Andrews’ proximity to the nation’s capital. As suburban growth surrounded the air installation, incompatibilities began to emerge. Homes and businesses were located in active flight paths, subjecting residents, owners, workers, and shoppers to noise impacts and potential safety hazards.

In the early twenty-first century, conflicts between the air base’s mission and operations and Prince George’s County development patterns created the need for coordinated planning that will address base impacts on the community and community impacts on the base. The Joint Base Andrews Naval Air Facility Washington Land Use Study (JLUS) represents an opportunity for the military community to work with county government and citizens to address issues of encroachment in the base vicinity.<sup>1</sup> Through this joint planning process, policies and recommendations for future development will balance the physical safety and economic welfare of area communities with the operations needs of Joint Base Andrews.

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<sup>1</sup> Incompatible uses are broadly termed “encroachment.” This includes land uses which adversely affect the public health, safety, and welfare, and those that produce negative externalities, including noise, smoke, dust, excessive light, electromagnetic interference, and vibration. Encroachment may impair the military mission or negatively impact civilian residential, commercial, or employment areas.

## 1.2 STUDY BACKGROUND

Recognizing increased development pressures on many of its military installations in the late twentieth century, the United States Department of Defense created programs to address incompatibilities between military bases and nearby communities. These include the Air Installation Compatible Use Zones (AICUZ) program and the Joint Land Use Study (JLUS) program, both of which encourage local governments to adopt land use and development policies that minimize conflicts between base area communities and military operations.

### Air Installation Compatible Use Zones

Established in 1973, the AICUZ program “promotes compatible land development in areas subject to aircraft noise and accident potential.”<sup>2</sup> Under the program, the Department of Defense performs studies for all military air installations, focusing on areas near air base runways and accident potential zones. An AICUZ study examines noise levels, existing community land uses, and building heights near air bases, and makes recommendations that will minimize base impacts on civilian areas and promote compatible public and private land uses in the vicinity of an air base. Each AICUZ study is periodically updated to account for changes in military technology and aircraft operations that may have new impacts on nearby communities.

Five AICUZ studies have been prepared for Joint Base Andrews since the program’s inception: studies in 1974, 1989, 1994, 1998 and 2007. Each study builds upon the previous study, providing updated technical information and recommendations when appropriate. New AICUZ data reflect changes to air base operations such as the use of different aircraft types, numbers of flights, and modifications to flight tracks. Furthermore, technical improvements to the noise model used in determining the extent of noise exposure areas may also impact AICUZ data. AICUZ studies provide key technical information to local officials when they prepare land use and development plans for areas surrounding military installations.

### The Joint Land Use Study (JLUS) Program

In 1985, the Department of Defense initiated the Joint Land Use Study Program (JLUS) to encourage cooperative planning between military installations and local governments. Joint planning initiatives should address incompatibilities that have arisen over time between military installations and surrounding communities, generally due to sustained growth. The JLUS program is a regionally coordinated effort between the Department of Defense’s Office of Economic Adjustment (OEA); state, county, and municipal officials; and local citizens and business leaders focused on addressing encroachment concerns in relation to military bases. This joint planning effort is conducted on numerous bases across the nation annually, helping to resolve existing incompatibility problems and avoid future conflicts. The main objectives of the JLUS program are to:

- ❖ Encourage cooperative land use planning between military installations and the surrounding community.
- ❖ Seek ways to reduce the operational impacts of the military bases on adjacent land.<sup>3</sup>

The JLUS program has a broader focus than the AICUZ program and typically relies on data generated for an AICUZ report as a basis for many of its recommendations. Whereas the Department of Defense develops AICUZ studies internally and provides them to local jurisdictions, a JLUS is a joint planning effort that builds upon AICUZ data to create local policy plans addressing unique situations for areas in the vicinity of air installations.

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<sup>2</sup> *Air Installation Compatible Use Zone Study: Joint Base Andrews, Maryland* (December 2007), p. 1-1.

<sup>3</sup> Office of Economic Adjustment (OEA). *Joint Land Use Study Program Guidance Manual* (November 2006), p. 2.

## 1.3 STUDY PURPOSE AND GOALS

Initiated in 2008, the Joint Base Andrews Naval Air Facility Washington Land Use Study (JLUS) represents a partnership between the base, Prince George’s County, and the local community that facilitates a cooperative approach to development policy for the Joint Base Andrews vicinity. The JLUS identifies encroachment issues that impact both the base and the communities around the base and recommends strategies to address these impacts. Strategies will balance the needs of the base with the long-term development plans and economic viability of the surrounding communities.

Goals of the JLUS include:

- ❖ Ensuring local land use controls promote development that is compatible with the base mission and air operations.
- ❖ Addressing encroachment issues, including noise, traffic, pollution, and impacts on environmental and cultural resources.
- ❖ Identifying opportunities for economic and community revitalization around the base.
- ❖ Identifying needed traffic and transportation improvements.
- ❖ Increasing communication and strengthening relationships between the base, the county, and surrounding communities.

## 1.4 STUDY AREA

Joint Base Andrews is located in central Prince George’s County, Maryland, approximately five miles southeast of the District of Columbia/Prince George’s County boundary and about ten miles southeast of Capitol Hill. The base covers 4,346 acres or about 6.8 square miles of land area and lies near the junction of three key regional transportation routes: the Capital Beltway (I-95/495), Pennsylvania Avenue (MD 4), and Suitland Parkway (**See Map 1–1**). The Suitland Parkway right-of-way, managed by the National Park Service, forms part of the base’s northern boundary, and the Capital Beltway runs along a stretch of the base’s northwestern border. Other key roads in the base’s vicinity include Branch Avenue (MD 5), Woodyard Road—Piscataway Road (MD 223), Suitland Road, Marlboro Pike, and Allentown Road.

The Joint Base Andrews JLUS study area extends approximately one mile around the base. This area generally includes land surrounding the base on which the potential for encroachment impacts is the greatest. Possible encroachments include land uses that concentrate large numbers of people within flight paths, high noise levels, and building and vegetation heights that could interfere with air operations.<sup>4</sup> According to the 2007 AICUZ study for Joint Base Andrews, these encroachment issues are found to the north, east, and south of the base, but not to the west.

Some encroachment issues extend beyond this one-mile area. In these cases a broader study area was adopted in order to conduct a more comprehensive examination of specific encroachment impacts, such as aircraft noise levels; building, structure, and vegetation heights; transportation systems; and damage to environmental resources.

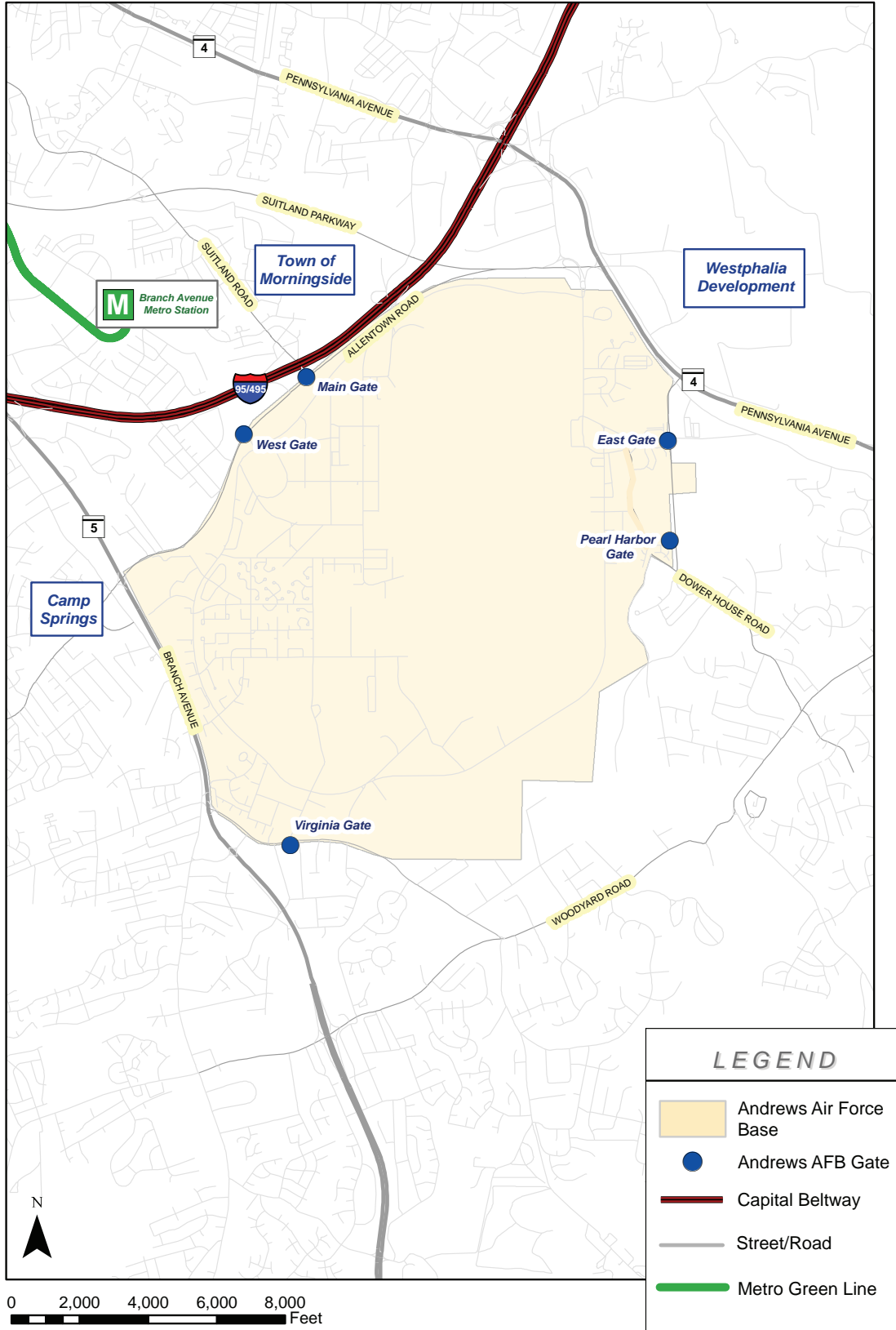
Additional information about the base and its surroundings can be found in **Chapters 2 and 3**.

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<sup>4</sup> Although the study area boundary generally was drawn to encompass a one-mile radius around the base, portions of the boundary are somewhat irregular, as it follows small local statistical areas called traffic analysis zones (TAZs).



Map 1.1 Joint Base Andrews JLUS Area



Source: M-NCPPC and Joint Base Andrews (2007, 2008)



## 1.5 JLUS POLICY AND TECHNICAL COMMITTEES

As a JLUS represents a partnership between the military and the local community, obtaining input from a variety of stakeholders is critical to a successful study. The Prince George's County Planning Department convened two advisory bodies, the Technical Committee and the Policy Committee, to assist in JLUS preparation. These two groups met regularly between October 2008 and August 2009, reviewing materials prepared by the Planning Department and providing feedback on proposed policies and strategies.

The Technical Committee consisted of technical and professional staff from M-NCPPC, Prince George's County government agencies, and Joint Base Andrews. This committee was responsible for data collection, identifying and studying technical issues, and developing recommendations for consideration by the Policy Committee. The Technical Committee met eight times between October 2008 and May 2009.

The Policy Committee consisted of federal, state, and local elected and appointed officials; the Joint Base Andrews Commander and base planning staff; Air Force District of Washington (AFDW) staff; Department of Defense–Office of Economic Adjustment staff; and representatives of the local residential and business communities. This committee oversaw the JLUS process, reviewed draft reports, evaluated proposed policies, and recommended the final JLUS to those local, state, and military officials responsible for its implementation. The Policy Committee met eleven times between October 2008 and September 2009, reviewing the preliminary recommendations in June 2009 and approving the final draft document in September 2009.

The **Acknowledgments (page 150)** list the Technical Committee and Policy Committee members.

## 1.6 PUBLIC PARTICIPATION

Area residents, business owners, and property owners also comprise an important component of the JLUS constituency. While preparing the Joint Base Andrews JLUS, M-NCPPC staff and members of the Technical and Policy Committees held public meetings to inform the community about the JLUS program and solicit feedback from citizens on encroachment issues, the need for economic revitalization around the base, transportation issues, and JLUS recommendations. An initial round of meetings was held early in the planning process to confirm issues, and the JLUS team returned to the community in June 2009 to present preliminary recommendations. **Table 1–1** lists public meetings held as part of the JLUS process.

One of several public meetings held to inform the community about the JLUS program.



**Table 1–1. JLUS Public Meetings**

Date	Location	Topic
January 31, 2009	Town of Morningside Town Hall	Project overview and issues identification
June 23, 2009	Camp Springs Community Church	Project update and preliminary recommendations
June 30, 2009	St. Philip the Apostle Church	Project update and preliminary recommendations

In addition to the formal public meetings listed above, M-NCPPC staff delivered presentations to local business groups and community organizations active in the vicinity of the base. **Table 1–2** lists all presentations requested by individual organizations.

**Table 1–2. Additional JLUS Meetings**

Date	Organization	Location	Topic
October 21, 2008	Town of Morningside	Town of Morningside Town Hall (Morningside, MD)	Project overview and issues identification
January 7, 2009	Greater Prince George’s Business Roundtable (GPGBR)	Colony South Hotel (Clinton, MD)	Project overview and issues identification
January 8, 2009	Andrews Business and Community Alliance (ABCA)	Mama Stella’s Restaurant (Clinton, MD)	Project overview and issues identification
March 19, 2009	Camp Springs Civic Association	St. Philip’s the Apostle Church (Camp Springs, MD)	Project update and preliminary recommendations
July 17, 2009	Andrews Business and Community Alliance (ABCA)	Mama Stella’s Restaurant (Clinton, MD)	Project update and preliminary recommendations

M-NCPPC Planner Coordinator Chris Izzo addresses a public meeting.





## Chapter 2: Joint Base Andrews and the Community

Joint Base Andrews is the home base of Air Force One, the U.S. President's official airplane.

### 2.1 BASE MISSION

Joint Base Andrews Naval Air Facility Washington is the secure aerial gateway for the President of the United States, Vice President, Executive Cabinet members, members of Congress, military leaders, foreign heads of state, and other dignitaries. The base also supports Air Force and other military personnel engaged in critical national defense initiatives.

The Air Force District of Washington (AFDW), the entity responsible for coordinating Air Force operations in the National Capital Region (NCR), is headquartered at Joint Base Andrews (JBA). AFDW is responsible for overseeing Joint Base Andrews, Bolling AFB, and Air Force operations in the Pentagon.

The 316<sup>th</sup> Wing is Joint Base Andrews' "host wing" and is responsible for operating the base. The 316<sup>th</sup> Wing maintains emergency reaction aircraft and other NCR contingency response capabilities critical to national security and the organizing, training, equipping, and deploying of combat-ready forces for Air and Space Expeditionary Forces. The wing also provides installation security, services, and airfield management services to support the President, Vice President, other senior U.S. leaders, and more than 50 tenant organizations and federal agencies.

The 89<sup>th</sup> Airlift Wing is responsible for air transport, logistics, and communications support for the President, Vice President, and other senior U.S. leaders. The 89<sup>th</sup> Wing operates Air Force One.



## 2.2 BASE HISTORY

Prior to its role as an air base, the Andrews site was mainly used for agriculture. In 1937 this site was considered for a new civilian airport serving Washington D.C., but a location along the Potomac River in Virginia was selected instead for what later became National Airport. Following the nation's entry into World War II in December 1941, the U.S. Army identified the site near Camp Springs, Maryland, as an ideal place for a new military airfield.

In August 1942 President Franklin D. Roosevelt directed the Secretary of War to acquire land in the vicinity of Camp Springs for the establishment of an army airfield. This facility, named Camp Springs Army Air Field, was developed by the Army Corps of Engineers between the fall of 1942 and the summer of 1943 with four runways, fourteen miles of taxiways, and supporting buildings and infrastructure. The airfield officially opened on May 2, 1943. The airfield's facilities were expanded between the fall of 1943 and the spring of 1945 with new housing and operating installations. During World War II the airfield was mainly used for training fighter pilots.

In March 1945 the Army renamed the installation Andrews Army Air Field in honor of Lieutenant General Frank Maxwell Andrews (1884–1943), a pioneering Army aviator and commander of European operations for all Army Air Forces at the time of his death in an air accident in May 1943. In 1947, following formation of the United States Air Force as a separate military branch independent of the Army, Andrews Army Air Field became Andrews Air Force Base, and in 2009 Joint Base Andrews Naval Air Facility Washington.

The physical development of the base during the Cold War era reflected continual changes in military aviation technologies as well as ongoing shifts in the missions and requirements of Air Force units stationed there. New hangars, workshops, living quarters, administrative buildings, and command centers were built to handle specific operational requirements. During the Korean War the base was again used to train pilots, and the base has played a key role in national security operations from the 1950s to the present.

The base has served as the “international gateway” to the United States for visiting dignitaries since 1959, following extensive upgrades to the runways. Heads of state from around the world routinely fly into Andrews for conferences in the Washington, D.C., area, such as the G-20 Leaders Summit on Financial Markets and the World Economy in November 2008.

In addition to its roles in national defense and hosting distinguished visitors, Joint Base Andrews has become well-known throughout the world as the home base of Air Force One, the U.S. President's official airplane. In November 1946 President Truman was the first president to fly an official plane out of the facility. In March 1962 President Kennedy's official airplane was transferred to Andrews from National Airport, and since that time Andrews has housed all presidential aircraft.

## 2.3 BASE FACILITIES

JBA is largely a self-contained community. The base's facilities include two runways and associated taxiways and parking aprons, hangars, and workshops, warehouses, command centers and administrative buildings, fuel storage areas, utility infrastructure, a community center, various types of housing, a medical center, open space areas including three golf courses, and recreational facilities such as a clubhouse.

Oriented roughly on a north/south axis, the base's two parallel runways are designated respectively as Runways 01Left/19Right (01L/19R) and 01R/19L. Runway 01L/19R is 9,300 feet long and 200 feet wide,

and Runway 01R/19L is 9,755 feet long and 150 feet wide. The overruns at the ends of each runway are approximately 1,000 feet long. The airfield elevation is 280 feet above mean sea level (MSL). Runway 01L is used for 35 percent of the flights at the base and Runway 19R for 19 percent of the flights. Runway 01R is used for 28 percent of the flights and Runway 19L for 18 percent.

## 2.4 BASE UNITS

Flying operations on the base are carried out by units from the Department of Defense (Air Force, Air National Guard, Army, Navy, Marine Corps, and Defense Intelligence Agency), Department of Energy, and the Maryland State Police.

In addition to the 316<sup>th</sup> Wing, Joint Base Andrews is home to more than 50 tenant units. Key units include:

- ❖ Headquarters, AFDW.
- ❖ 89<sup>th</sup> Airlift Wing, which provides air transportation and logistical support for the President of the United States and top government officials.
- ❖ 79<sup>th</sup> Medical Wing, which coordinates Air Force medical care throughout the national capital region (including facilities at Andrews and Bolling AFB). The 79<sup>th</sup> Medical Wing is headquartered at the Malcolm Grow U.S. Air Force Medical Center at JBA.
- ❖ 113<sup>th</sup> Fighter Wing (Washington, DC Air National Guard).
- ❖ 459<sup>th</sup> Air Refueling Wing (U.S. Air Force Reserve).
- ❖ Naval Air Facility (U.S. Navy Reserve).



An Andrews “bird” hovers over the Jefferson Memorial in Washington, D.C.

## 2.5 BASE OPERATIONS

Over 141,000 annual aircraft operations occurred at JBA between May 2006 and April 2007.<sup>1</sup> The 20 Air Force, Air National Guard, Army, Navy, Marine Corps, Defense Intelligence Agency, Department of

<sup>1</sup> Most of the information in this section is derived from the 2007 Andrews AFB AICUZ Study. An “aircraft operation” is defined as one takeoff/departure, one approach/landing, or half of a closed pattern. A “closed pattern” consists of two portions: a takeoff/departure and an approach/landing (i.e., two operations). A “sortie” is a single military aircraft flight from the initial takeoff through the termination landing. The minimum number of aircraft operations for one sortie is two operations, one takeoff (departure), and one landing (approach). A closed pattern includes successive takeoffs and landings or low approaches where the aircraft does not exit the tower- or radar-controlled traffic pattern. Closed patterns allow pilots to accomplish numerous landings in a short period of time to meet training and certification requirements.

Energy, and Maryland State Police flying units based at Joint Base Andrews operate 16 different aircraft types, including executive transport, cargo, fighter, and helicopter. In addition to the JBA-based aircraft, 54 types of transient military and civil aircraft also conduct operations at the base.

In 2007 these aircraft accounted for approximately 314 average busy-day aircraft operations (**Table 2–1**). Approximately eight percent of the operations occurred at night (i.e., between the hours of 10:00 p.m. and 7:00 a.m.).

**Table 2–1. Average Busy-Day Aircraft Operations for 2007**

Aircraft Type	Arrival/ Departure Operations	Closed Pattern Operations	Total Operations
Joint Base Andrews Aircraft (16 types)	123	144	267
Transient Aircraft (54 types)	47	0	47
Total	170	144	314

*Source: 2007 Andrews AFB AICUZ Study*

### Runway and Flight Track Utilization

Aircraft operating at Joint Base Andrews use the following flight patterns:

- ❖ Straight-out departure
- ❖ Straight-in arrival
- ❖ Overhead closed patterns both east and west of the airfield
- ❖ Radar closed patterns to the east of the airfield
- ❖ Re-entry patterns

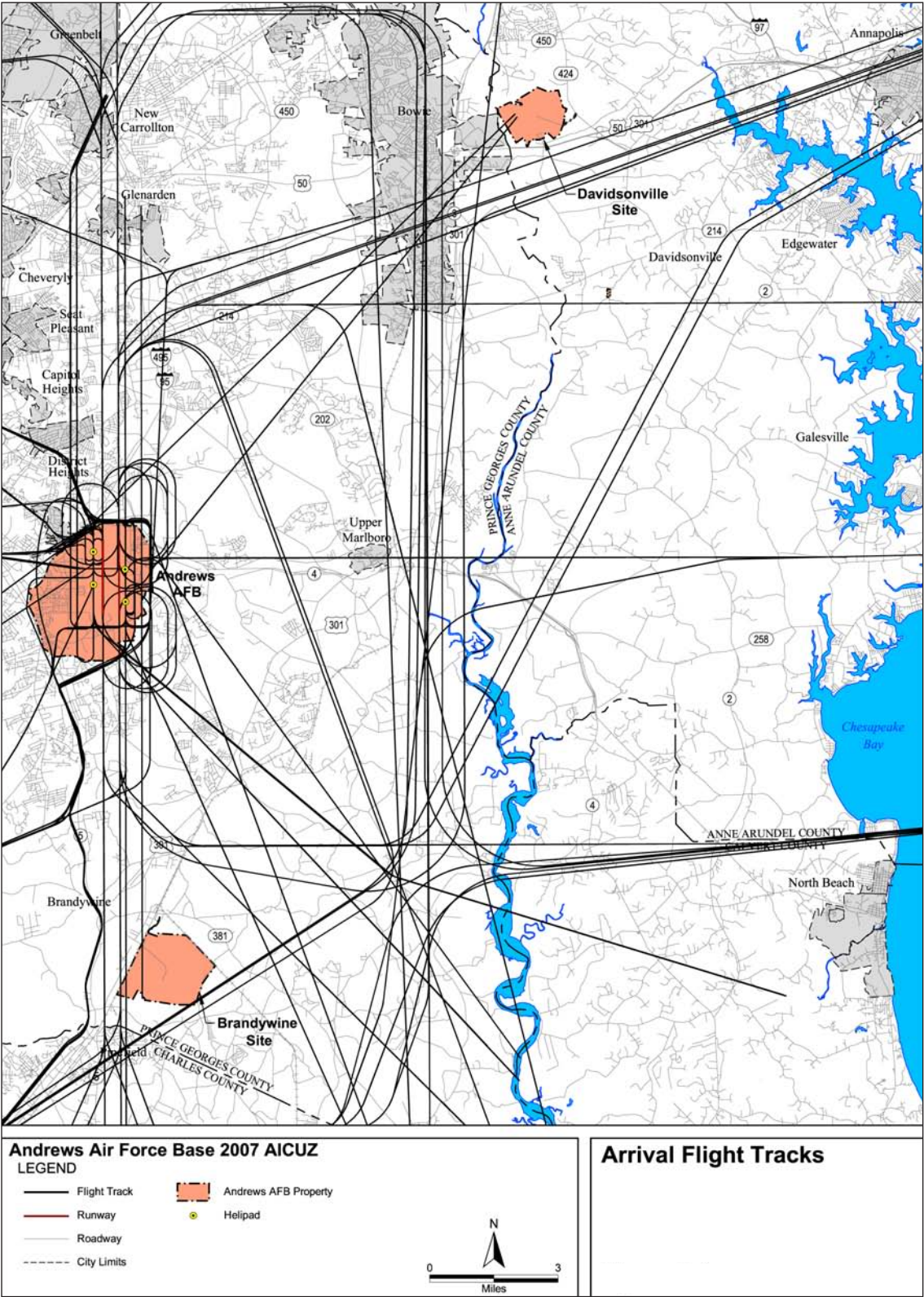
Flight patterns specific to JBA result from several considerations, including:

- ❖ Takeoff patterns routed to avoid noise-sensitive areas as much as possible.
- ❖ Arrivals and departures routed to avoid restricted airspace.
- ❖ Criteria governing the speed, rate of climb, and turning radius for each type of aircraft.
- ❖ Efforts to control and schedule missions to keep noise levels low, especially at night.
- ❖ Coordination with the Federal Aviation Authority (FAA) to minimize conflict with civil aircraft operations.

**Maps 2–1, 2–2, and 2–3**—excerpted from the 2007 Andrews AFB AICUZ Study—show the representative flight tracks at Joint Base Andrews. The flight track locations represent the various types of arrivals, departures, and closed patterns accomplished at Joint Base Andrews. As shown on the maps, a majority of the operations occur to the east of the base. The location for each track is representative for the specific track and may vary due to air traffic control, weather, and other reasons (e.g., one pilot may fly the track on one side of the depicted track, while another pilot may fly the track slightly to the other side). To reduce the effect of aircraft noise, Joint Base Andrews limits transient aircraft to one approach to a full stop landing. The base also controls and schedules missions to keep noise levels low, especially at night.



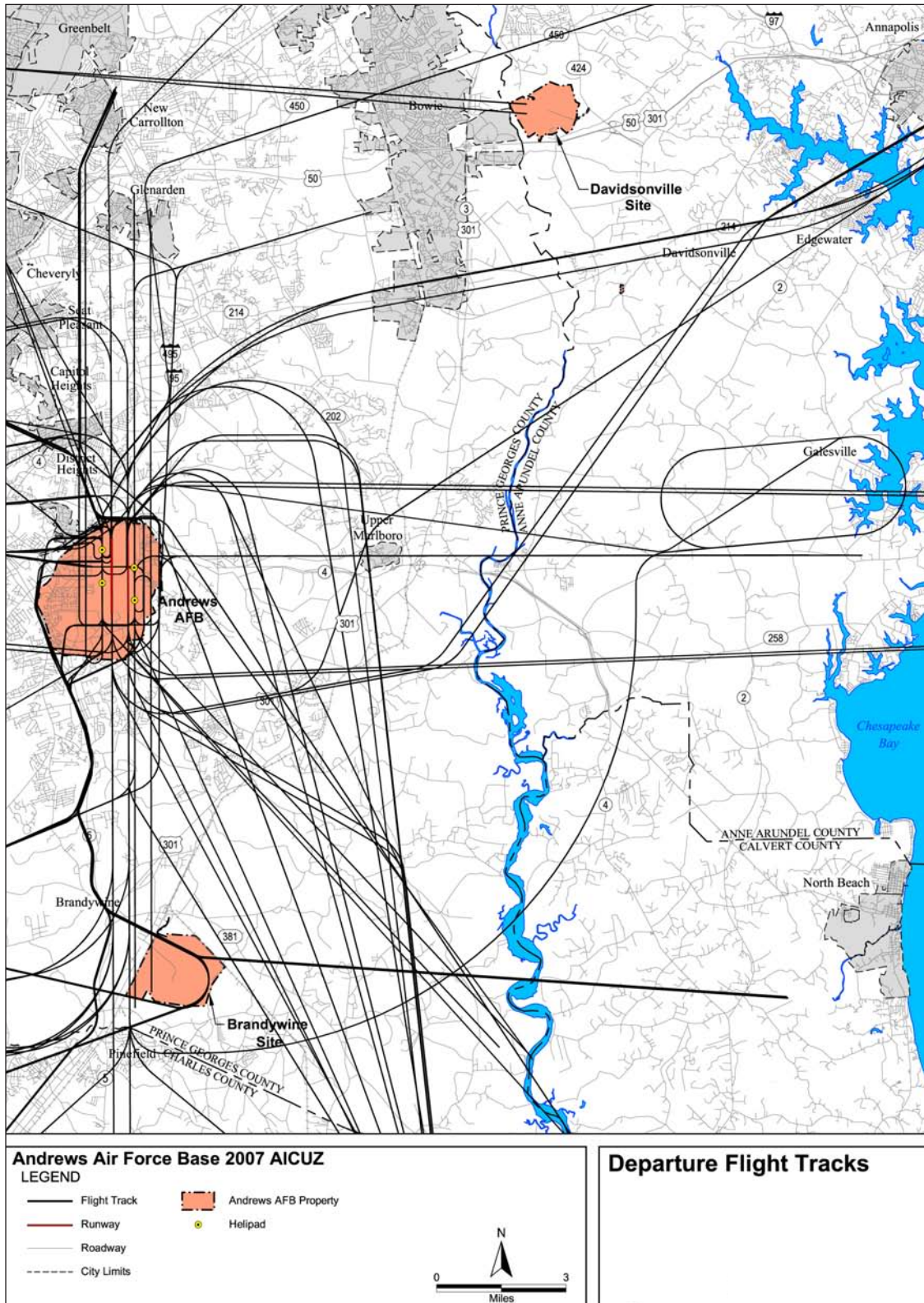
Map 2-1. Arrival Flight Tracks



Source: 2007 Andrews AFB AICUZ Study, page 3-5.



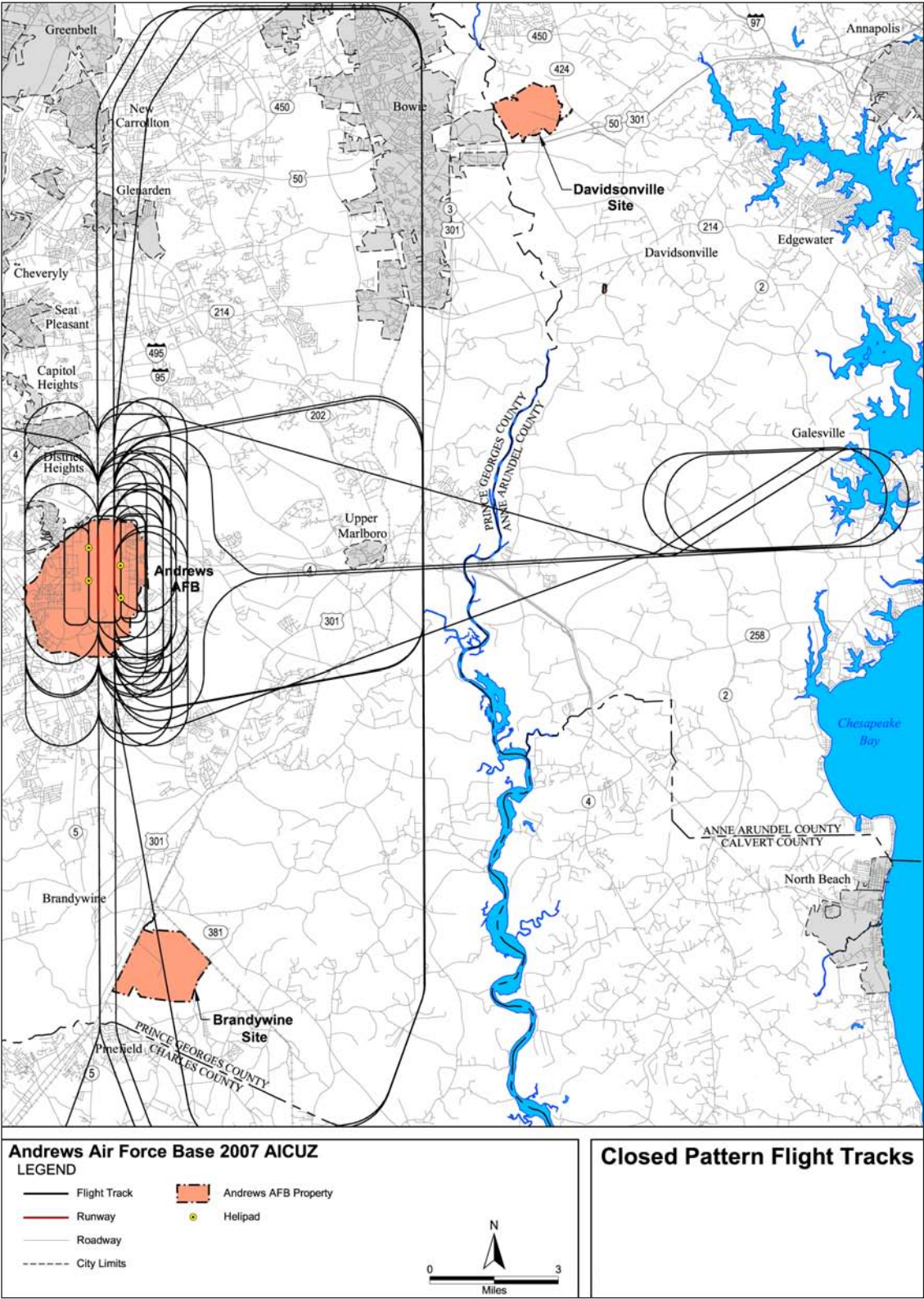
Map 2–2. Departure Flight Tracks



Source: 2007 Andrews AFB AICUZ Study, page 3-6.



Map 2-3. Closed Pattern Flight Tracks



Source: 2007 Andrews AFB AICUZ Study, page 3-7.

## Future Operations

As a result of the Base Realignment and Closure Act of 2005 (BRAC) and National Capital Region (NCR) initiatives, several new operational actions will occur at Joint Base Andrews over the next few years:<sup>2</sup>

- ❖ An additional 2,400 +/- personnel are expected to be assigned to Joint Base Andrews by 2011.
- ❖ A portion of this increase related to BRAC (804 positions) is expected by 2011, while the balance will be realized by 2018.
- ❖ The Air Force Office of Special Investigations (AFOSI) will move from Joint Base Andrews to the Marine Corps Base at Quantico, VA.
- ❖ NCR U.S. Air Force leased locations will relocate to Joint Base Andrews.
- ❖ NCR Air National Guard leased locations will relocate to Joint Base Andrews.
- ❖ Inpatient care at Malcolm Grow Medical Center (on Joint Base Andrews) will be discontinued and the hospital will be converted to a clinic with an ambulatory surgery center.

None of the actions identified above are anticipated to result in significant changes to existing aircraft operations at Joint Base Andrews. No other significant operational or mission changes are anticipated during the foreseeable future.

## 2.6 FUTURE BASE DEVELOPMENT PLANS

In 2008, the 316<sup>th</sup> Wing developed a 25-Year Strategic Plan that envisions the long-term redevelopment of nearly 600 acres of base land uses and facilities. These proposed redevelopments are primarily targeted to the east and west flight lines, and a north-south “corridor” within the western portion of the base. The key areas addressed by the strategic plan are shown in **Map 2–4** and summarized below:

### Town Center

Perhaps the most significant land use change at Joint Base Andrews under the 25-Year Strategic Plan is the proposed development of a new on-base “town center” in a portion of the existing military family housing area. The town center is envisioned as a pedestrian-oriented central hub for community activities. The proposed anchors for the town center include a new fitness center and education center/library at the northern end, and a new base exchange and commissary at the southern end. Various customer service-oriented functions and retail establishments are planned between these anchors.

### Eastern Portion of the Base

The eastern side of the base primarily serves Air National Guard and Air Force Reserve (AFRES) and Naval Reserve functions. The strategic plan envisions reconfiguring the AFRES flight line, service, and administrative facilities; reconfiguring the East Administrative area to consolidate tenants and provide additional services; reconfiguring the East Perimeter Road due to the planned changes in the AFRES flight line; and reconstructing the Pearl Harbor Gate.

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<sup>2</sup> See **Chapters 3 and 4** for more information about the BRAC program.

Map 2-4. Components of the 316<sup>th</sup> Wing's 25-Year Strategic Plan



Source: Joint Base Andrews

## North-South Central Corridor

To improve on-base traffic flow, manage security needs, and provide a sense of place and direction, a new north-south corridor is planned to create a central spine through the base. This new corridor will provide a thoroughfare (envisioned as a landscaped “boulevard”) between the Main Gate and the Virginia Avenue Gate that will improve access to many of the base’s key facilities.

## Housing Privatization

In 2007, Joint Base Andrews contracted to privatize the base’s family housing functions, primarily to modernize the 1960s and 1970s-period housing stock. Under the contract, the Air Force has leased approximately 420 acres of land at Andrews to a realty company for 50 years. The contract calls for the demolition of 590 housing units, the construction of 200 new housing units, and the renovation of 187 units. At the completion of this process, the company will be responsible for the operation and maintenance of 887 housing units.

## Western Industrial Area

The area where the base exchange and commissary are currently located is envisioned as the site of a new northern industrial land use area. The base’s Logistics and Transportation Maintenance, Base Supply, and Base Civil Engineer functions will relocate to this area.

## Reconfigurations of Existing Functions

Several existing functions are planned for reconfiguration within their existing locations. These include the West Administrative complex, the Operations Quadrant, and the West Flight Line. A readiness complex, intended to host classified meetings and conferences, is also planned near the West Administrative complex.

# 2.7 COMMUNITY LAND USE

Standard suburban residential, commercial, and industrial development generally surrounds the base. Area existing land uses are diverse, reflecting the base’s proximity to Washington, D.C., and its location in what has been a continually-growing suburban area since the establishment of the base in the 1940s. Existing development is generally denser to the north and west of the base towards Washington, D.C., with lower density suburban development to the south and the lowest densities to the east, where some land is classified as rural. Most land around the base is used for residential purposes; however, large acreages are also devoted to parks, institutional uses such as schools and churches, and commercial uses.

The town of Morningside, one of Prince George’s County’s incorporated municipalities, lies to the northwest of the base. Land uses in Morningside are mostly residential, with some commercial properties lining its main thoroughfare, Suitland Road.

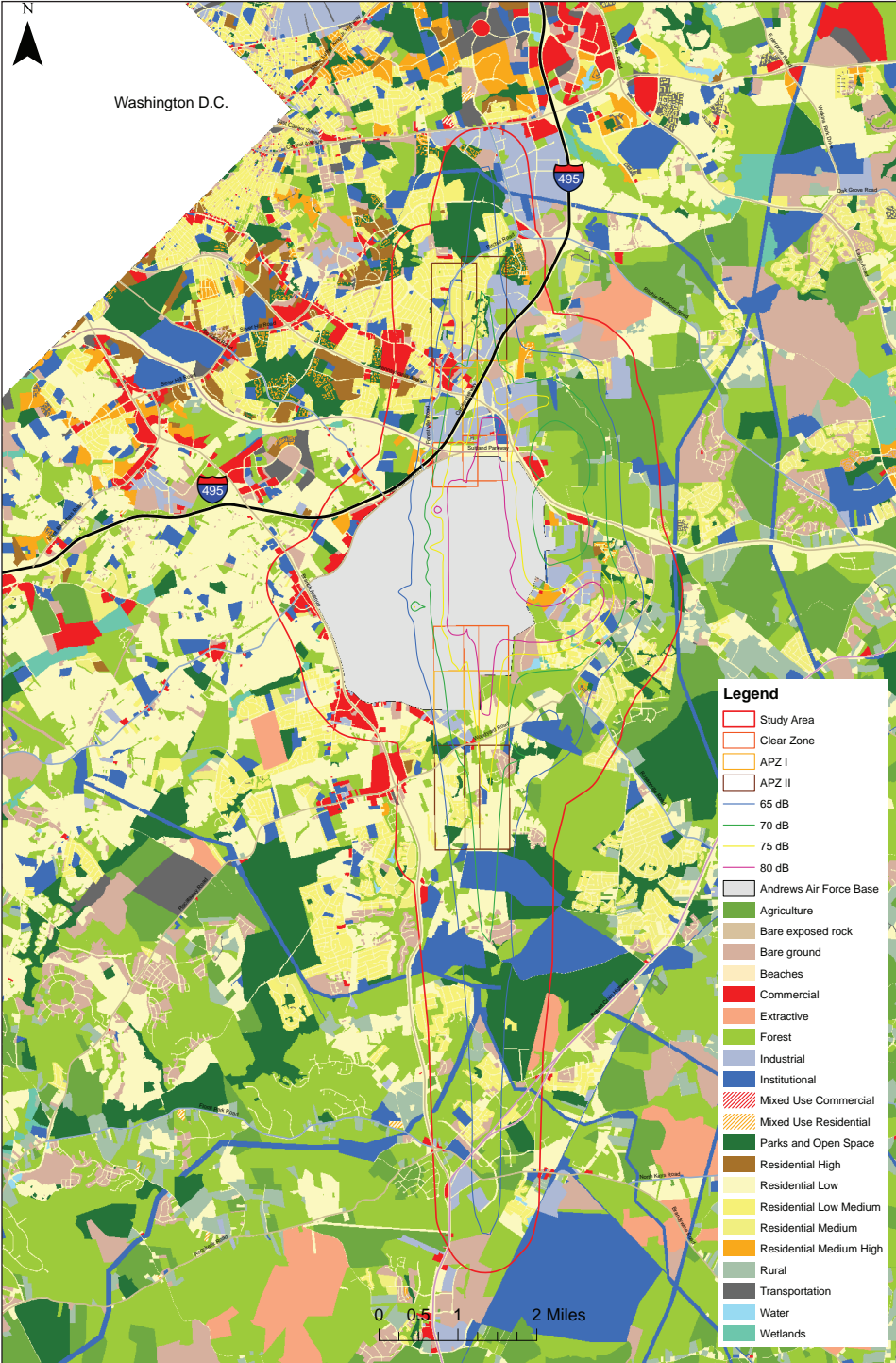
The only undeveloped area around the base is to the northeast, in the area bounded on the south and west by Pennsylvania Avenue (MD 4) and on the north and east by Ritchie Marlboro Road. However, much of this area is slated for a large-scale development project that aims to build on the base’s presence. Known as Westphalia, this area is a master-planned community expected to be built out over a period of thirty years. Westphalia will eventually include 14,000 to 15,300 residential units, up to 710,000 square feet of retail



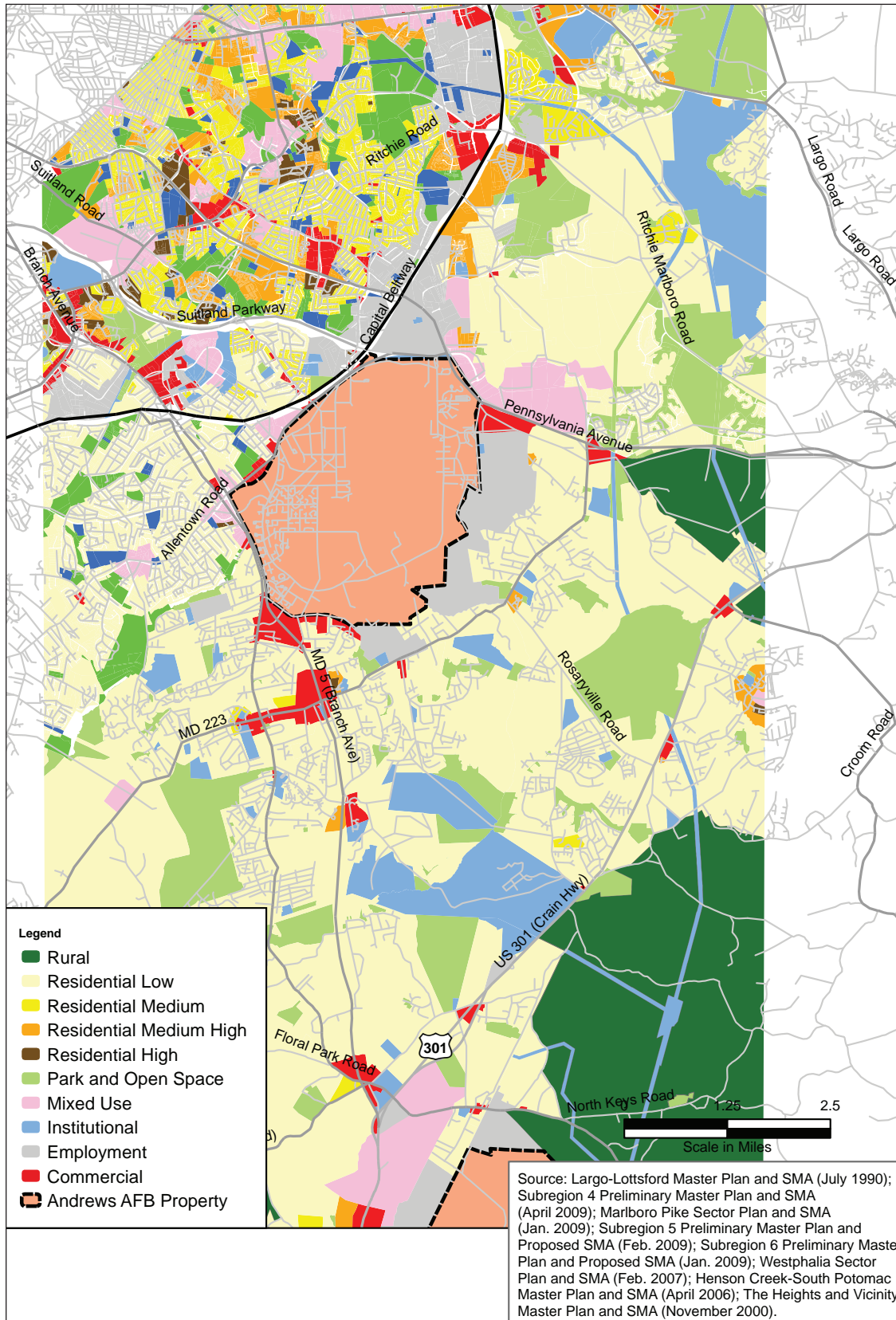
space, about four and a half million square feet of employment uses, and extensive open spaces, consisting of 1,850 acres, or about 30 percent of the 6,000-acre project area.

Map 2-5 and Map 2-6 show existing and future land uses in the vicinity of JBA. These maps have been updated compared to the existing and future land use maps in the 2007 Andrews AFB AICUZ study.

Map 2-5. Existing Land Use, Joint Base Andrews Vicinity (2008)



Map 2-6. Proposed Future Land Use, Joint Base Andrews Vicinity



## 2.8 BASE EMPLOYMENT AND ECONOMIC IMPACT

In 2008 the base hosted almost 17,000 active duty military and civilian employees and military dependents (See Table 2–2).

The total economic impact of JBA on the Greater Washington metropolitan area in FY08 was approximately \$1.1 billion (Table 2–3). The base alone had a gross payroll close to \$658 million, and spent another \$217 million on goods and services. In FY08, more than 10,000 personnel were on the base’s payroll, including 7,500 military and 2,500 civilian employees, making the base the county’s largest employer. About 94 percent of military personnel live off base, creating an economic multiplier effect for the off-base economy. Indirect job creation related to the base in FY08 is estimated at \$256 million.

As noted above, as a result of BRAC and Department of Defense reassignments, an additional 2,400+/- personnel are expected to be assigned to JBA by 2011. Prince George’s County estimates that these positions could generate significant “spin-off” jobs and economic development in the form of 13,985 jobs and demand for 10,476 housing units in the county by 2020.<sup>3</sup> A planned growth center to the north of the base, Westphalia, is intended to absorb much of this growth, although other parts of the county will be affected.

In addition to its economic impact, Joint Base Andrews also provides community services to personnel, as well as retirees and off-base dependents. A commissary, base exchange (BX), and gas station provide basic necessities such as groceries and convenience items. Recreation opportunities on base include golf courses, ball fields, basketball courts, picnic areas, a bowling alley and other amenities. The base has a library, a church, a hospital (Malcolm Grow Medical Center), fast food restaurants, and some small stores that offer clothing, furniture, and appliances to military personnel, retirees, and dependents.

**Table 2–2. Population Living and Working at JBA, 2008**

Classification	Total
Military	7,547
<i>Active Duty Military</i>	5,723
<i>Reserve and Guard</i>	1,818
<i>Trainees and Cadets</i>	6
Civilian	9,150
<i>Appropriated Fund Civilian Employees</i>	926
<i>Other Civilian Employees</i>	1,655
<i>Military Dependents</i>	6,569
TOTAL	16,697

*Source: Joint Base Andrews Fiscal Year 2008 Economic Impact Analysis.*

**Table 2–3. Annual Economic Impact Estimate  
Joint Base Andrews, FY08**

	Dollar Value
Annual Payroll	\$658,000,000
Annual Expenditures	\$217,000,000
<i>Construction</i>	\$22,000,000
<i>Services</i>	\$150,000,000
<i>Materials, Equipment, and Supplies Procurement</i>	\$44,000,000
Estimated Annual Dollar Value of Jobs Created <sup>1</sup>	\$256,000,000
Total Annual Economic Impact	\$1,130,000,000

<sup>1</sup> Projected 4,987 jobs multiplied by a projected average annual pay of \$51,241.

*Source: Joint Base Andrews Fiscal Year 2008 Economic Impact Analysis.*

<sup>3</sup> *Prince George’s County BRAC Action Plan*, September, 2007.

## 2.9 COMMUNITY DEMOGRAPHIC PROFILE

In 2008 the population in the JLUS study area was approximately 76,200 people, or nine percent of the total population of Prince George’s County. This area contained approximately 29,400 dwelling units, of which approximately 9,400 (31 percent) were in Subregion 4 and 6,600 (22 percent) were in Subregion 5 (Table 2–4).<sup>4</sup>

**Table 2–4. Community Demographic Profile, 2000–2030**

	2000	2008 <sup>1</sup>	2030	Change, 2008–2030	
				Number	Percent
<b>Population</b>					
<i>JLUS study area</i>	72,785	76,224	101,235	25,011	33%
<i>Prince George’s County</i>	808,060	852,884	992,868	139,984	16%
<b>Dwelling Units</b>					
<i>JLUS study area</i>	27,259	29,430	40,014	10,584	36%
<i>Prince George’s County</i>	306,190	328,928	392,490	63,562	19%
<b>Employment<sup>2</sup></b>					
<i>JLUS study area</i>	42,327	44,946	75,738	30,792	69%
<i>Prince George’s County</i>	338,296	347,886	518,386	170,500	49%

<sup>1</sup>Population figures for 2008 and 2030 are derived from dwelling units.

<sup>2</sup>Employment data are from 2005 Metropolitan Washington Council of Governments Round 7.1 projections.

**Source:** M-NCPPC

The population in the JLUS study area is projected to increase by 33 percent to approximately 101,200 by 2030; similarly, the number of dwelling units is projected to increase by approximately 10,600 units (36 percent) during the same time period. While growth is projected in all planning areas around the base, the largest dwelling unit growth share (6,029, or 57 percent) will be in Westphalia (See Table 2–5).

**Table 2–5. Base Area Dwelling Unit Change, 2000–2030**

Subregion	2000	2008	2030	Change 2008–2030	
				Number	Percent
Subregion 4 (Suitland, District Heights)	9,026	9,376	11,094	1,718	18%
Subregion 5 (Clinton)	5,397	6,647	7,385	738	11%
Subregion 6 (Westphalia)	2,055	2,336	8,365	6,029	258%
Subregion 6 (Melwood)	4,723	4,389	5,610	1,221	28%
Subregion 7 (The Heights)	2,096	2,614	3,004	390	15%
Subregion 7 (Henson Creek)	3,962	4,068	4,556	488	12%
<b>Total JLUS study area</b>	<b>27,259</b>	<b>29,430</b>	<b>40,014</b>	<b>10,584</b>	<b>36%</b>
<b>Prince George’s County</b>	<b>306,190</b>	<b>328,928</b>	<b>392,490</b>	<b>63,562</b>	<b>19%</b>

**Source:** M-NCPPC. Detailed data by ERM.

<sup>4</sup> For land use planning purposes, Prince George’s County is organized into seven “subregions.” A “subregion” is a technical term that refers to a region within the county that can be analyzed and planned for as a coherent unit.



Over 42,000 jobs existed in the JLUS study area in 2005 (**See Table 2–6**). These jobs constituted approximately 13 percent of the total employment in Prince George’s County. Of these jobs, approximately 36 percent (15,326 jobs) were in the Melwood area, which includes Joint Base Andrews. The base itself had approximately 10,000 jobs in 2005.

**Table 2–6. Base Area Employment, 2000–2030**

Subregion	2000	2005	2030	Change 2005–2030	
				Number	Percent
Subregion 4 (Suitland, District Heights)	8,558	8,744	10,954	2,210	25%
Subregion 5 (Clinton)	8,428	9,171	12,207	3,036	33%
Subregion 6 (Westphalia)	2,959	3,107	22,237	19,130	616%
Subregion 6 (Melwood)	15,210	15,326	19,567	4,241	28%
Subregion 7 (The Heights)	3,316	4,589	5,809	1,220	27%
Subregion 7 (Henson Creek)	3,856	4,009	4,964	955	24%
<b>Total JLUS study area</b>	<b>42,327</b>	<b>44,946</b>	<b>75,738</b>	<b>30,792</b>	<b>69%</b>
<b>Prince George’s County</b>	<b>338,296</b>	<b>347,886</b>	<b>518,386</b>	<b>170,500</b>	<b>49%</b>

*Source: M-NCPPC.*

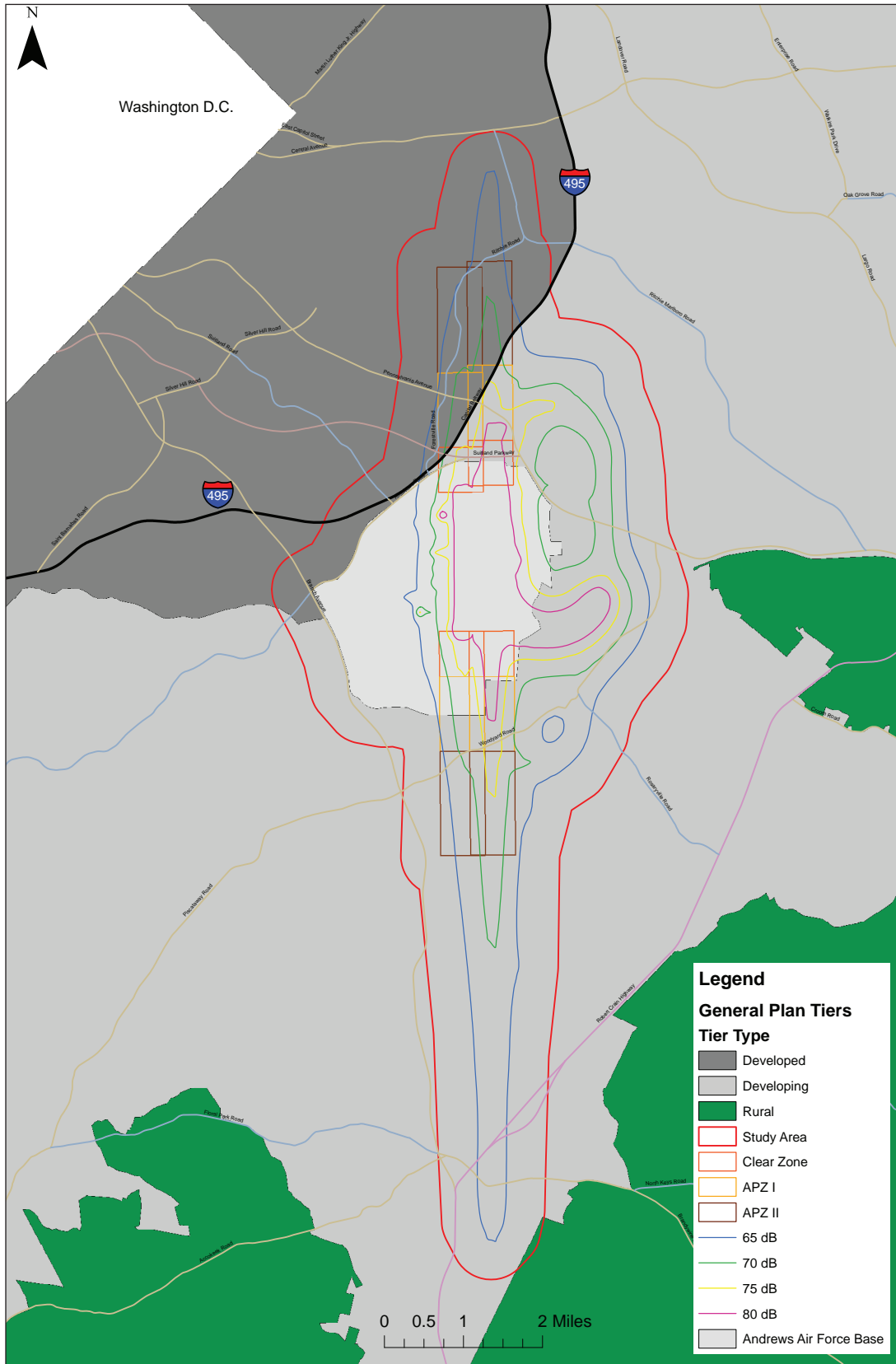
Projections show that by 2030, employment in the Joint Base Andrews vicinity will increase by approximately 30,800 jobs, which equals 18 percent of total projected employment growth in Prince George’s County. Of this increase approximately 62 percent of jobs (19,130 jobs) will be in Westphalia.

## 2.10 PRINCE GEORGE’S COUNTY PLANNING POLICIES

The 2002 *Prince George’s County Approved General Plan* sets the overall land use and development planning framework for the county. The General Plan establishes three policy areas or “tiers” for the county, the Developed, Developing, and Rural Tiers, which, in combination, designate strategic areas of desired economic development, residential development, and preservation. Joint Base Andrews itself and most of the area north and south of the base lie in the Developing Tier. The area inside the Capital Beltway falls within the Developed Tier (**See Map 2–7**).

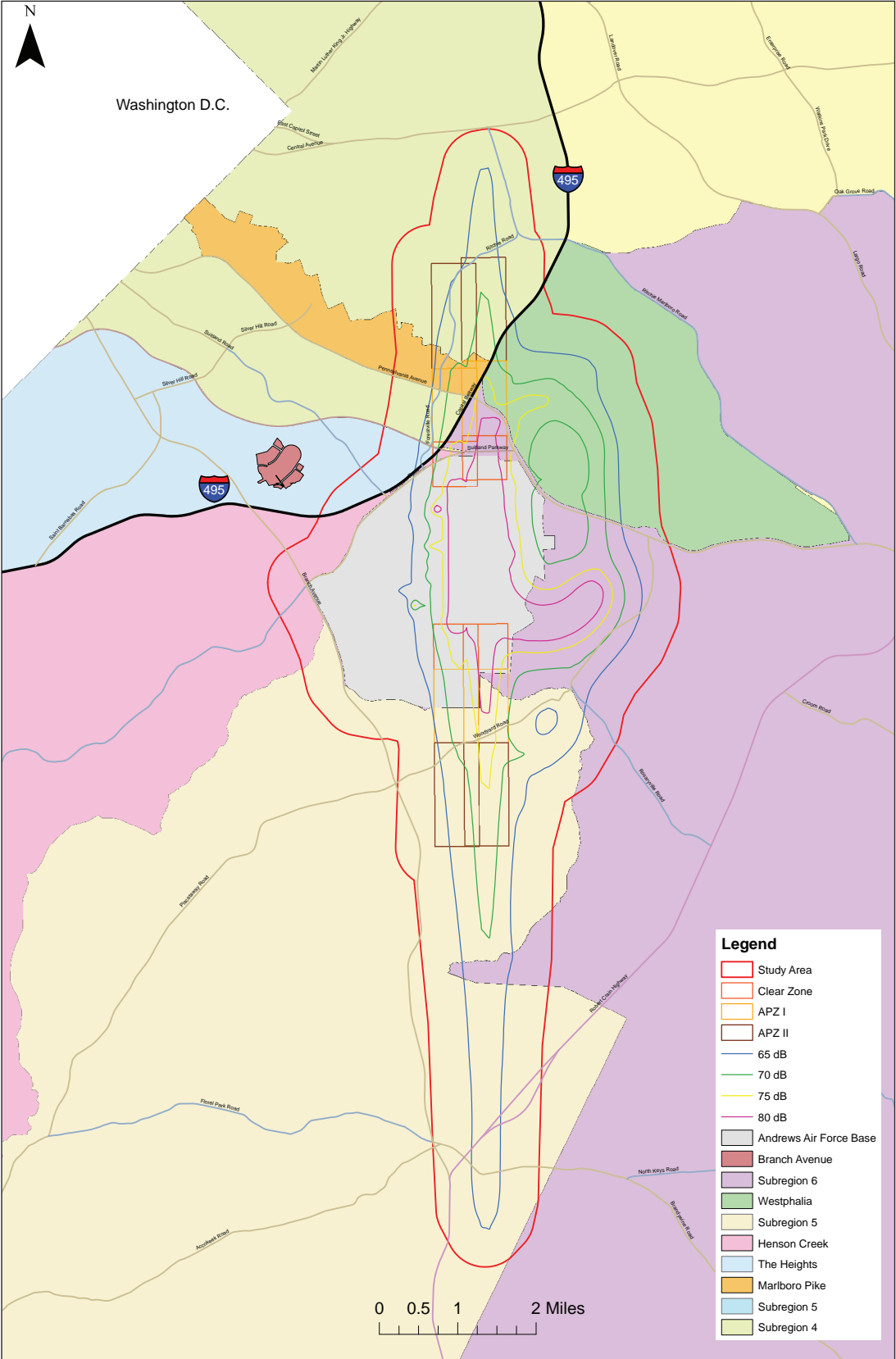
While the General Plan sets a comprehensive policy framework for the county, detailed planning is done at the subregion and sector plan levels. As noted earlier, Prince George’s County is organized into seven “subregions” for land use planning purposes. Joint Base Andrews is located within Subregion 6, but the JLUS study area includes portions of Subregions 4, 5, 6, and 7 (**Map 2–8**). In developing recommendations for the JLUS, the planning team and advisory committees have taken into consideration detailed policies and recommendations contained in all current and proposed subregion and sector plans that affect the study area (**See Table 2–7**). JLUS recommendations have been crafted to complement and help facilitate implementation of these subregion and sector plan recommendations.

Map 2-7. 2002 General Plan Policy Tiers in the Joint Base Andrews Vicinity



Source:  
M-NCPPC

Map 2-8. 2009 Subregion and Sector Plan Areas in the Joint Base Andrews Vicinity



Source:  
M-NCPPC

**Table 2–7. Planning Areas around Joint Base Andrews**

Planning Area	Relevant Plan(s) and Date
Subregion 4	Adopted Master Plan and Endorsed SMA, December 2009
Subregion 5	Approved Master Plan and SMA, September 2009
Subregion 6	Approved Master Plan and SMA, 1993 Approved Master Plan and SMA, September 2009
Subregion 7	Adopted and Approved Master Plan, 1981
Westphalia	Approved Sector Plan and SMA, February 2007
Henson Creek and South Potomac	Approved Master Plan and SMA for the Henson Creek–South Potomac Planning Area, April 2006
Marlboro Pike	Approved Sector Plan and SMA, November 2009

Future land use around Joint Base Andrews is addressed in several county subregion and sector plans in various stages of preparation and approval (See Table 2–7). Map 2–6 shows the most recent versions of each plan’s proposed future land use map. Generally, all county plans contain the following policies for the Joint Base Andrews vicinity:

- ❖ Promote an increase in compatible employment uses around the base, especially in accident potential zones and areas subject to aircraft noise.
- ❖ Reinforce, redevelop, and revitalize existing business/commercial corridors and centers.
- ❖ Increase designation of mixed-use areas, especially to the north and west of the base.
- ❖ Encourage compatible infill development on previously undeveloped or underdeveloped land around the base, especially to the south and east in Subregion 5 and Subregion 6.

Each planning report also identifies a series of specific recommendations for areas within the base vicinity. The following sections briefly describe and explain key planning recommendations from the planning reports listed in Table 2–7.

### Adopted Subregion 4 Master Plan

The *Adopted Subregion 4 Master Plan and Endorsed Sectional Map Amendment* identifies the area around the Forestville Shopping Center and Marlo Furniture Store site as “Opportunity Site 10” and recommends redeveloping this site as a business park. Designated the “Forestville Business Park,” this new development would be built in accordance with AICUZ guidelines and create an attractive and distinctive gateway to Marlboro Pike. The land uses in this business park would be some combination of light industry, employment, research and development, and office uses. This business park development would seek to revitalize the surrounding community and take advantage of the base’s presence.<sup>5</sup>

### Subregion 5 Master Plan

The 2009 *Approved Subregion 5 Master Plan and Sectional Map Amendment* includes land use recommendations for areas to the south of the base. Much of this area is currently developed with low density residential uses. Some commercial and industrial uses are also present. The plan acknowledges the difficulty of making this existing development compatible with the AICUZ guidelines; however, the plan recommends a long-term policy of gradually making land uses and development in the area compatible

<sup>5</sup> Please see *Adopted Subregion 4 Master Plan and Endorsed Sectional Map Amendment*, December 2009, pages 320–323.

with the AICUZ guidelines as the opportunity arises. Specific recommendations include ensuring collaboration between county and JBA staff on review of development proposals in safety zones and areas subject to aircraft noise as well as the use of noise reduction measures for new development within the 65 dB and greater noise contours.<sup>6</sup>

### Subregion 6 Master Plan

The *Approved Subregion 6 Master Plan and Sectional Map Amendment* includes land use recommendations for areas to the north and east of the base. A broad range of land uses exists in these areas, including residential, commercial, and industrial uses, along with extensive tracts of undeveloped land. Like the Subregion 5 plan, this plan recommends land uses and development that are compatible with base operations. Specific recommendations include formalizing the base's participation in the county's development review process, requiring development within the 65 dB and greater noise contours to be protected from aircraft noise with appropriate noise reduction measures, expanding the industrial areas near the base, and rezoning those areas to a more appropriate category of industrial/employment zoning as a means of reducing encroachment issues.<sup>7</sup>

### Subregion VII Master Plan

The *Adopted and Approved Master Plan for Subregion VII, Henson Creek (Planning Areas 76A and 76B) and South Potomac (Planning Area 80)* dates from 1981 and has not been updated since that time. This subregion includes three Planning Areas: 76A, 76B, and 80. The *Approved Master Plan and Sectional Map Amendment for the Heights and Vicinity (Planning Area 76A)* (November 2000) replaced the old Subregion VII Plan for Planning Area 76A and the *Approved Master Plan and Sectional Map Amendment for the Henson Creek-South Potomac Planning Area* (April 2006) replaced it for Planning Areas 76B and 80. The Subregion VII Master Plan did not include much information regarding Joint Base Andrews; it acknowledged the potential of noise impacts on developments near the base and hinted that the Air Force would seek to acquire land in certain areas considered to have high accident potential.<sup>8</sup>

### Westphalia Sector Plan

The *Approved Westphalia Sector Plan and Sectional Map Amendment* area is located to the northeast of Joint Base Andrews, in the area bounded by the Capital Beltway (I-95/495) to the west, Pennsylvania Avenue (MD 4) to the south, and Ritchie Marlboro Road to the north and east. This area is largely undeveloped, although several residential subdivisions already occupy a portion of the area. The sector plan calls for coordinated development of a high-density "town center" surrounded by lower-density

<sup>6</sup> Please see the *Approved Subregion 5 Master Plan and Sectional Map Amendment*, September 2009, pages 34–38. Also see Chapter 3 for additional detail about noise encroachment issues.

<sup>7</sup> Please see the *Approved Subregion 6 Master Plan and Sectional Map Amendment*, September 2009, pages 58–62. Also see Chapter 3 for detail about area encroachment issues.

<sup>8</sup> Please see the *Adopted and Approved Master Plan for Subregion VII, Henson Creek (Planning Areas 76A and 76B) and South Potomac (Planning Area 80)*, October 1981, pages 39–40.

residential areas, several village clusters, and extensive parkland and open space. The plan recommends minimizing the effects of noise from the base and roads classified as arterials or higher. Additional recommendations include locating residential uses outside of high noise level areas, locating industrial uses within noise zones, and considering noise impacts in the evaluation of area development proposals.<sup>9</sup>

### **Henson Creek-South Potomac Planning Area**

The *Approved Master Plan and Sectional Map Amendment for the Henson Creek-South Potomac Planning Area* (April 2006) includes land use recommendations for the stretch of Allentown Road located just outside the Main Gate of Joint Base Andrews. The plan recommends redeveloping underutilized shopping centers along this road with a mix of commercial, retail, and residential uses aimed at creating a distinctive gateway to the base. The plan proposes a new street and sidewalk network to improve links between the community and the base and reduce traffic congestion. Any redevelopment in this area would seek to capitalize on the base's presence and use it as a source of economic development for the community.<sup>10</sup>

### **Marlboro Pike Sector Plan**

The *Approved Marlboro Pike Sector Plan and Sectional Map Amendment* identifies the area just north of the base around the intersection of Marlboro Pike with Forestville Road as “Priority Area 7.” This area currently includes the underutilized Forestville Plaza shopping center as well as several nondescript retail buildings. The sector plan recommends this area for use as a “flex space campus” that would have up to three floors of professional office space. The plan notes that while retail and high density housing would not be appropriate for this area due to its location near the base, it does recommend a number of lower-density uses for this area, including warehousing, wholesalers, and manufacturing. These recommendations overlap and complement recommendations for the same area in the Adopted Subregion 4 Master Plan.<sup>11</sup>

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<sup>9</sup> Please see the *Approved Westphalia Sector Plan and Sectional Map Amendment*, February 2007, page 22.

<sup>10</sup> Please see the *Approved Master Plan and Sectional Map Amendment for the Henson Creek-South Potomac Planning Area*, April 2006, pages 36–37.

<sup>11</sup> Please see the *Approved Marlboro Pike Sector Plan and Sectional Map Amendment*, November 2009, pages 32–36.





## Chapter 3: Community Impact Issues

Joint Base Andrews Naval Air Facility Washington began as an isolated military installation, but over time development has encroached upon the base, creating conflicts between the military and civilian communities. The residential neighborhoods and commercial and employment centers surrounding the base today are the natural results of suburban development in the metropolitan area. Permitted by local land use policy over the past six decades, these uses take advantage of the proximity to Washington, D.C., and the Capital Beltway, and some also benefit specifically from the base's location.

In the 1970s and 1980s the Department of Defense began to recognize the impacts suburban development was having on many of its military installations. Encroachment, defined by the Department of Defense as external influences that restrict the military mission, became a concern. Conversely, local governments of these base area communities also expressed concerns about the impacts of military bases on residential neighborhoods, businesses, and public facilities. The Air Installation Compatible Use Zones program (AICUZ) and the Joint Land Use Study program (JLUS) both began as measures to help bases work cooperatively with their nearby communities to implement land use policies and noise restrictions that balance base missions and operations with community needs (**See Chapter 1**).



This chapter discusses encroachment issues associated with development around Joint Base Andrews (JBA), focusing primarily on land use incompatibilities that create safety hazards, noise impacts, and the need for height restrictions. The chapter also discusses non-encroachment issues, including economic development and redevelopment in the base vicinity, transportation issues, cultural resource preservation, and environmental protection. If these development issues, which impact both the base and area communities, are not mitigated, conflicts between the base and the community could become so serious that the military would not be able to continue all or portions of its mission.

## 3.1 LAND USE COMPATIBILITY

### Safety Zones

Defined by the Department of Defense, safety zones are areas around airfields that have a statistically higher exposure to the possibility of aircraft accidents than other nearby areas. These accident potential zones (APZs) were developed from an analysis of over 800 major Air Force accidents that occurred within ten miles of an Air Force installation between 1968 and 1995.<sup>1</sup> APZs relate to flight tracks at an air base (arrivals, departures, and patterned flights) and extend outward from the base's runways. The AICUZ program includes compatibility guidelines to ensure that land uses in these zones will minimize the risk of damage to life and property from aircraft accidents. A key principle underlying these guidelines involves limiting uses that concentrate large numbers of people in a small area. The 2007 Andrews AFB AICUZ Study contains a table of land use compatibility guidelines, but the guidelines, which are used by military installations nationwide, were updated in 2008 (See Appendix 3).<sup>2</sup>

Joint Base Andrews has three safety zones: a Clear Zone (CZ), Accident Potential Zone I (APZ I), and Accident Potential Zone II (APZ II). Each end of the base runways has an approximately 3,000-foot by 5,000-foot CZ, a 5,000-foot by 5,000-foot APZ I, and an approximately 7,000-foot by 5,000-foot APZ II. The safety zones at Andrews were first delineated in the 1974 AICUZ, after some of the land uses currently in the zones north and south of the base had already been established.

**Map 3–1** depicts the CZs and APZs for the two runways at Joint Base Andrews. The safety zones are described as follows:

- ❖ The **Clear Zone** has the highest accident potential of the three zones. Placing structures, buildings, or above-ground utility lines in the CZ is limited by military policy and discouraged in a majority of CZs around the country.<sup>3</sup> At Andrews, the Clear Zone at the end of the southern runway is entirely on base. However, the Clear Zone adjacent to the northern runway lies partially off-base, extending across MD 4 into the Penn-Belt South Industrial Center (See Map 3–1).
- ❖ Accident potential in **Accident Potential Zone I** is lower than in the CZ, but this area still carries a significant risk factor. The AICUZ land use compatibility guidelines for APZ I areas are more flexible than those for CZs and are intended to allow reasonable economic use of the land while discouraging residential and non-residential uses that concentrate people in small areas.
- ❖ Accident potential in **Accident Potential Zone II** is even lower than that in APZ I, but the potential for accidents still exists in this area. Under the AICUZ land use compatibility guidelines, acceptable APZ II uses include those of APZ I, as well as low density single-family residential uses.<sup>4</sup> High density uses such as multistory buildings and places of assembly, including theaters, churches, schools, restaurants, and high density office uses, are not considered appropriate uses for APZ II.

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<sup>1</sup> For a more detailed description of the analysis see Appendix B of the 2007 Andrews AFB AICUZ Study (<http://www.pgplanning.org/Resources/Publications/>).

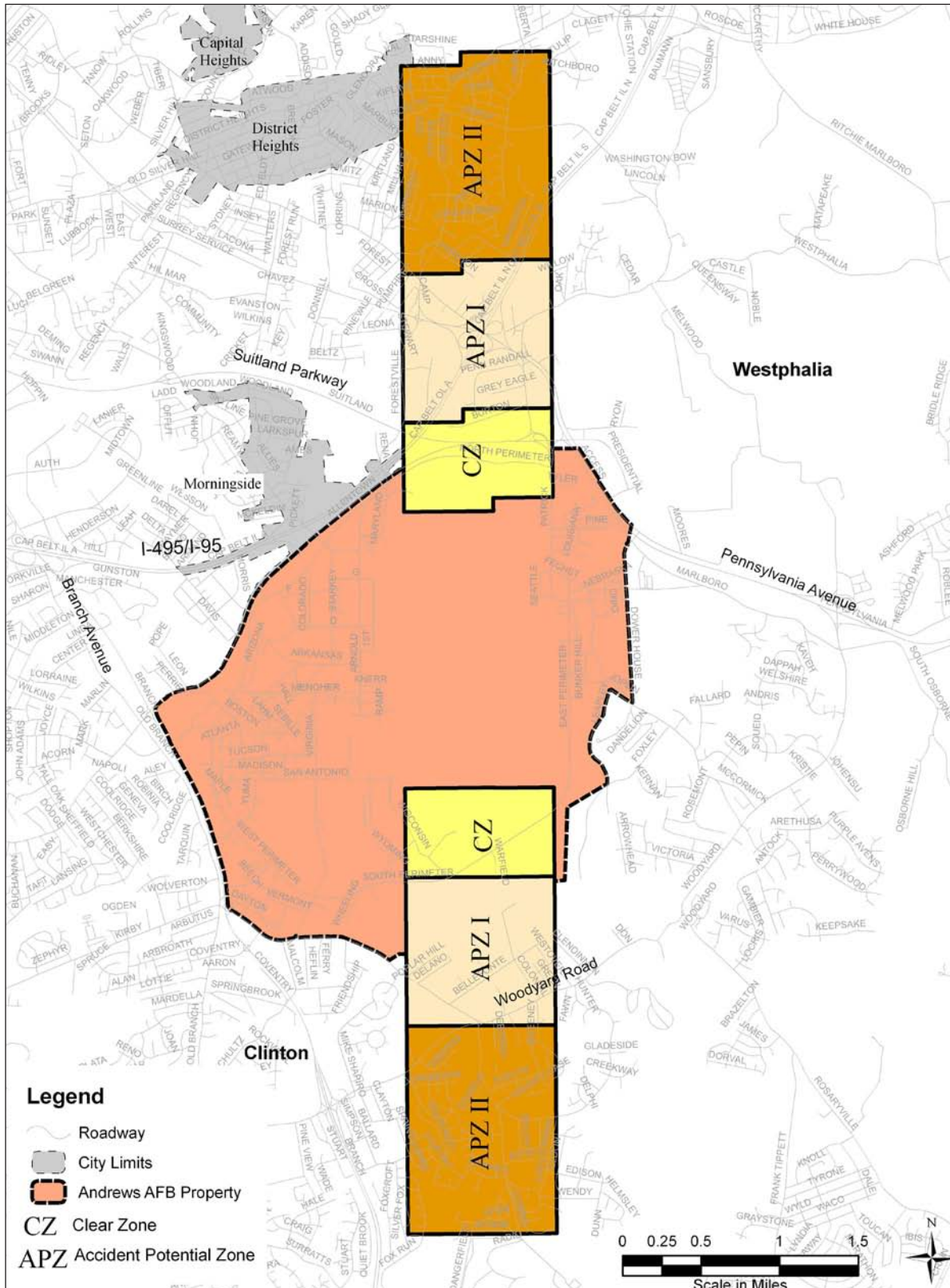
<sup>2</sup> Unified Facilities Criteria, UFC 3-260-01, Department of Defense November 17, 2008.

<sup>3</sup> Most military Clear Zones lie entirely within installation boundaries and thus are governed exclusively by military policy and actions. Joint Base Andrews, however, is a fairly unique case in which a portion of the northern Clear Zone extends beyond the base boundary.

<sup>4</sup> The AICUZ guidelines suggest a maximum density of 1–2 dwelling units per acre, with exceptions made for higher-density Planned Unit Developments.



Map 3–1. Safety Zones at Joint Base Andrews, 2009



Source: 2007 Andrews AFB AICUZ Study, page 4–11.

## Off-Base Aircraft Accidents at Andrews

There have been very few off-base aircraft accidents at Joint Base Andrews. One occurred in the 1950s and caused a fatality when a plane crashed into a house north of the base in Forestville. Another occurred in the 1970s when a plane crashed into a building used for firefighter training.

The most recent accident related to the base was a Maryland State Police medevac helicopter crash in September 2008. Of the five people on board the helicopter, only one survived. The helicopter, based at Joint Base Andrews, was transporting two car-accident victims to Prince George's Hospital Center when it attempted to land at the base due to deteriorating weather. The helicopter crashed in Walker Mill Regional Park, about three miles north of the base.

## Existing Land Use

As discussed in **Chapter 2**, most of the land in the CZs and APZs is developed. The base is surrounded by industrial uses on the northern side near the Capital Beltway, commercial uses along Allentown Road and Branch Avenue, and residential neighborhoods on all sides of the base. Few large undeveloped tracts remain, with the exception of a tract north of the base and north of Flowers Road in Westphalia zoned for employment, one residential tract south of the base off Sweeny Drive (part of the approved Killiecrankie subdivision), and another residential tract west of Dangerfield Road (part of the approved Chesterfield Estates subdivision).

Many of the properties in the Joint Base Andrews vicinity were developed prior to the creation of the AICUZ guidelines in the 1970s. These properties, including residential neighborhoods constructed in the 1950s and 1960s, do not meet the AICUZ criteria for acceptable base area uses, generally because they are built at densities or intensities that concentrate too many people in the Clear Zone and Accident Potential Zone areas. A majority of plan area land uses in 2008 were compatible under the 2007 AICUZ guidelines; however, 32 percent of the existing uses within the Clear Zone, Accident Potential Zone I, and Accident Potential Zone II are prohibited under the guidelines.

### *Northern Side of the Base*

#### *Clear Zone*

The Clear Zone north of the base contains approximately 32 acres of incompatible developed property north and south of Burtons Lane in the Penn-Belt South Industrial Center (**See Table 3-1**). Of the 32 acres, approximately 19 acres include a mix of automobile uses, industrial uses, and business services; nine acres comprise part of a PEPCO storage, maintenance, and office facility; and three acres are devoted to single-family residential uses. **Appendix 5** provides detail about each parcel in the Clear Zone. These incompatibilities are the most serious, as the Clear Zone area, which lies immediately adjacent to the base runways, proportionally has a higher risk of aircraft accidents than the other safety zones.

#### *Accident Potential Zone I*

APZ I on the northern side of the base contains mostly business and employment uses that are compatible with the AICUZ guidelines, including businesses in the Penn-Belt South Industrial Center, Westphalia Center, and Forestville Center. These businesses are low-intensity uses, such as contractors' offices and warehouses. However, 19 percent of northern APZ I uses are incompatible, including:

- ❖ Approximately 23 acres of residential property scattered east and west of Forestville Road, Forestville Plaza, and the Marlo shopping center.

- ❖ Scattered office and professional service uses, including a cheerleading academy, insurance and real estate offices, computer repair services, several churches, and a day care center. All of these are on land zoned for employment or commercial use. They are permitted under zoning but are incompatible with the AICUZ land use guidelines.
- ❖ Fire and Rescue Company 23 (Forestville) on Old Marlboro Pike and Maryland State Police Barrack L on Forestville Road.<sup>5</sup>

**Table 3–1. Land Use in the North Side Safety Zones**

North Side Safety Zones Joint Base Andrews							
	CZ		APZ 1		APZ 2		Total
Existing Land Use: Compatible	Acres	Percent	Acres	Percent	Acres	Percent	Acres
<i>Developed</i>	10	7%	334	58%	285	36%	629
<i>Undeveloped (bare ground)</i>	1	1%	33	6%	18	2%	52
<i>Other (roads)</i>	93	68%	94	16%	98	12%	285
Existing Land Use: Incompatible							
<i>Residential</i>	3	2%	23	4%	347	43%	373
<i>Commercial</i>	0	0%	56	10%	18	2%	74
<i>Employment</i>	19	14%	20	3%	0	0%	39
<i>Institutional</i>	10	7%	14	2%	37	5%	61
<b>Total</b>	<b>136</b>	<b>99%*</b>	<b>574</b>	<b>99%*</b>	<b>803</b>	<b>100%</b>	<b>1513</b>
Future Land Use: Compatible							
<i>Employment</i>	0	0%	410	71%	143	18%	553
<i>Park</i>	0	0%	2	0%	49	6%	51
<i>Commercial</i>	0	0%	0	0%	18	2%	18
<i>Other (roads)</i>	81	60%	98	17%	117	15%	296
Future Land Use: Incompatible							
<i>Employment</i>	54	40%	0	0%	0	0%	54
<i>Commercial</i>	0	0%	38	7%	0	0%	38
<i>Residential</i>	0	0%	16	3%	409	51%	425
<i>Institutional</i>	0	0%	9	2%	68	8%	77
<b>Total</b>	<b>135</b>	<b>100%</b>	<b>573</b>	<b>100%</b>	<b>804</b>	<b>100%</b>	<b>1512</b>

\*Due to rounding, numbers do not total 100 percent.

**Source:** Prince George's County Existing Land Use Data, November 2008; Prince George's County Master and Sector Plans, February 2009.

**Note:** These charts are a representation of existing land use data by property parcels compared with generalized future land use maps that may not be exact. Direct comparisons may be inconsistent. Existing and future land use acreages are not directly comparable, as (i) land use classifications differ; and (ii) existing land use data are parcel-based (i.e., collected for each property) whereas future land use data are area-based.

<sup>5</sup> The County CIP includes a project to relocate Company 23 to the vicinity of Melwood Road and MD 4.

### ***Accident Potential Zone II***

Approximately 50 percent of the development in Accident Potential Zone II is compatible with the AICUZ guidelines (See Table 3–1). Compatible business and employment uses occupy most of the eastern third of the Accident Potential Zone II on the northern side of the base. However, the northern APZ II also contains large single-family residential areas (such as North Forestville, Sunny Acres, and Forestville Estates). These areas are incompatible with the guidelines, as they were developed at higher densities than permitted by the AICUZ guidelines: approximately three to four dwelling units per acre, which exceeds the AICUZ density recommendation of one to two dwelling units per acre. Over 86 percent of the incompatible uses in the northern APZ II are residential uses. As noted previously, much of this area developed before the first Joint Base Andrews AICUZ study in 1974. Other incompatible uses in the northern APZ II include:

- ❖ North Forestville Elementary School, constructed in 1954
- ❖ The Forestville Park townhouse complex off Forest Park Drive and south of Ritchie Road
- ❖ The northern portion of the Forestville Plaza shopping center
- ❖ Several churches and day care centers
- ❖ The Veterans of Foreign Wars (VFW) meeting post on Ritchie Road

### ***Marlboro Pike Development District Overlay Zone (DDOZ)***

The Marlboro Pike Development District Overlay Zone covers much of the area that is designated as APZ I and APZ II on the northern side of JBA. This DDOZ is intended to control the design and character of industrial development while the JLUS has a more limited purpose, that of limiting density for safety purposes. The JLUS staff worked closely with the Marlboro Pike team in developing a DDOZ that supports the land use concepts of the JLUS. In general, the DDOZ is more restrictive in terms of uses than is the JLUS since its purpose is to create a business/office park with uses that are typical for that setting. The DDOZ also has specific design standards to address the appearance of the buildings. It requires that all buildings have high quality façades and includes requirements for specific materials such as brick, stone, stucco or tilt-up masonry finish. Specific landscaping standards, lighting, fencing and other design standards are also included in the DDOZ.

### ***Southern Side of the Base***

#### ***Clear Zone***

The Clear Zone on the southern side of the base runways lies entirely on JBA property. The Air Force controls all activities within the Clear Zone; thus, no land use incompatibilities exist in this area.

#### ***Accident Potential Zone I***

Accident Potential Zone I on the southern side of the base contains a mix of business, employment, residential, and institutional uses. Almost 56 percent of existing land uses in this safety zone are compatible with the AICUZ guidelines. The zone's employment uses are largely compatible with the AICUZ guidelines, with two exceptions: 1) a day care center on industrially-zoned land north of Old Alexandria Ferry Road; and 2) a liquor store on the northern side of the intersection of Old Alexandria Ferry Road and MD 223 (Woodyard Road). APZ I contains many low-density single-family homes north and south of Bellefonte Lane. These are not compatible with the land use compatibility guidelines, as no residential uses are permitted in APZ I. Residential uses account for 85 percent of the land use incompatibilities in APZ I (See Table 3–2).

Several incompatible institutional uses exist in the southern APZ I, including Tanglewood Special Education Center on the north side of MD 223 and west of Old Alexandria Ferry Road. However, plans exist to close the center in 2013 and transfer the students to a new elementary school in Clinton. The Camp Springs Community Church, which lies at the eastern edge of the southern APZ I, also constitutes another incompatible land use in this safety zone.

**Table 3–2. Land Use in the South Side Safety Zones**

South Side Safety Zones Joint Base Andrews								
	CZ		APZ 1		APZ 2		Total	
Existing Land Use: Compatible	Acres	Percent	Acres	Percent	Acres	Percent	Acres	
<i>Developed</i>	<b>Clear Zone is entirely on JBA</b>		159	46%	500	62%	659	
<i>Undeveloped (bare ground)</i>			4	1%	41	5%	45	
<i>Other (roads)</i>			31	9%	104	13%	135	
<b>Existing Land Use: Incompatible</b>								
<i>Residential</i>				132	38%	133	17%	265
<i>Commercial</i>				2	1%	0	0%	2
<i>Employment</i>				7	2%	0	0%	7
<i>Institutional</i>				14	4%	26	3%	40
<b>Total</b>				<b>349</b>	<b>101%*</b>	<b>804</b>	<b>100%</b>	<b>1153</b>
<b>Future Land Use: Compatible</b>		<b>Clear Zone is entirely on JBA</b>						
<i>Employment</i>				156	45%	0	0%	156
<i>Park</i>				6	2%	55	7%	61
<i>Commercial</i>				0	0%	12	1%	12
<i>Other (roads)</i>				24	7%	96	12%	120
<b>Future Land Use: Incompatible</b>								
<i>Employment</i>				0	0%	0	0%	0
<i>Commercial</i>				1	0%	0	0%	1
<i>Residential</i>				153	44%	626	78%	779
<i>Institutional</i>				8	2%	15	2%	23
<b>Total</b>			<b>348</b>	<b>100%</b>	<b>804</b>	<b>100%</b>	<b>1152</b>	

\*Due to rounding, numbers do not total 100%.

**Source:** Prince George's County Existing Land Use Data, November 2008; Prince George's County Master and Sector Plans, February 2009.

**Note:** These charts are a representation of existing land use data by property parcels compared with generalized future land use maps that may not be exact. Direct comparisons may be inconsistent. Existing and future land use acreages are not directly comparable, as (i) land use classifications differ; and (ii) existing land use data are parcel-based (i.e., collected for each property) whereas future land use data are area-based.

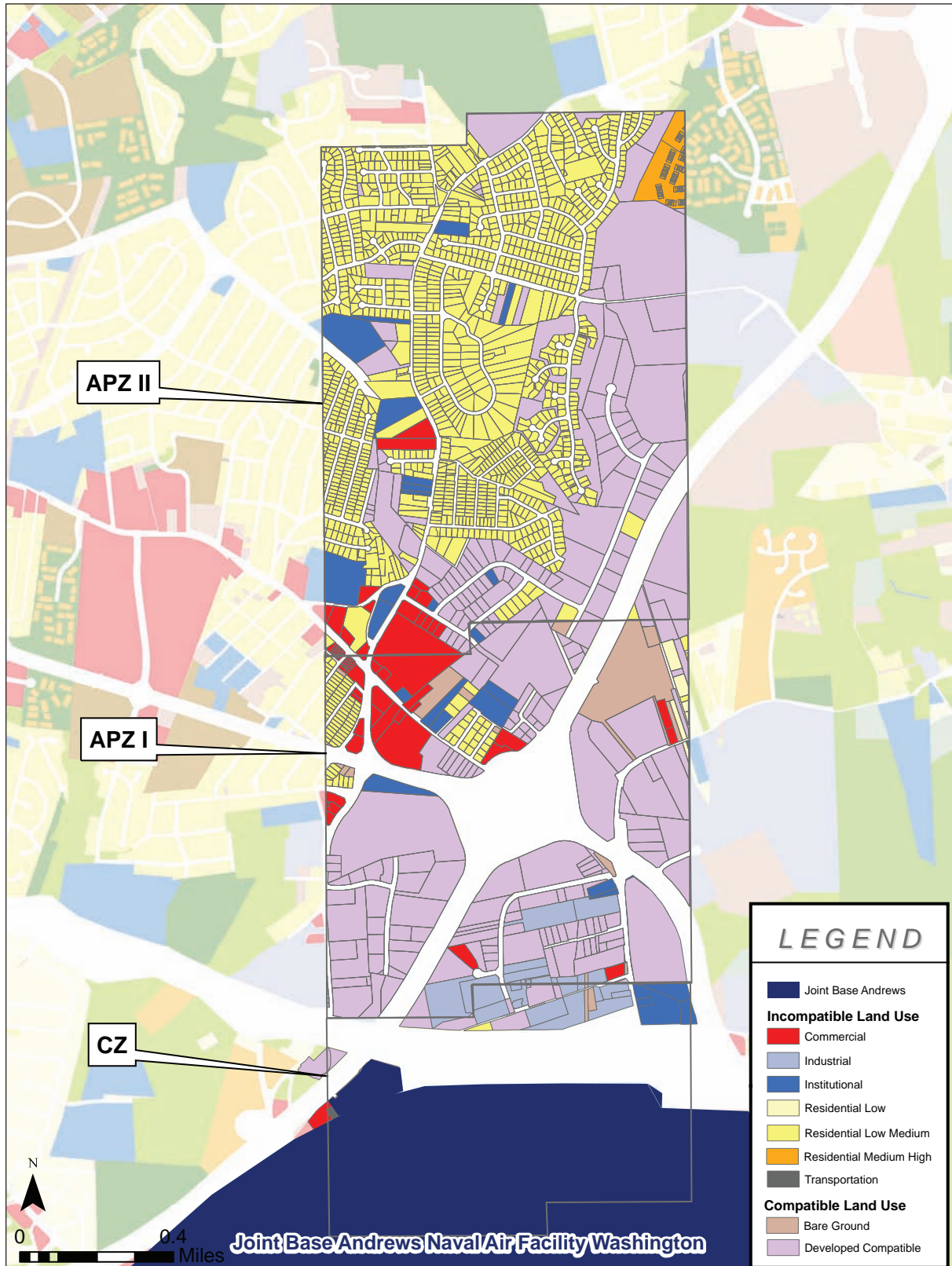
### ***Accident Potential Zone II***

In the southern APZ II, only 20 percent of existing land uses are incompatible with the AICUZ guidelines (See Table 3–2). Existing land uses in APZ II south of the base are nearly all residential, and residential uses comprise almost 84 percent of the land use incompatibilities.<sup>6</sup> While the majority of these residential uses are single-family detached homes, some neighborhoods contain densities higher than two dwelling units per acre (which exceeds AICUZ-recommended densities). Development in this area dates back to the 1940s, but most area residences were constructed after the AICUZ program was established in the 1970s.

<sup>6</sup> No commercial or industrial uses exist in the southern APZ II.

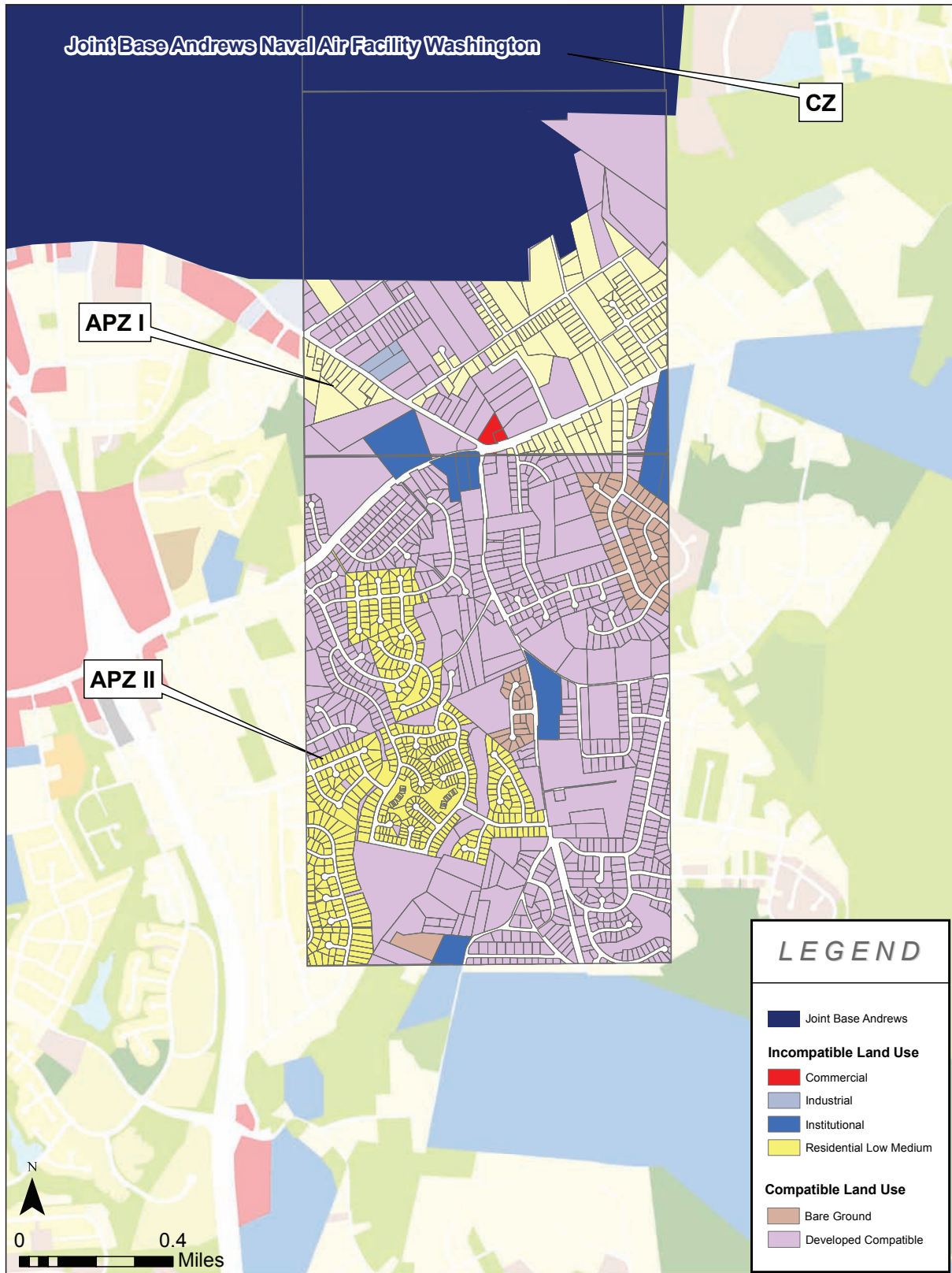


Map 3–2. Existing Land Use Compatibility, Northern Side of Joint Base Andrews



Source: M-NCPPC and ERM

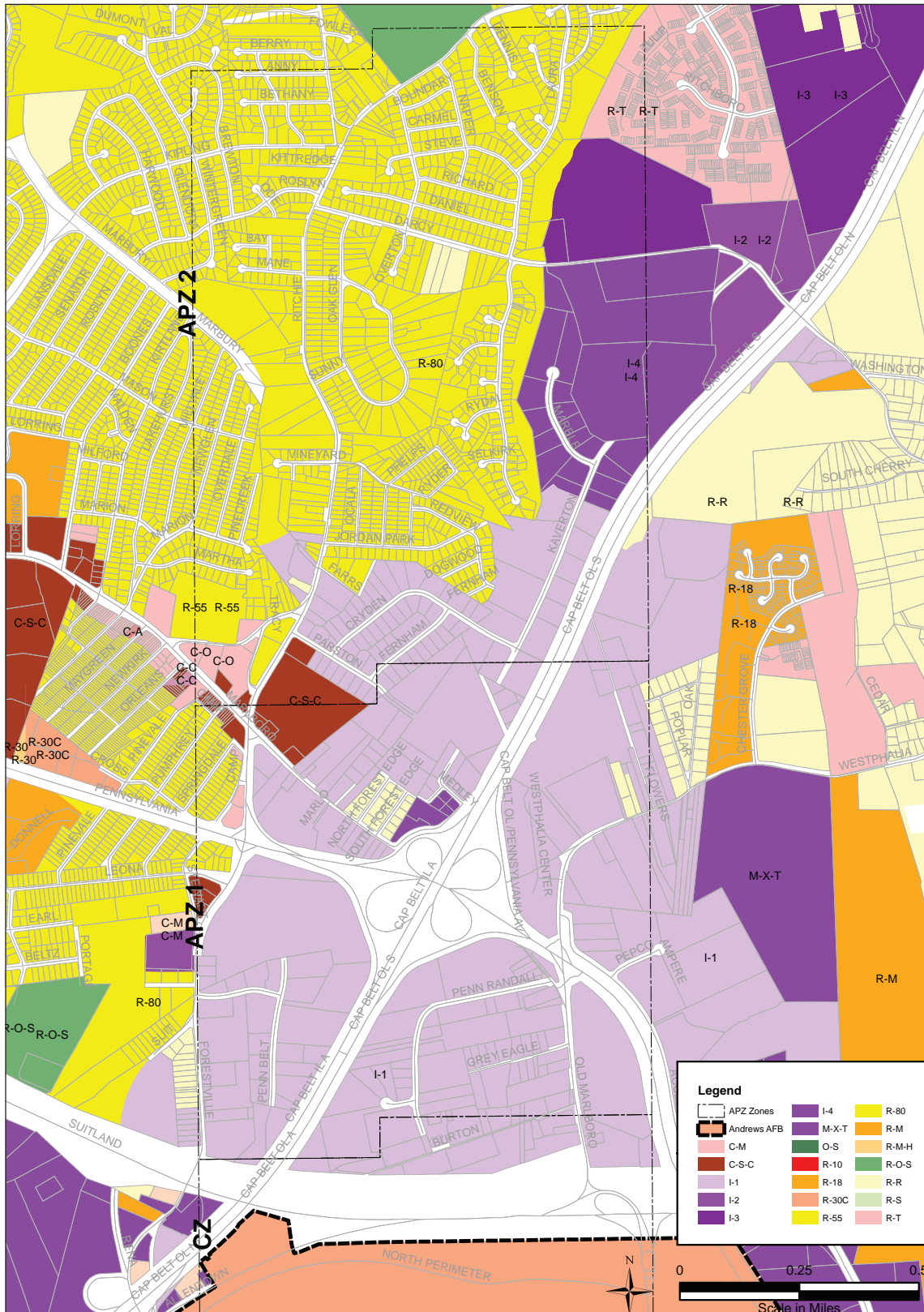
Map 3–3. Existing Land Use Compatibility, Southern Side of Joint Base Andrews



Source: M-NCPPC and ERM

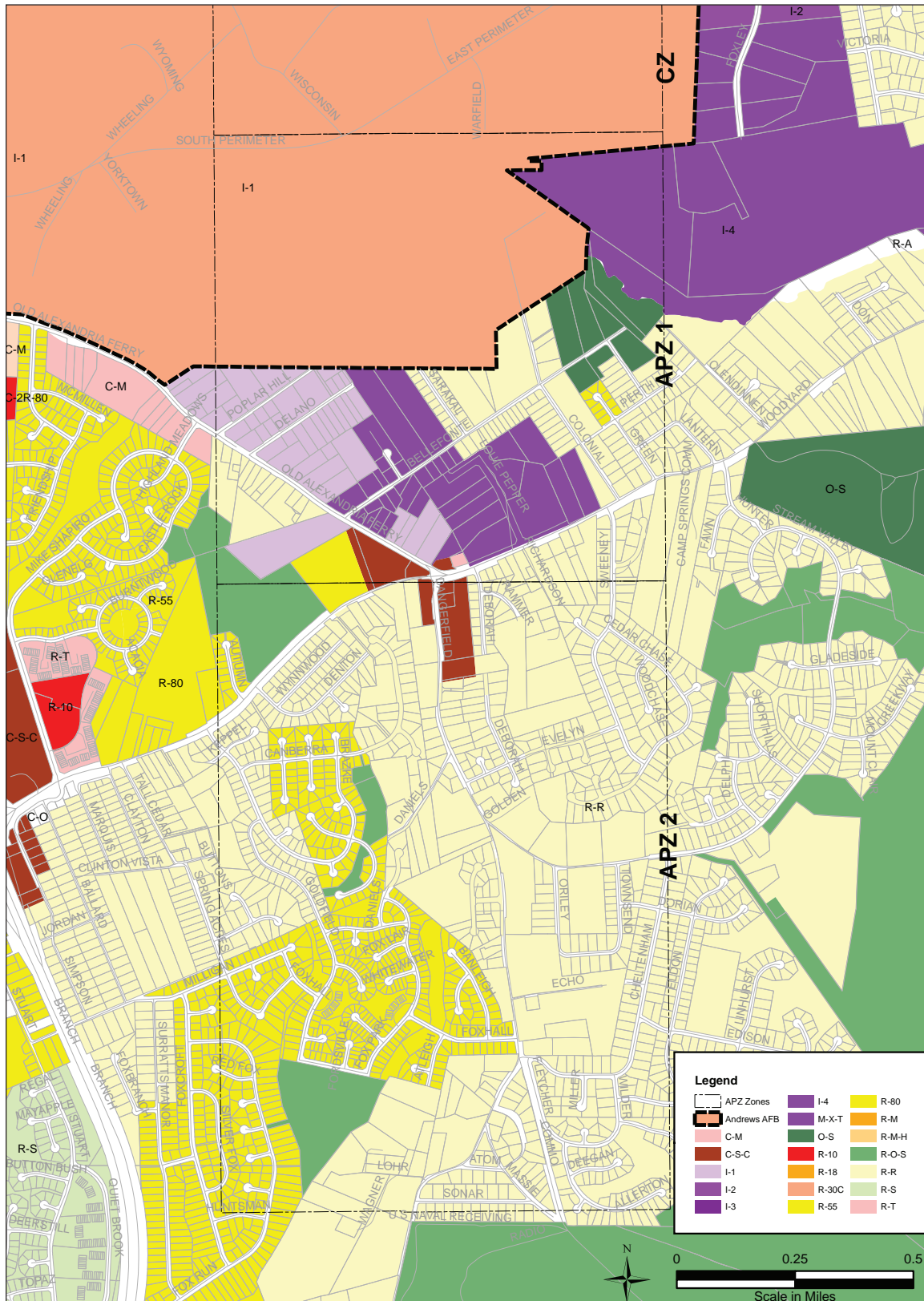


Map 3-4. Existing Zoning Districts, Northern Side of Joint Base Andrews



Source: M-NCPPC

Map 3-5. Existing Zoning Districts, Southern Side of Joint Base Andrews



Source: M-NCPPC

The southern APZ II also contains several institutional uses that are incompatible with AICUZ guidelines: New Horizon Baptist Church south of MD 223, the southern portion of the Camp Springs Community Church site, Bladensburg Baptist Church east of Dangerfield Road, and the Upper Room Fellowship Church at the southern end of the zone.

## Future Land Use

As noted in Chapter 1, proposed future land use around Joint Base Andrews is in a dynamic state with several subregion and sector plans in various stages of preparation and approval. Proposed future land use is best described as either “generally compatible” or “generally incompatible” with the Air Force land use guidelines contained in the 2007 Andrews AFB AICUZ Study. This is because future land use categories are expressed broadly in local plans, with general categories such as “industrial,” “institutional,” or “residential low.” These broad uses can be described as compatible or incompatible, but particular uses within each larger land use category may actually be incompatible due to density, intensity, or safety hazards on the property. For example, industrial uses are generally compatible, but an industrial use that includes material processing that uses flammable chemicals would violate the AICUZ guidelines.

On the northern side of the base, proposed future land uses generally parallel existing land uses. A few areas will be more compatible with the AICUZ guidelines if they develop in accordance with their future land use designations. These include the Forestville Plaza and Marlo Plaza sites (existing use—commercial, proposed future use—industrial). The Clear Zone’s proposed future land uses—“industrial” properties—would remain incompatible, as no development is permissible in the Clear Zone under AICUZ guidelines. Residential areas in APZ II, such as North Forestville, Sunny Acres, and Forestville Estates, will remain incompatible, as their proposed future land use designation of “residential medium” (3.5 to 8 dwelling units per acre) is denser than recommended in the AICUZ guidelines. Areas designated “institutional” will be generally incompatible since they include North Forestville Elementary School and several churches, uses which concentrate large numbers of individuals on a particular property on a regular basis.

On the southern side of the base, the extensive residential areas are shown as generally compatible because the existing zoning designation meets the recommended residential density in the AICUZ guidelines.

## Issues with Application of AICUZ Land Use Compatibility Guidelines

The basic criteria for APZ I and APZ II land use guidelines are the prevention of uses that:

- ❖ Promote the concentration of a large number of people for an extended duration of time or on a regular basis.
- ❖ Specifically cater to people who may not be able to respond to an emergency situation such as children, the elderly, handicapped individuals, and those requiring medical attention.
- ❖ Are highly labor-intensive.
- ❖ Create a hazard to the public by involving the storage or use of explosive, flammable, or toxic material in outdoor above-ground storage tanks.

Low density land uses are defined by the Department of Defense as those which limit commercial, service, or industrial building or structure occupancy to 25 persons per acre in APZ I and 50 persons per acre in APZ II.<sup>7</sup>

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<sup>7</sup> OPNAV Instruction 11010. 36b, Chief of Naval Operations, AICUZ Programs (December 19, 2002).



The land use guidelines in the AICUZ study serve as a starting point for a detailed assessment of what land uses are appropriate for the areas around Andrews. Given the fact that most land around the base is currently developed and lies in visible areas near key transportation routes, including the Capital Beltway, a strict application of the AICUZ land use guidelines is not feasible in most areas around Andrews.

The AICUZ guidelines tend to emphasize the development of low intensity industrial uses in the APZ-designated areas. This strategy works well for bases that are located in relatively undeveloped rural areas. Joint Base Andrews' location near the Capital Beltway and the long-established neighborhoods surrounding the base (which were developed before the creation of the AICUZ guidelines) constitute a very different situation. It is not feasible to plan for industrial uses in such close proximity to well-established, stable residential neighborhoods, nor is it realistic to think that these neighborhoods should be forced to convert to industrial land uses. In 2008 there were 228 single-family homes in APZ I and 2,504 single family homes in APZ II. This JLUS recommends a policy of allowing the existing residential neighborhoods to remain but prohibiting an increase in permitted residential density. The report also recommends legislation that would restrict some land uses in the APZ areas but allow others that limit the number of people gathered in one area, a recommendation that does not strictly follow the AICUZ guidelines (**See Chapter 4**).

## 3.2 NOISE

Noise, often defined as unwanted sound from man-made or natural sources, is the most apparent and common impact for people living and working near an airport or airfield. However, the Noise Control Act of 1972, which was intended “to promote an environment for all Americans free from the noise that jeopardizes their health or welfare,” exempts military weapons systems from its regulations.<sup>8</sup> Furthermore, local jurisdictions find noise regulations around military bases difficult due to ever-changing weapons technologies, which can quickly make local ordinances obsolete. Noise from military operations is an ongoing problem for citizens in the Joint Base Andrews vicinity. Current and projected impacts of noise in relation to land use were an important component of the discussions leading to the development of this JLUS.

### Definitions and Measurement of Noise

Noise modeling in the 2007 Andrews AFB AICUZ Study forms the basis for this section’s noise discussion. The AICUZ study contains a more detailed discussion and explanation of noise terminology, measurement, and guidelines.<sup>9</sup>

Sound levels are represented in decibels (dB). A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dB. A noise level of 65 dB is the commonly accepted threshold above which noise-reduction measures are recommended for residential development.<sup>10</sup> The AICUZ study states that sound levels above 120 dB begin to be felt inside the human ear as discomfort and higher sound levels become painful.<sup>11</sup> **Figure 3–1** on the following page compares common noise levels.

### Noise Contours at Joint Base Andrews

Noise levels in and around Joint Base Andrews are represented in DNL noise contours. DNL refers to Day-Night Average A-Weighted Sound Level and represents average busy day noise levels over a 24-hour period, based on aircraft operations data collected in 2007.<sup>12</sup> Noise contours reflect only an average of noise exposure over a period of time and do not identify decibel “peaks” associated with a particular event or day.

**Map 3–6** shows the noise contours for JBA defined by the 2007 AICUZ Study. The contours were generated by a computer modeling program that maps noise zones in five dB increments ranging from DNL 65 dB to above DNL 80 dB. A DNL of 65 dB is the accepted maximum dB level for outdoor activity noise areas.<sup>13</sup> Sustained noise levels above 65 dB have been shown to cause eardrum damage and hearing loss.<sup>14</sup>

<sup>8</sup> 42 U.S.C. §4901–42 U.S.C. §4918.

<sup>9</sup> See pages 4-4-4-9 and Appendix C of the 2007 Andrews AFB AICUZ Study.

<sup>10</sup> Andrews AFB AICUZ Study, December 2007, p. C-9.

<sup>11</sup> This refers to sudden or intermittent sounds, not sound levels sustained over a period of time.

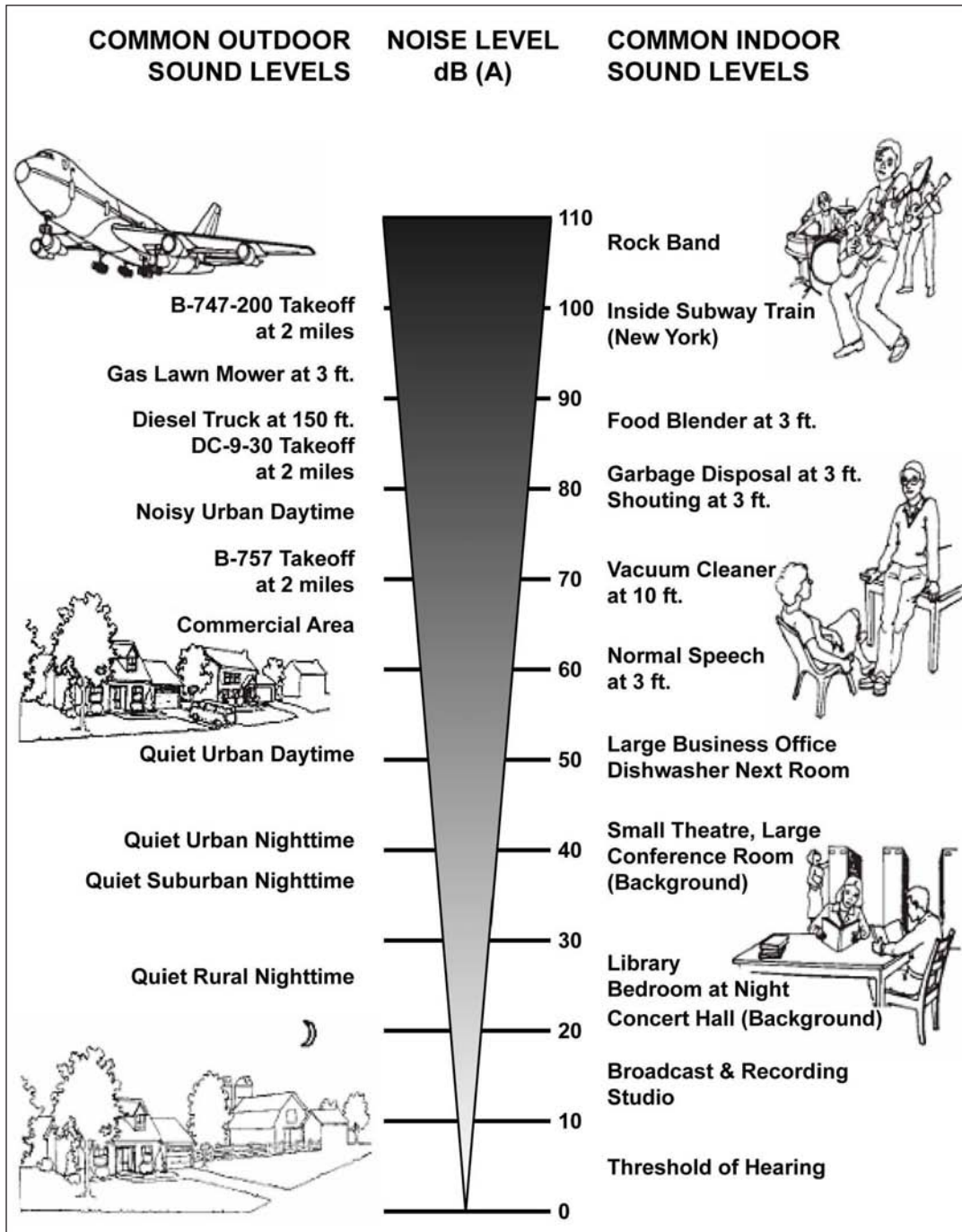
<sup>12</sup> “A-weighted” refers to a filtering of the sound signal to emphasize frequencies in the middle of the audible spectrum and to de-emphasize low and high frequencies in a manner corresponding to the way the human ear perceives sound. DNL includes a 10-dB adjustment added to noise events that take place between 10:00 p.m. and 7:00 a.m. (local time). This 10-dB “penalty” represents the added intrusiveness of sounds that occur during normal sleeping hours.

<sup>13</sup> Consistent with the AICUZ study, where the term dB is used in this JLUS it means DNL dBA, including the A-weighting.

<sup>14</sup> In the Code of Maryland Regulations, Title 26, Subtitle 2, Chapter 3, Section 3, the State of Maryland sets parameters of 0 dB to 65 dB for acceptable outdoor noise levels and 0 dB to 45 dB for acceptable indoor living area noise levels.

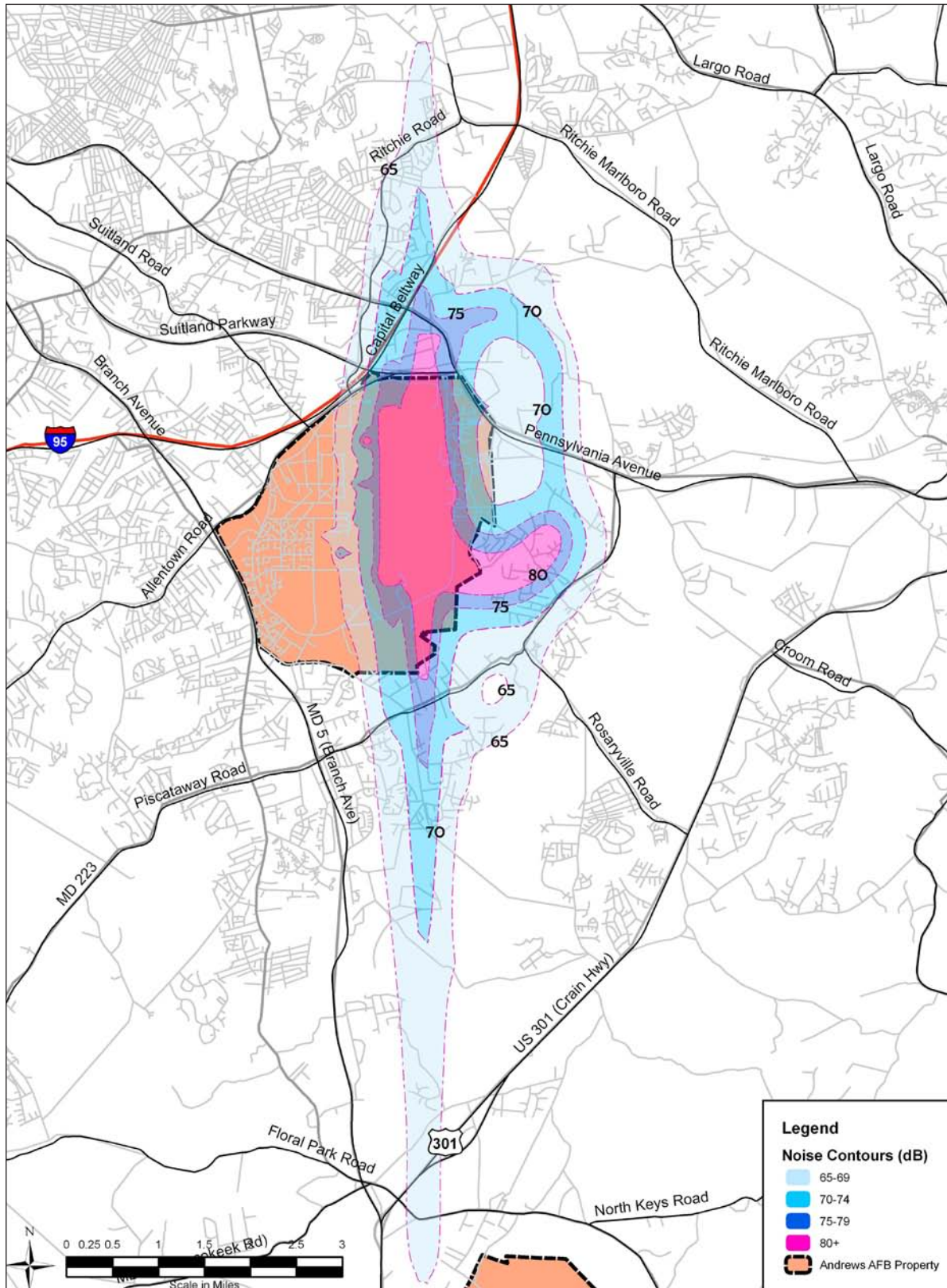
The noise exposure area for Joint Base Andrews covers more than 8,000 acres, as the contours extend approximately four miles north and seven miles south of the base. The areas exposed to noise are primarily north, south, and east of the base, consistent with the orientation of the base runways and the take-offs, landings, and flight tracks at Joint Base Andrews. Approximately 60 percent of the noise exposure area (65 dB and above) is in the 65 to 69 dB zone (See Table 3-2). Areas exposed to higher noise levels (70 dB and above) are in the safety zones immediately north and south of the base, as well as in portions of Clinton, Melwood, and Westphalia.

Figure 3-1. Common Sound Levels



Source: Landrum and Brown, 2002.

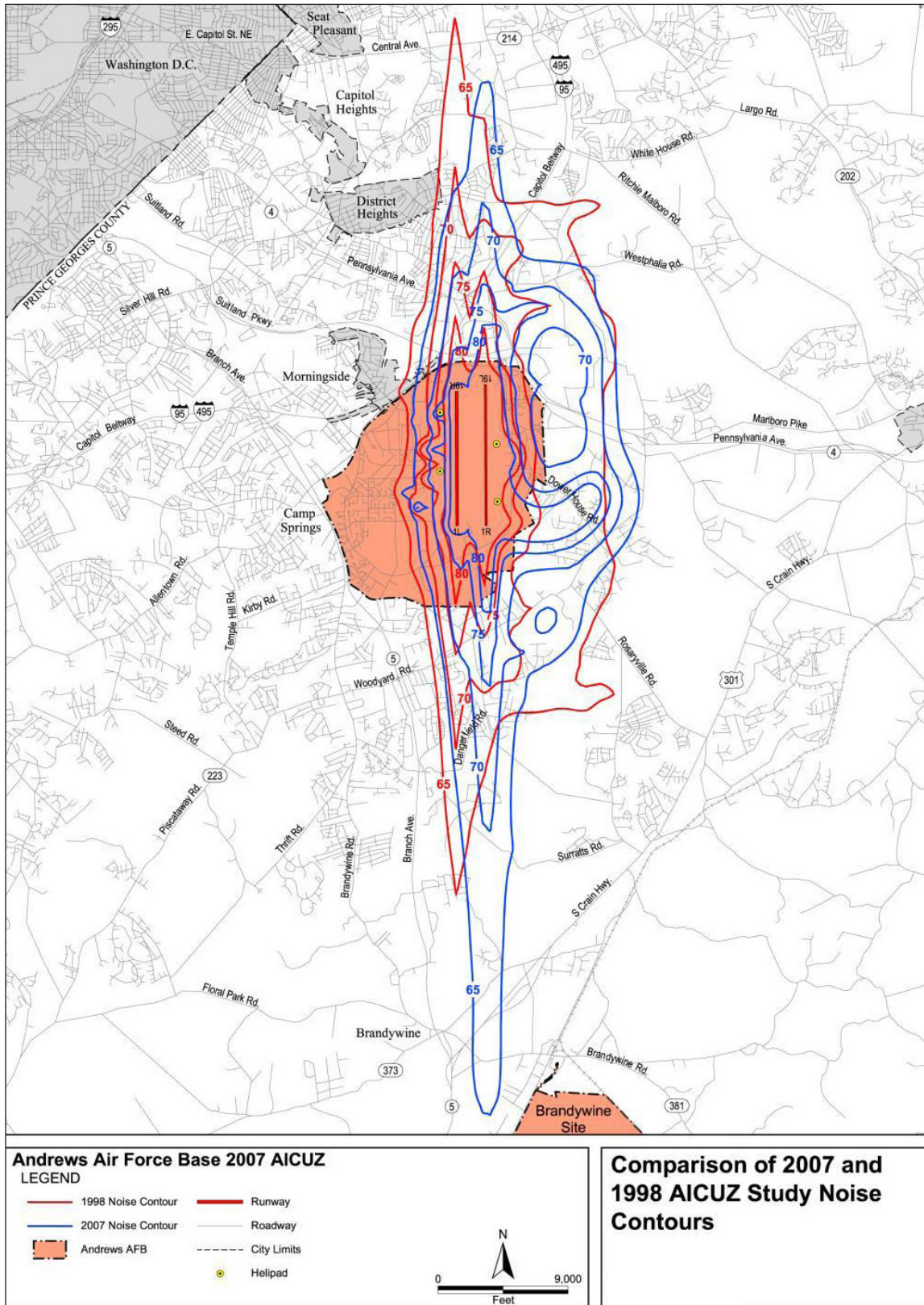
Map 3–6. 2007 Andrews AFB AICUZ Study Noise Zones



Source: 2007 Andrews AFB AICUZ Study, page 4–5.



Map 3–7. Comparison of 2007 and 1998 Noise Contours



Source: 2007 Andrews AFB AICUZ Study, page 4–8.



**Table 3–3. Noise Exposure Area**

DNL Noise Zone	Acres	Percent of Total
65-69 dB	5,008	60
70-74 dB	2,187	26
75-79 dB	701	9
80 dB and above	394	5
<b>TOTAL</b>	<b>8,290</b>	<b>100</b>

*Source: 2007 Andrews AFB AICUZ Study*

## Change over Time

Noise contours shift over time due to technical improvements to the noise model as well as ongoing changes to aircraft types, equipment technology, numbers of flying operations, and modifications to flight tracks. Noise contours at Joint Base Andrews have changed over the past decade. The 2007 and the prior 1998 noise contours are similar in shape and general configuration, but the 2007 contours show some significant differences (See Map 3–7):<sup>15</sup>

- ❖ The overall area of Westphalia exposed to noise levels exceeding 70 dB decreased between 1998 and 2007.<sup>16</sup>
- ❖ Immediately south of MD 4 the 2007 contours extend farther east of the 1998 contours, up to MD 223. In contrast, in the Rosaryville Road vicinity the 2007 contours do not extend as far east.
- ❖ The 2007 contours do not extend as far north as the 1998 contours and do not extend north of MD 214.

As discussed in Chapter 2, no significant changes in aircraft operations at Joint Base Andrews are anticipated in the next 10 years. While this might imply no changes in noise exposure will occur, the contours did change between 1998 and 2007, and prudent future land use planning should take into account the possibility that they may expand or contract again.

## Complaints about Base Area Noise

Complaints or concerns about noise by citizens in the base vicinity should be directed to the Prince George’s County Health Department’s Division of Environmental Health and the Joint Base Andrews Public Affairs Office. Despite the noise emanating from regular base operations, these agencies have received few complaints in recent years. Between 2004 and 2008 the Joint Base Andrews Public Affairs Office received a total of 13 noise complaints. Of these, seven were complaints about UH-1N helicopters and came from the Davidsonville area in Anne Arundel County. The Division of Environmental Health received no complaints during this period.<sup>17</sup>

<sup>15</sup> According to the 2007 AICUZ, the changes in the contours result from a greater number of operations on Runway 19L/01R in 2007, plus a greater number of closed pattern flight tracks on the eastern side of the airfield.

<sup>16</sup> The *Approved Westphalia Sector Plan and Sectional Map Amendment* was developed based on the 1998 noise contours.

<sup>17</sup> It is likely that persons with concerns about noise may not know who to contact and may contact other public officials such as their elected representatives. Such complaints are not tracked consistently. No one on the Policy or Technical Committee reported hearing of complaints, and at public meetings several participants commented that aircraft noise is an “accepted part of daily life when living near the base.”

## Noise Compatibility Land Use Guidelines

Given the noise levels associated with air base operations, some local land uses may not be appropriate in areas around Joint Base Andrews. The 2007 Andrews AFB AICUZ Study includes land use compatibility guidelines for the noise zones around the base. The guidelines, however, are national and not specific to Joint Base Andrews. For example, a uniform set of guidelines applies to all areas in the noise contour of 65–69 dB at bases across the country. The guidelines identify specific land use categories and indicate whether they are deemed compatible and under what circumstances or conditions.<sup>18</sup> Residential uses are the most sensitive land use with regard to noise due to the potential length of daily exposure. As stated above, regular exposure to noise levels above 65 dB can lead to hearing damage. The AICUZ guidelines discourage residential uses in the 65–69 dB zones, strongly discourage them in the 70–74 dB zones, and consider them incompatible in zones with noise levels exceeding 75 dB.

Recognizing that the AICUZ guidelines are not regulations, the Department of Defense states in the AICUZ study that where a local community determines that residential uses should be allowed in the 65–74 dB zones, measures to achieve outdoor to indoor noise level reduction should be incorporated into building codes and considered in individual development approvals.<sup>19</sup>

Commercial uses (such as retail trade and business areas, which include office and service uses) are considered compatible in the 65–69 dB zones and generally compatible in 70–79 dB zones, provided outdoor to indoor noise level reduction is incorporated into building design. This higher degree of compatibility is attributable to the fact that many commercial uses attract transient users, thus preventing sustained exposure to noise levels exceeding 65 dB. However, commercial uses are considered incompatible in 80 dB and above zones.

Employment uses (such as manufacturing, industrial, and intensive business services) are generally considered compatible in all noise zones provided outdoor to indoor noise level reduction is incorporated into building design. However, the AICUZ guidelines suggest that noise-sensitive uses such as manufacturing scientific equipment not locate in 70 dB and above zones.

Public, quasi-public, and institutional uses, including schools, hospitals, parks, and government services, can be sensitive to noise and need to be reviewed against the AICUZ guidelines on a use-by-use basis. Outdoor to indoor noise level reduction may need to be incorporated into building design.

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<sup>18</sup> The guidelines are summarized in this section and the full guidelines are reproduced in **Appendix 3**.

<sup>19</sup> These noise reduction measures are discussed in more detail in the following sections and **Chapter 4**.

## Land Use Compatibility in Noise Zones

### *Existing Land Use*

Approximately 910 acres of existing land uses are not compatible with the AICUZ guidelines (**See Map 3–8 and Table 3–4**).<sup>20</sup> Most of this land lies south of the base in Clinton and east of the base in Melwood, with a few scattered pockets of incompatible uses north of the base. Almost 80 percent of the incompatible land use is low-medium and low density residential, developed between 1970 and 2005.<sup>21</sup>

Two areas of medium-high and high-density residential fall in the 70–75 dB noise zone. The largest area is the Flower Village mobile home park south of Dower House Road and Marwood Elderly Apartments on Marwood Boulevard South. The Melwood Mobile Home Park lies approximately one mile north of Flower Village. It falls within the 65-69 dB noise zone but is shown on **Map 3–10** since manufactured homes are considered incompatible in any noise zone.

**Table 3–4. Incompatible Existing Land Uses in 70+ dB Noise Zones (Off-Base)**

Land Use Type	Acres within Noise Zones			Total	
	70-74 dB	75-79 dB	80 dB and above	Acres	Percent
Rural	56	14	0	70	8%
Residential Low	317	99	27	443	49%
Residential Low-Medium	109	45	35	189	21%
Residential Medium	32	3	17	52	6%
Residential Medium-High	23	33	4	60	6%
Residential High	7	0	0	7	1%
<b>Total Residential</b>	<b>544</b>	<b>194</b>	<b>83</b>	<b>821</b>	<b>90%</b>
<b>Commercial</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0%</b>
<b>Institutional</b>	<b>79</b>	<b>9</b>	<b>0</b>	<b>88</b>	<b>10%</b>
<b>TOTAL</b>	<b>623</b>	<b>203</b>	<b>84</b>	<b>910</b>	<b>100%</b>

*Source: ERM*

It is not known how many of the homes in the noise zones have noise level reduction (NLR) soundproofing. NLR typically involves special windows and doors, additional caulking and weather stripping, tight-fitting closures or baffles on exterior vents, increased insulation, and thicker, heavier walls. One recent subdivision where NLR was required was Chesterfield Estates, south of the base at Shackelford Way and Dangerfield Road.

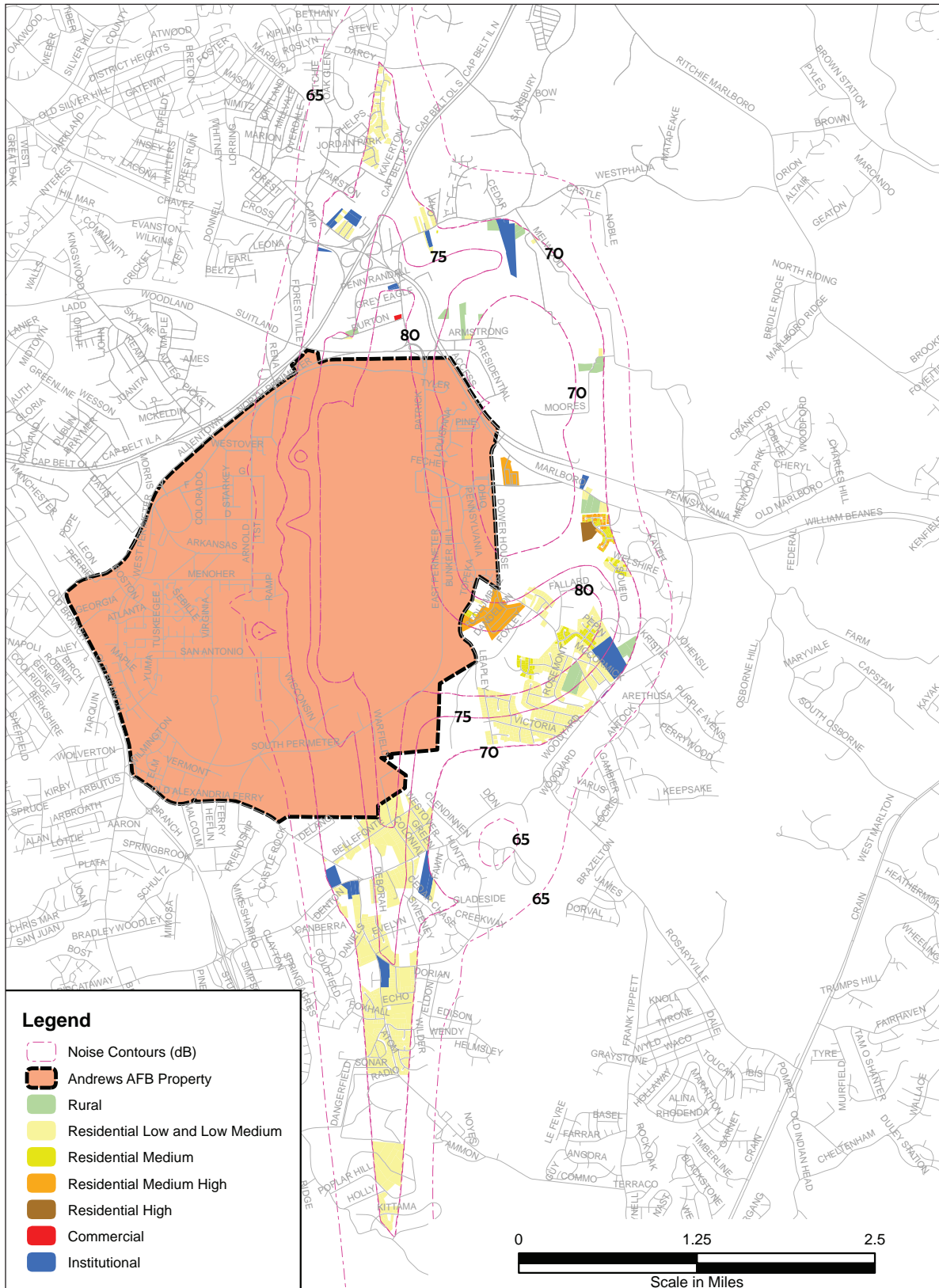
Most non-residential land uses considered incompatible are institutional uses. Many of these are churches. Other institutional uses in the 70 dB and above zones are the Maryland State Police Barrack L on Forestville Road, Fire and Rescue Company 23 (Forestville) on Old Marlboro Pike, and Tanglewood Special Education School.

The only incompatible commercial use is an office building in the Penn-Belt South Industrial Center, which lies just north of the base in the 80 dB noise zone.

<sup>20</sup> The existing and future land maps in this JLUS have been updated compared to the existing and future land use maps in the 2007 Andrews AFB AICUZ Study. As a result the acres of incompatible uses in this JLUS differ from the acreages in the 2007 Andrews AFB AICUZ Study (**Table 5.5, page 5–11**).

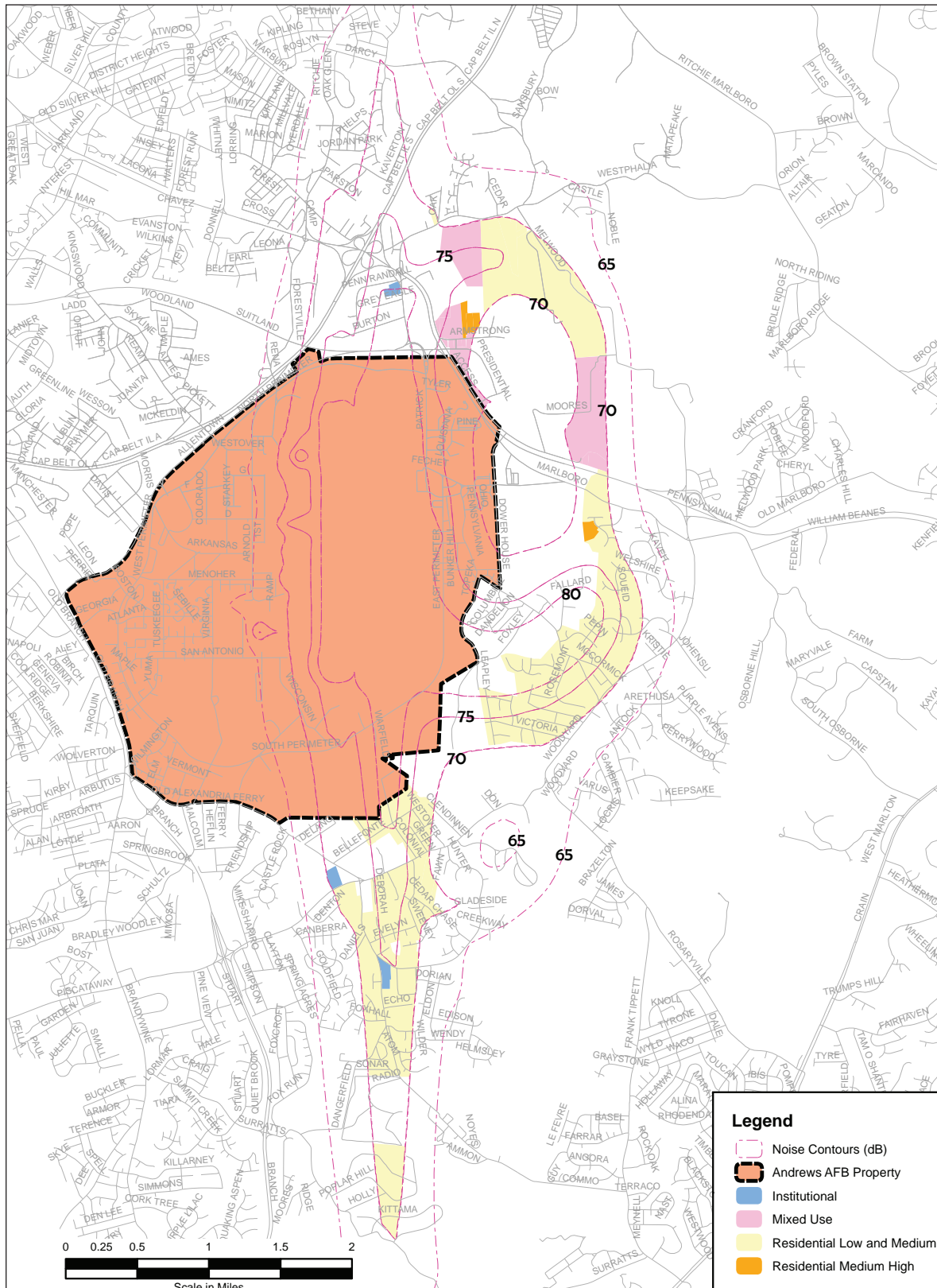
<sup>21</sup> See **Appendix 4** for definitions.

Map 3–8. Incompatible Existing Land Use within DNL 70 dB And Above Noise Contours



Source: 2007 Andrews AFB AICUZ Study and ERM.

Map 3-9. Incompatible Future Land Use within DNL 70 dB And Above Noise Zones



Source: 2007 Andrews AFB AICUZ Study and ERM.



### ***Future Land Use***

Approximately 1,700 acres of land on the future use map are not compatible with the AICUZ guidelines (See Map 3–9 and Table 3–5). This land is clustered in Clinton, Melwood, and Westphalia. Compared to incompatible existing land uses, the future land use map shows some expansions and also some reductions in areas incompatible with the noise compatibility guidelines.

While expansion of incompatible areas is undesirable, the new future incompatible uses are either found in established residential areas, most of which have developed relatively recently, or in future master planned areas. South of the base in Clinton, the existing and future incompatible areas are very similar. The incompatible future land use map shows a small expansion of incompatible area, as some existing undeveloped land in the 70–74 dB noise zone is designated for future residential use. Noise level reduction (NLR) will be required (See Chapter 4).

**Table 3–5. Incompatible Future Land Use in 70 dB And Above Noise Zones (Off-Base)**

Land Use Type	Acres within Noise Zones			Total	
	70-74 dB	75-79 dB	80 dB and above	Acres	Percent
Residential Low	1,166	238	123	1,527	74%
Residential Medium and Medium-High	87	-	-	87	4%
Residential High	-	-	-	-	0%
<b>Total Residential</b>				<b>1,614</b>	<b>78%</b>
Commercial	29	-	-	29	1%
Mixed Use	376	28	-	404	19%
Institutional	22	2	3	27	1%
<b>TOTAL</b>	<b>1,680</b>	<b>268</b>	<b>126</b>	<b>2,074</b>	<b>100%</b>

*Source: ERM*

East of the base in Melwood, the future incompatible land use map shows expansions and reductions in incompatible area. Expansion of incompatible area occurs in the 70–74 dB and 75–79 dB noise zones, as some existing undeveloped land is designated for future residential use (see, for example, the area north of Bible Baptist Church and Clinton Christian School). The future incompatible land use map reduces the incompatible area in the 75–79 dB and 80 dB and above area noise zones by designating existing residential areas as employment/industrial uses (see Flower Village and Dower Village to its east). The Melwood Mobile Home Park, north of Old Marlboro Pike, is not shown as incompatible since, in the future, it could be redeveloped consistent with its current Commercial Miscellaneous (C-M) zoning and, as a result, become compatible with the noise guidelines.

Northeast of the base, in Westphalia, the future incompatible land use map reflects a large expansion of land incompatible with the noise compatibility guidelines. As noted above, planning for Westphalia was based on the 1998 AICUZ noise contours, which included Westphalia in the 65–69 dB noise zone. The entire Westphalia Sector Plan, which includes land east of the noise zones, envisions more than 14,000 homes and 5.3 million square feet of commercial, office, and retail space. (For reference,

the conceptual site plan, a developer-produced document that adds more specificity to the sector plan's framework, is provided in **Appendix 7**.)<sup>22</sup> The town center portion of Westphalia is proposed as a mixed-use area that would lie partially in the 65–69 dB noise zone and partially in the 70–74 dB noise zone. The commercial and employment components would be compatible with the noise guidelines.

The Westphalia Sector Plan includes a policy that recommends minimizing the effects of noise on all land uses. This policy is reinforced by a strategy that reads: “Provide for the use of appropriate attenuation measures when noise issues are identified.”<sup>23</sup> To achieve the highest possible level of compatibility, noise level reduction (NLR) will be required in buildings, redesign will be required where possible to ensure noise sensitive land uses are not located in the highest noise zones, and enhanced buyer/renter notification requirements will be instituted.

### **Application of AICUZ Compatibility Guidelines**

Strict application of the AICUZ land use compatibility guidelines for noise zones is not feasible in the areas around the base chiefly because much of the existing development predates the AICUZ program. New development applications have been analyzed using the AICUZ noise contours and noise reduction conditions are placed on those projects to achieve compliance with the guidelines. The county's building codes contain noise standards that all development is required to meet, regardless of its location.<sup>24</sup>

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<sup>22</sup> The Planning Board approved the conceptual site plan for the town center portion of Westphalia in December 2008.

This plan guides detailed development plans for sections of the master plan area.

<sup>23</sup> *Approved Westphalia Sector Plan and Sectional Map Amendment*, p. 22.

<sup>24</sup> See **Appendix 6** for details of the county's development review procedures on noise.

### 3.3 HEIGHT OF STRUCTURES

The height of buildings, structures, and other natural or man-made objects is a significant issue at airfields and airports because such objects can intrude into the airspace used by aircraft. According to the 2007 Andrews AFB AICUZ Study, obstructions to air navigation around the base are considered to be any natural objects or man-made structures that protrude into the airspace where aircraft fly.

The airspace above airfields that must be obstacle-free is defined by “imaginary surfaces,” which are surfaces in space around airfields in relation to runways. Joint Base Andrews has Class B runways and seven different associated imaginary surfaces (**See Map 3–10**). These are described in detail in **Chapter 4** of the 2007 Andrews AFB AICUZ Study. The outermost surfaces extend approximately eight miles from the base. In general, the vertical height of the bottom of the surface increases as horizontal distance from the runways increases. To the layperson the imaginary surface can be pictured as a large bowl with shallow sloping sides perched between zero and 750 feet above the airfield and the surrounding area.

The chief concern for Joint Base Andrews and Prince George’s County officials regarding new development around the base is the potential for buildings and structures to protrude above the imaginary surfaces described in the preceding paragraph (**See Map 3–10 and Figure 3–2**). However, as discussed in **Chapters 1 and 2**, most land around the base is already developed. Under Prince George’s County zoning regulations, approximately 30 different zoning districts lie in the area under the imaginary surfaces. The residential zoning districts have a maximum height limit between 35 and 50 feet. The comprehensive design zones and mixed use zones have maximum height limits of 80 and 110 feet, respectively. Commercial and industrial zones do not have specified height limits. (**See Appendix 4 for a detailed zoning district analysis.**) Currently, no buildings or structures that pose a navigation hazard for aircraft exist in these developed areas.

The only area in the base vicinity that is not extensively developed is the Westphalia area, located to the northeast of the base. A large-scale mixed-use development, known as the Westphalia Town Center, is planned for the part of Westphalia just northwest of the intersection of MD 4 (Pennsylvania Avenue) and Woodyard Road. Based on information available about the Town Center, as well as the ground elevation and the imaginary surface levels at this location, no height conflicts between the planned Town Center and the base’s imaginary surfaces are foreseen at this time.

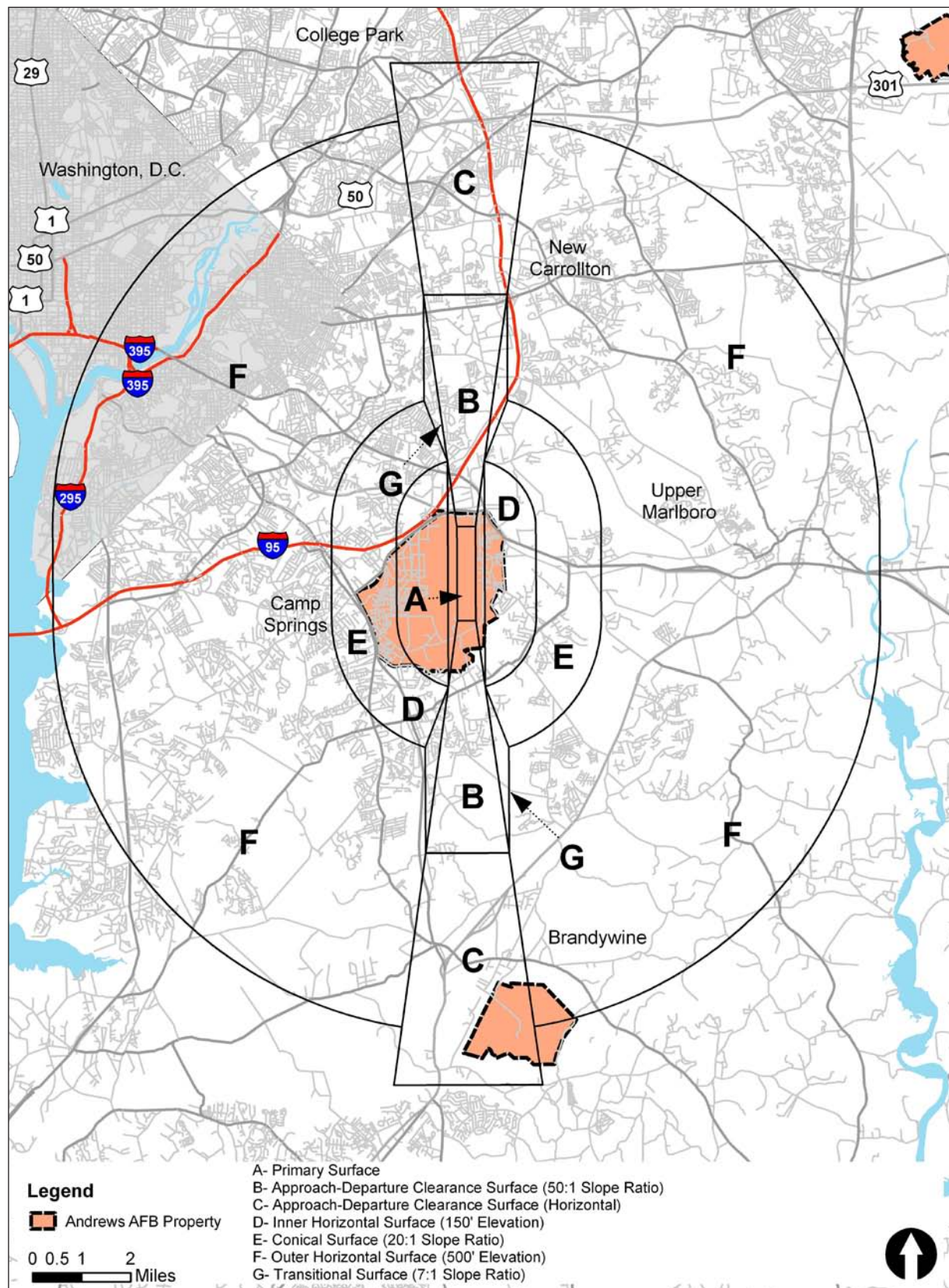
Natural obstacles, especially trees growing close to the runways, are also a concern. Joint Base Andrews holds easements on land near the base that allows the base, for example, to trim trees to a height that will not obstruct aircraft operations. Most of these landscape-control areas are located within the northern Clear Zone. Federal Aviation Regulations require a party proposing construction of a building over 200 feet in height above ground level or one that would protrude into an imaginary surface to submit the project for federal review.<sup>25</sup> This review ensures that a violation of the imaginary surface will not occur.

For this plan, a study was conducted to identify potential maximum heights for structures in the vicinity of the northern and eastern sides of Joint Base Andrews (given that this is where future development is most likely to occur). To determine these potential allowable heights, measurements were taken between the

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<sup>25</sup> Title 14, Part 77: Notice of Proposed Construction or Alteration. These regulations apply nationwide. Joint Base Andrews is covered under (a)(5)(iii) as an airport that is operated by an armed force of the United States. Some exceptions to the notification requirement apply. See <http://www.faa.gov/airports/central/engineering/part77/>.

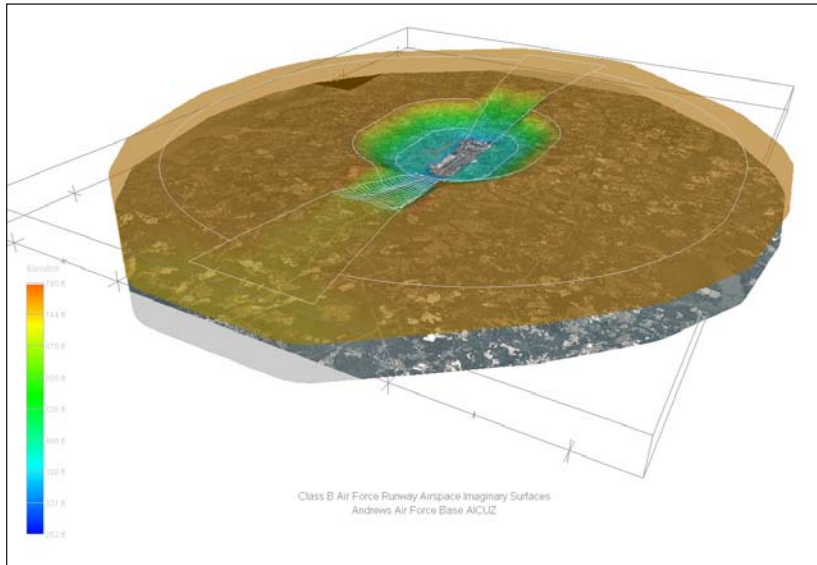
Map 3–10. Joint Base Andrews Imaginary Runway Surfaces



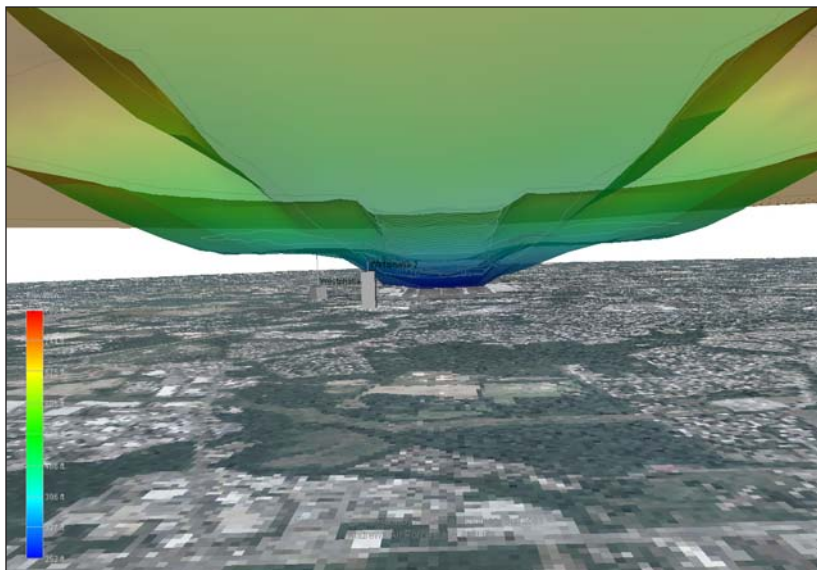
Source: 2007 Andrews AFB AICUZ Study, page 4–3.



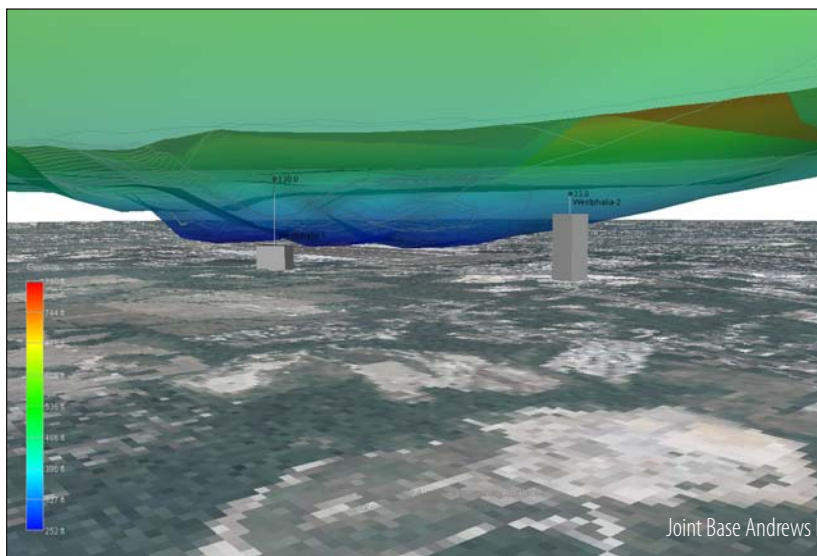
Figure 3–2. Imaginary Surfaces



This is a bird's eye view of the imaginary surfaces around JBA. The vantage point is northwest of the base in the vicinity of College Park/ Takoma Park, looking southeast over the Joint Base Andrews area. The colors in the figure are different elevations; the gray in the middle of the figure is the runways area, the blues and greens are lower elevations above ground level (up to approximately 600 feet) and the oranges and browns are the higher elevations (refer to the color-coded elevation bar in the left of the figure).



This is a view from north of the base in the vicinity of Central Avenue (MD 214), looking south toward JBA. Two hypothetical buildings (the gray cuboid shapes just left of the runways) have been added in the vicinity of Westphalia to illustrate how tall buildings could intrude into the imaginary surfaces. Both buildings are the same height, approximately 100 feet tall. They appear to be different only because the surface elevations where they are located are different.



This is a side view of the same buildings as in Figure 3b, showing the height from the top of the buildings to the bottom of the imaginary surface (33 feet and 130 feet).



surface elevation and the elevation of the imaginary surface.<sup>26</sup> Approximately 1,200 points were sampled, and maximum height contours were created. (Figure 3–2 shows these contours, and Appendix 9 includes a map with the sample points.) The legend alongside Figure 3–2 shows the potential maximum height a building/structure could reach before intruding into a particular imaginary surface. Table 3–6 summarizes these heights for points at 5,500 feet away from the base and in the Westphalia Town Center.

Variations in allowable height occur due to differences in elevation at various points around the base and the pattern of imaginary surfaces, which aligns with flight paths. As shown on Figure 3–2, the lowest potential allowable heights would occur in areas immediately north and south of the base (due to the proximity to aircraft takeoffs and landings). The maximum potential allowable height would be above the height of existing structures in the study area, with the exception of the Clear Zone on the northern side of the base. In general, though, the maximum allowable height figures should not significantly restrict development around the base, particularly in the proposed Westphalia Town Center.<sup>27</sup>

**Table 3–6. Sample Maximum Allowable Heights for Points Around Joint Base Andrews**

Location	Direction	Maximum Allowable Height
5,500 feet from base	Northeast	300 feet (20–25 stories)
	East	300 feet (20–25 stories)
	North	150 feet (10–12 stories)
	Northwest	250 feet (17 – 21 stories)
Westphalia Town Center (approximately 1,500 feet from base)	Northeast	190 feet (12 – 16 stories)

*Source: ERM*

<sup>26</sup> JBA provided detailed LIDAR (Light Detection and Ranging, an optical remote sensing technology) of the surface elevations for the analysis.

<sup>27</sup> The proposed Westphalia Town Center lies in an area with lower elevations than Joint Base Andrews. The development proposal for Westphalia contains buildings that range from 8–10 stories, well under the maximum potential allowable height for this area.

## 3.4 TRANSPORTATION

The size and location of Joint Base Andrews contribute to many base-area traffic and transportation issues. With close to 17,000 military and civilian personnel, the base itself is a major traffic generator. In addition, the area within 1.5 miles of the base is home to over 67,000 residents and 28,000 jobs (excluding the on-base jobs). Considering these factors, transportation demands in relation to land use are a key concern of Prince George's County, the military, residents, and businesses, with particular concern focused on ensuring the military mission is not impacted by traffic congestion.

### Roadways

Three major regional roads serve Joint Base Andrews: the Capital Beltway (I-95/495), MD 4 (Pennsylvania Avenue), and MD 5 (Branch Avenue). All three are classified as freeways. Other important roads carrying local traffic to and from the base include the Suitland Parkway, a freeway owned by the National Park Service; Suitland Road, MD 337 (Allentown Road), and MD 223 (Woodyard Road), all arterials; Old Alexandria Ferry Road, a collector; and Dower House Road, classified as an arterial along its northern portion and a collector near its intersection with MD 223 (Woodyard Road) (**See Map 3-11**). **Table 3-7** identifies 2008 traffic volumes for these roads.

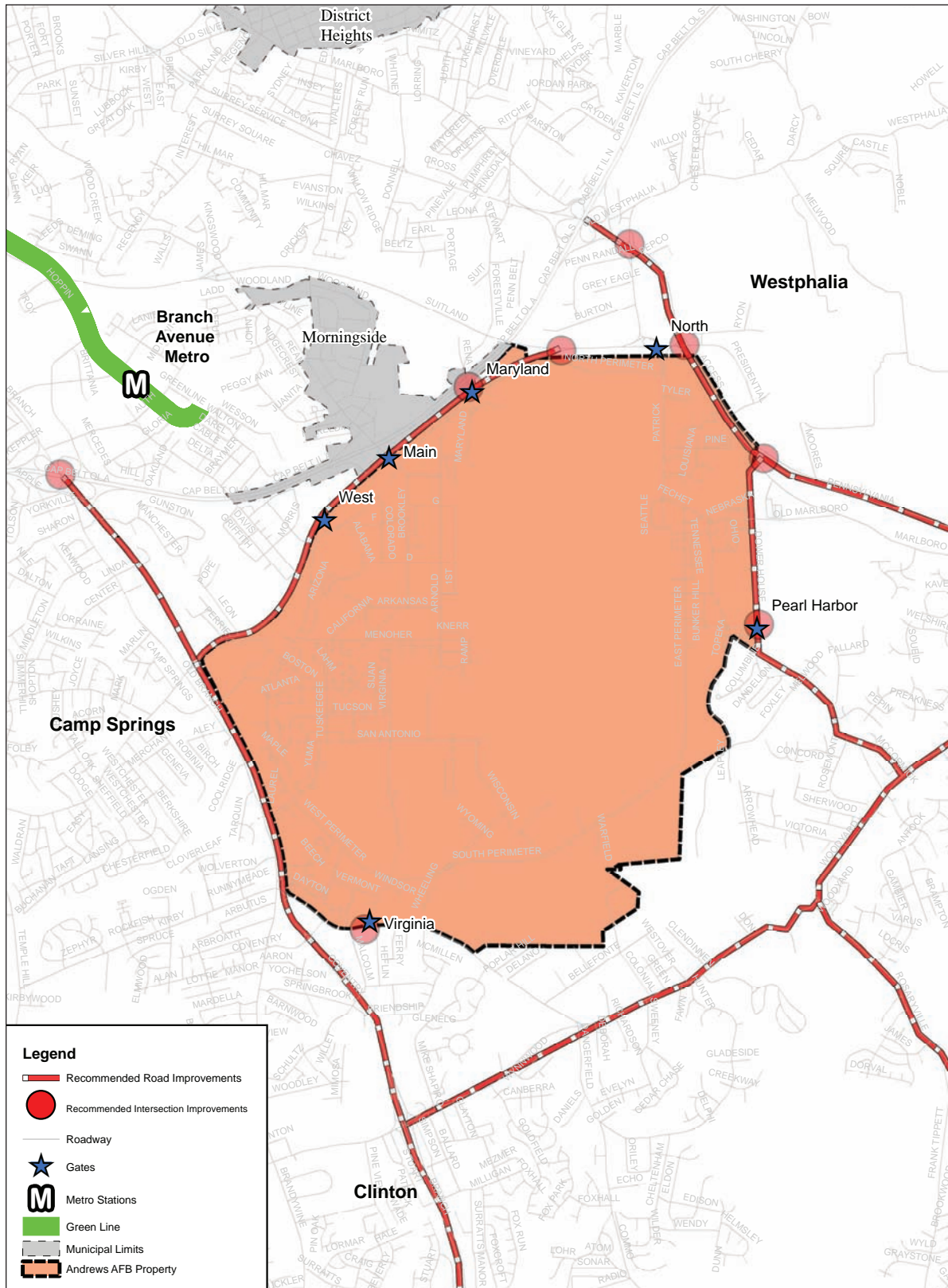
The Capital Beltway (I-495/I-95) serves regional traffic circumnavigating Washington, D.C., as well as local Prince George's County traffic. Average annual daily traffic volume near Joint Base Andrews totals over 180,000 vehicles. The base is accessible from the Capital Beltway by four exits at MD 5 (Branch Avenue), Suitland Road, MD 337 (Allentown Road), and MD 4 (Pennsylvania Avenue). At peak times, the exit ramps to the base from the Capital Beltway inner loop experience high flows and congestion.

MD 5 (Branch Avenue) runs north-south and links Washington, D.C., with southern Prince George's, Charles, and St. Mary's Counties. MD 5 carries an average of over 100,000 vehicles per day near Joint Base Andrews. MD 4 (Pennsylvania Avenue) runs northwest to southeast from Washington, D.C., serving eastern Prince George's County, Anne Arundel County, and Calvert County. Both MD 4 and MD 5 carry high traffic volumes during peak periods.

Allentown Road (MD 337), which runs along the base's northern boundary between MD 5 (Branch Avenue) and Suitland Parkway, provides access to the base's West, Main, and Maryland Gates. Traffic volume on Allentown Road is nearly 30,000 vehicles per day with the majority of traffic occurring during peak hours. Much of this traffic is base-related. Traffic entering the base at the Main Gate causes congestion on Allentown Road, especially in the mornings.

Old Alexandria Ferry Road connects MD 5 (Branch Avenue) with MD 223 (Woodyard Road), providing access to the Virginia Gate located on the southern side of the base. Traffic weaving to access this gate creates problems along this road due to the short spacing between the Malcolm Road–Old Alexandria Ferry Road and Virginia Avenue–Old Alexandria Ferry Road intersections. During some peak hours, queuing from the gate's checkpoint extends through the Malcolm Road intersection. In 2006, traffic volume on Old Alexandria Ferry Road north of MD 223 (Woodyard Road) was 16,712 vehicles per day and east of MD 5 (Branch Avenue) was 10,193 vehicles per day.

Map 3–11. Joint Base Andrews Vicinity Transportation Facilities



Source: M-NCPPC

**Table 3–7. Average Annual Daily Traffic, 2008**

Roadway Name	Average Number of Vehicles Per Day
I-95/495 south of MD 4 exit	180,242
MD 5 (Branch Avenue) south of MD 337	107,591
MD 5 (Branch Avenue) north of MD 337	106,841
MD 5(Branch Avenue) north of MD 223	97,871
MD 4 (Pennsylvania Avenue) north of Dower House Road	74,071
MD 4 (Pennsylvania Avenue) at Westphalia Road	52,261
Suitland Parkway at the base's North Gate	29,960
MD 337(Allentown Road) at the base's Main Gate	28,300
MD 223 (Woodyard Road) north of Marlboro Pike	22,791
MD 223 (Woodyard Road) east of MD 5	18,181
MD 223 (Woodyard Road) east of Rosaryville Road	17,951

*Source: Maryland State Highway Administration*

MD 223 (Woodyard Road) south and east of the base is regionally important, as it connects Old Alexandria Ferry Road with Dower House Road, completing a circular route around the base. However, MD 223 is a two-lane road for most of its length. It has several failing intersections near the base and continuous traffic flows make turning onto or off the road difficult.

Suitland Parkway was conceived during World War II to link the then-planned Joint Base Andrews with the military facilities of Bolling Air Force Base and the Pentagon. Built in 1943-1944, the roadway is owned by the National Park Service and is listed on the National Register of Historic Places. This road runs through the base's northern Clear Zone and connects the base area to MD 4 (Pennsylvania Avenue).

Dower House Road frames the eastern boundary of the base, extending from MD 4 (Pennsylvania Avenue) south to MD 223 (Woodyard Road). The Dower House Road/MD 4 intersection, one of the busiest intersections on MD 4 east of the Capital Beltway, fails at peak hours. Recent changes to the base's Pearl Harbor Gate have brought extensive commercial traffic to this otherwise two-lane rural-section roadway. Left-turning traffic trying to enter the Pearl Harbor Gate causes congestion on Dower House Road. Sight distance is also a problem due to the topography near the Pearl Harbor Gate. In 2006, traffic volume on Dower House Road west of Ballard Drive was 8,478 vehicles per day.<sup>28</sup>

## Base Entrances

Six gates line Joint Base Andrews' perimeter and provide access to the base (See Map 3–11). The functional operation of each gate has changed over time due to security considerations and/or access to base facilities. The gates and their functionality directly impact traffic volumes and patterns around the base.

<sup>28</sup> DPW&T Traffic Count Book.



The Main Gate, located at the terminus of Suitland Road, receives more than half the traffic entering or exiting the base.<sup>29</sup> As of 2006, traffic counts at this access point exceeded 20,000 vehicles per day.<sup>30</sup> Heavy traffic flows during peak hours create queuing problems along the Capital Beltway's exit ramp for vehicles exiting the Capital Beltway from the north. The Main Gate is expected to continue for the foreseeable future as the base's main entrance and exit. After BRAC is implemented this gate is anticipated to handle approximately 61 percent of future base traffic.

The Virginia Gate off Old Alexandria Ferry Road serves vehicles entering and exiting the southern side of the base and is the second most utilized base gate. Traffic problems occur at this gate, including traffic weaving on Old Alexandria Ferry Road due to short intersection spacing and queuing at the checkpoint. High traffic flows also occur during midday peak hours, due in part to base personnel leaving the base to frequent the shopping nodes in Clinton. After BRAC is implemented this gate is expected to handle approximately 20 percent of future base traffic.

The Pearl Harbor Gate is located on the east perimeter along Dower House Road. Since 2007 commercial traffic has been directed to this gate, which has resulted in increased commercial traffic and heavy vehicles on Dower House Road. This two-lane road needs improvements to be able to safely handle the increased traffic load. At peak hours, northbound traffic on Dower House Road often queues for almost a quarter of a mile as left turning traffic attempts to enter the gate. After BRAC is implemented this gate is anticipated to handle approximately 15 percent of future base traffic.

Slightly northeast of the Main Gate, the Maryland Gate is the secure access for national and foreign dignitaries and is not used for routine day-to-day operations at the base. The North Gate, located east of the Allentown Road-Suitland Parkway intersection, is subject to restricted hours and is rarely used.

The West Gate, currently closed, is located along Allentown Road in front of the main administration building on Command Drive. Traffic previously using this gate has been diverted to the Main Gate. The West Gate has been considered for the possibility of a pedestrian-only gate.

## Transit

Transit service is provided to the perimeter of Joint Base Andrews, but no direct transit service onto the base exists, as security concerns do not permit transit vehicles to enter the base gates. The Branch Avenue Metro Station is located about 2.5 miles from the base's Main Gate by the shortest route. The Prince George's County Department of Public Works and Transportation's bus system ("TheBus") connects the Metrorail Green Line with the base, stopping outside the base perimeter near the West Gate. The Bus also connects the base via the Virginia Gate to the surrounding community. In addition, the Washington Metropolitan Area Transit Authority (WMATA) operates bus routes on nearby Pennsylvania Avenue and Branch Avenue, along with three routes that stop at the base's Main Gate and West Gate. One of these routes connects the base with the Branch Avenue Metro Station. The closest park-and-ride commuter lot is located south of the base in Clinton. Within the base, perimeter shuttle service is provided for base personnel.

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<sup>29</sup> Most of this section is derived from two studies: "Andrews Air Force Base Comprehensive Transportation Study" (2006) and "Andrews Air Force Base BRAC Traffic Study" (February 2007).

<sup>30</sup> "Andrews Air Force Base BRAC Traffic Study" (February 2007).

## Pedestrian/Bicycle Access

Existing pedestrian and cyclist access to the base is very limited. Security concerns constrain non-motorized vehicle access, and the location of employment and residential centers within the base are a long walk from existing entrances. In addition, no sidewalks exist on the base side of Allentown Road, Old Alexandria Ferry Road, Branch Avenue, and Dower House Road. Improving pedestrian and cyclist access would help reduce automobile trips on roadways, easing base area congestion and reducing energy use.<sup>31</sup>

The base's internal strategic plan identifies the West Gate as a possible pedestrian gate for those entering the base on foot, by bicycle, or by transit. Additionally, the base would like to make other gates accessible to pedestrians, but currently lacks enough security personnel to staff these gates. One alternative proposed is the creation of an entry card system that would allow automated access of other operating gates by foot, bicycle, or transit. The proposed on-base Town Center redevelopment is planned to create a more intimate pedestrian environment, an approach that has been utilized successfully at other military bases across the country. The *Andrews AFB Comprehensive Transportation Study* (2006) identified two base interior roads, Perimeter Road and Virginia Avenue, as locations prone to pedestrian and vehicular conflicts. Sidewalks and pedestrian safety devices are planned to be installed as part of the base's strategic plan implementation effort.

## Planned Transportation Improvements

### *Roadways*

Growth and development at and around JBA—especially in Westphalia and due to BRAC—will have a considerable impact on roads in the JLUS study area in the next two decades. Planned projects include:

- ❖ **MD 5 (Branch Avenue):** The section of MD 5 along the southwestern boundary of Joint Base Andrews south to Surratts Road has been upgraded to freeway condition. The MD 5/Capital Beltway intersection is programmed for reconstruction to improve access to the Branch Avenue Metro station (the terminus of the Green Line) and the general base vicinity.<sup>32</sup> The Subregion 5 Master Plan recommends a freeway condition for the entire roadway in Prince George's County, and one project in Brandywine has been funded for construction. A transit line along MD 5 is in the early planning stages (see the following "Transit" section).
- ❖ **MD 4 (Pennsylvania Avenue):** The *Approved Subregion 6 Master Plan and Sectional Map Amendment* recommends MD 4 from I-95/495 (Capital Beltway) to the Anne Arundel County line for freeway status, with interchanges at Suitland Parkway, Westphalia Road, and Dower House Road. The plan also recommends upgrading the MD 4/MD 223 interchange. Funding for the reconstruction of the MD 4/Suitland Parkway interchange was removed from the Maryland Department of Transportation's Consolidated Transportation Plan in 2008, but this project is still planned for the long term.
- ❖ **MD 223 (Woodyard Road):** The Subregion 6 plan also recommends MD 223 for upgrade to a four- to six-lane roadway between MD 4 and MD 5. Portions of MD 223 were recently included in a feasibility study by the State Highway Administration.
- ❖ **Dower House Road:** Prince George's County has identified Dower House Road improvements for the length of roadway abutting the base as a top priority.

<sup>31</sup> A goal of the county's approved Master Plan of Transportation (MPOT) involves providing a continuous network of sidewalks, bikeways, and trails throughout the county that provide opportunities for residents to make some trips by walking and biking, particularly to mass transit, schools, employment centers, and other community destinations.

<sup>32</sup> The project is in the State's Consolidated Transportation Plan but is not funded for construction.

As described in Chapter 2, Joint Base Andrews' 25-Year Strategic Plan identifies changes to over 600 acres of on-base military facilities. Several road improvements are envisioned to support these changes, including construction of a north-south corridor and relocation of East Perimeter Road.

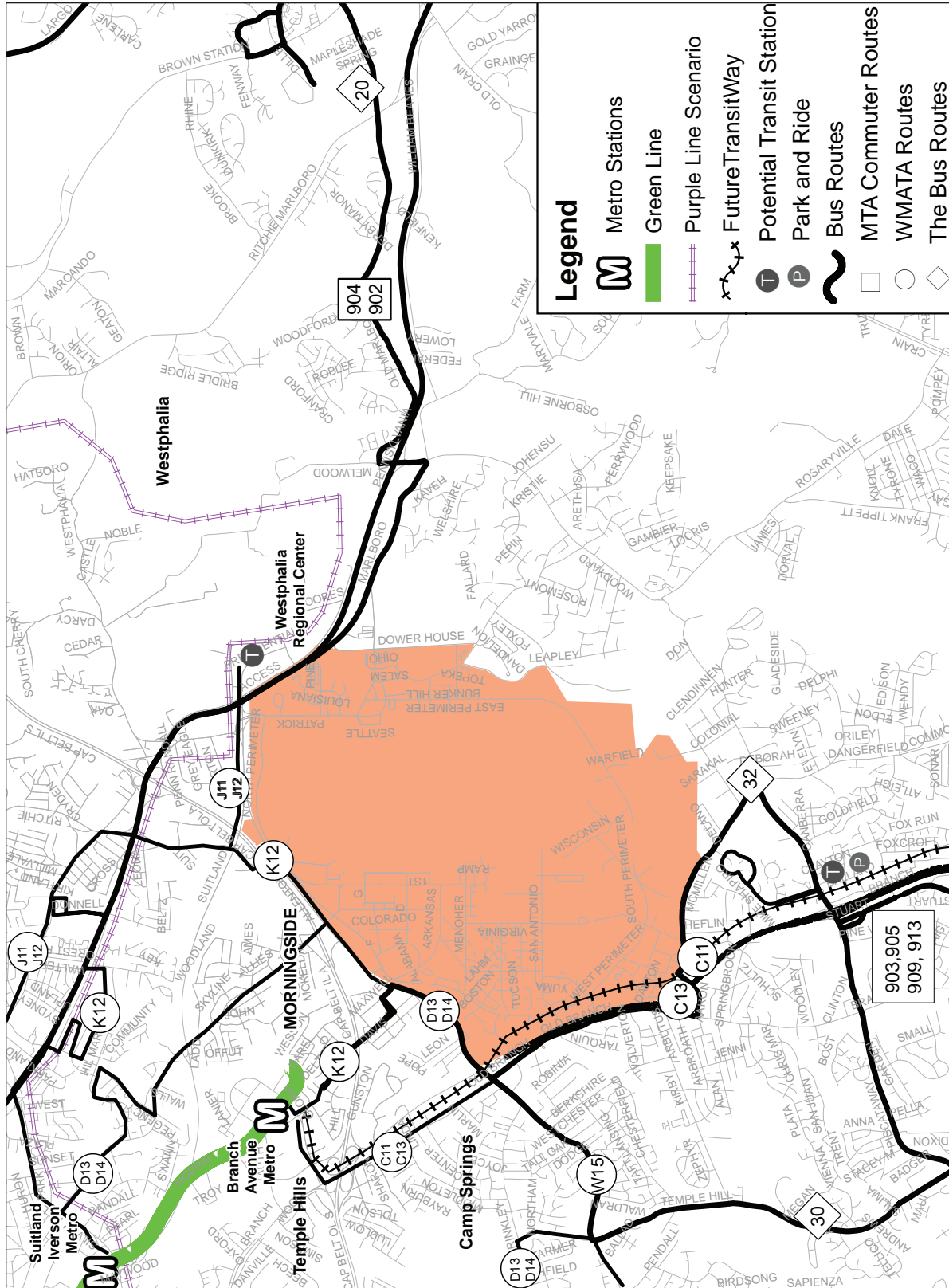
### ***Transit***

Three fixed guideway transit expansion projects affecting Joint Base Andrews have been proposed by local, state, and metropolitan transportation agencies:

- ❖ The county's approved Master Plan of Transportation proposes to evaluate extensions of the planned Purple Line Metro from New Carrollton to National Harbor that could serve the Joint Base Andrews-Westphalia Center area (**See Map 3-14**). This, however, is a longer-range transit option; the first phase of the Purple Line is not scheduled to open to the public until early 2017. An extension would take correspondingly longer to serve the area of the county that includes Joint Base Andrews.
- ❖ The Maryland Transit Administration (MTA) is evaluating a bus rapid transit (BRT) or light rail transit line on Branch Avenue (MD 5) within its ongoing Southern Maryland Transit Corridor Preservation Study along the Branch Avenue (MD 5)/Crain Highway (US 301) corridor in Prince George's and Charles Counties. This study will examine alternative alignments for a BRT or light rail system along this corridor. This study also will evaluate a potential transit stop serving the base near the Virginia Gate.
- ❖ The *Approved Westphalia Sector Plan and Sectional Map Amendment* recommends a possible Green Line Metro extension to the proposed Westphalia development, including reservation of land for a future Green Line Metro station. Although this particular Metro extension is not shown in the county's approved Master Plan of Transportation (MPOT), such an extension can be included in future evaluations of fixed guideway transit options as part of the MPOT strategic transportation planning process.

Existing and proposed transit service and projects are shown in **Map 3-12**.

Map 3–12. Existing and Proposed Base Area Transit Service



Source: M-NCPPC and WMATA



## 3.5 ECONOMIC AND COMMUNITY DEVELOPMENT

Joint Base Andrews is a major economic engine for the Greater Washington metropolitan area and is the largest employer in Prince George's County. When the base was first established in the 1940s, nearby settlements such as Morningside and Clinton were little more than crossroads communities, but during the ensuing decades, these communities supplied many of the military community's off-base needs, including accommodations, restaurants, stores, and entertainment. Today several areas, some relatively far from the base, compete for the base's business and economic spin-off activity. These include Clinton, Largo, Suitland, and Upper Marlboro in Prince George's County and Waldorf in Charles County. In some cases these places offer newer housing and commercial and business centers compared to the older areas in the immediate base vicinity that developed in earlier decades. As a result, some of these older commercial and employment areas struggle with economic viability.

The partners in the JLUS generally agree that the community surrounding the base has the opportunity to benefit economically from the presence of the base to a much larger extent than it currently does. Existing economic development issues include:

- ❖ An apparent lack of base-related employment opportunities in the area surrounding the base.
- ❖ Limited reinvestment in existing developed areas around the base, which has led to some underperforming commercial areas, particularly along Allentown Road.
- ❖ Lack of diversity in restaurant choices.
- ❖ Lack of higher-end retail options in areas around the base.
- ❖ Presence of blighting influences in some key, high-visibility locations.
- ❖ The absence of easy, safe, and attractive pedestrian connections between the base and nearby services.

### Economic Development Recommendations in Related Plans

Economic development is one of the highest priority goals in the 2002 *Prince George's County Approved General Plan*, which encourages this development at appropriate locations to increase employment opportunities, personal income, and the Prince George's County tax base. To achieve this goal the General Plan designates centers and corridors to attract new employment and commercial development, while stressing the importance of retaining existing businesses. Accordingly, recommendations in land use and development plans for the planning areas around Joint Base Andrews reflect this broad countywide economic development goal:

- ❖ ***Adopted Subregion 4 Master Plan and Endorsed Sectional Map Amendment:*** This plan encourages redevelopment and revitalization of older areas. Rather than developing new activity centers, the main economic development focus is reinvestment in declining commercial areas. For areas near Joint Base Andrews, the plan emphasizes creating a flex space campus north of the base in the Forestville Plaza area, redeveloping the Silver Hill area as a cultural hub, and revitalizing the Great Eastern Shopping Plaza on Marlboro Pike.
- ❖ ***Approved Subregion 5 Master Plan and Sectional Map Amendment:*** This plan recommends upgrading the quality of area development in order to retain existing jobs and attract new jobs to the base vicinity. Particular emphasis is placed on infill and redevelopment along MD 223 (Woodyard Road) in Clinton, redevelopment of land near a future MTA bus rapid transit or light rail transit stop, most likely on the east side of MD 5 (Branch Avenue), and retention of existing office/employment areas along Old Alexandria Ferry Road and Kirby Road.
- ❖ ***Approved Subregion 6 Master Plan and Sectional Map Amendment:*** This plan emphasizes the importance of Joint Base Andrews and associated employment as the major economic driver for the

area. In order to take advantage of the base, the plan recommendations direct economic development to strategic locations, especially to Westphalia, given its proximity to the base.

- ❖ **Various Subregion 7 Sector Plans:** Economic development strategies in Subregion 7 focus on creating commercial centers and visually-appealing corridors to attract quality development that provides jobs, goods, and services. This would help increase base-area employment opportunities, personal income, property values, and assessable tax base. These sector plans recognize revitalization of existing commercial areas near the base as a high priority including revitalization of the Branch Avenue Corridor, redeveloping Andrews Manor along Allentown Road, and ensuring continued investment in the Camp Springs town center mixed-use activity center.

## Base Realignment and Closure (BRAC) Zone

The State of Maryland designated a Base Realignment and Closure Revitalization and Incentive Zone (BRAC Zone) in Subregion 7.<sup>33</sup> BRAC Zones benefit local governments affected by the Base Realignment and Closure Act of 2005 through financial assistance for public infrastructure as part of a coordinated state effort to make these zones the focus of growth due to base realignments. Under the BRAC Zone program, Prince George's County may receive 100 percent of the state real property tax increment and 50 percent of the local jurisdiction's real property tax increment. Funds can be used to pay back bonds issued for infrastructure improvements in a particular BRAC Zone.

The Prince George's County BRAC Zone for Joint Base Andrews includes portions of the Town of Morningside, Suitland Road, the Allentown Road commercial corridor, and the Branch Avenue Metro station (**See Map 3-12**). Prince George's County intends to use the BRAC Zone to incentivize infrastructure improvements in these areas and, in turn, attract private investment.

## Enterprise Zone

Portions of Subregions 4 and 7 are located in an Enterprise Zone, a state designation which allows businesses located in this area to become eligible for income tax credits and real property tax credits in return for job creation and investment in the area. The program is designed to foster economic development in areas that are economically disadvantaged. Camp Springs, adjacent to the base, can use the Enterprise Zone program to further economic development in the community.

## The Andrews Business and Community Alliance

The Andrews Business and Community Alliance (ABCA) is a non-profit organization whose membership includes representatives from the base-area business, civic, faith, and public sector communities. ABCA advocates for and supports the base mission while fostering successful economic and community relations between its members. ABCA's vision for the JBA area is set forth in its publication titled *Expanding the Andrews National Defense and Technology Corridor*. Components of the vision include:

- ❖ Revitalization of the Allentown Road and Suitland Road corridors.
- ❖ Redevelopment of the Old Alexandria Ferry Road corridor.

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<sup>33</sup> The BRAC Revitalization and Incentive Zone program was established by the State of Maryland in 2008 (SB206 BRAC Community Enhancement Act). Each year, the amount to be shared among all local jurisdictions is the amount appropriated in the state budget up to \$5.0 million. As of December 2008 five BRAC zones, including two in Prince George's County, had been created in Maryland.

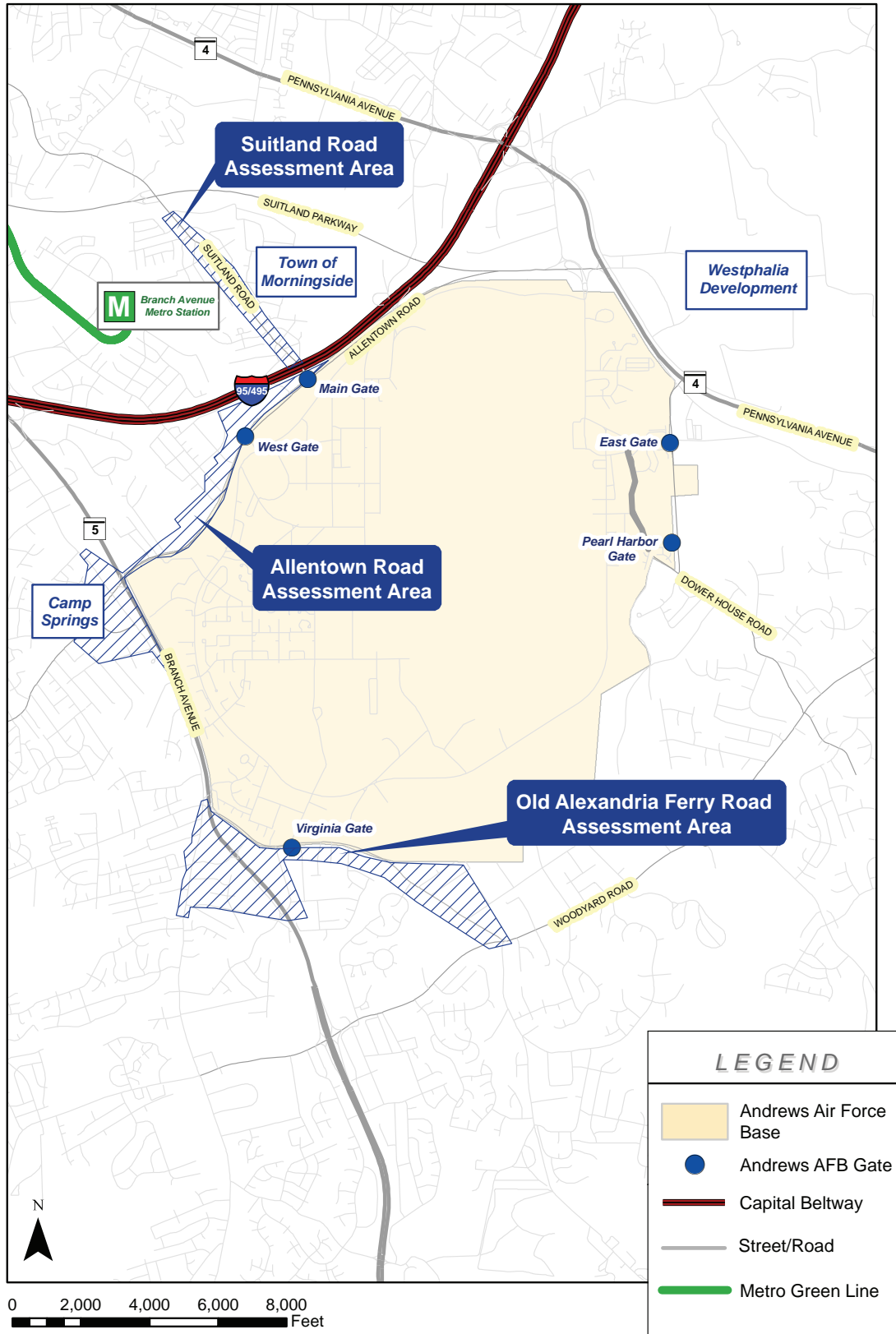
- ❖ Department of Defense acquisition of 200 to 300 acres of land for future base expansion.
- ❖ Development of Westphalia, including a high density commercial center with over five million square feet of office buildings, two million square feet of retail space, 15,000 residential units, hotels and hospitality services, and six new schools.
- ❖ Support for growth, creation of a greatly expanded and interconnected road network, and an extension of the Metro Green Line to Andrews and Westphalia.

### Survey of Commercial and Industrial Land Uses

As part of the JLUS, the consultant team conducted a survey of the commercial and industrial areas around Joint Base Andrews in February 2009. This survey focused on vacancy and general appearance and condition of these properties. It also considered the effects of potential JLUS land use policies and opportunities for economic synergies with the base. Please see **Appendix 10** for a map of the survey areas and a detailed description of survey results.

The survey found that three areas in the immediate base vicinity qualify as areas in need of revitalization: the Allentown Road corridor, the Suitland Road/Morningside area, and a portion of Old Alexandria Ferry Road. Each area has high vacancy rates, lower-end retail/commercial uses, and an unattractive public realm. **Map 3-13** shows the location of these three commercial areas. The Allentown Road corridor and the Suitland Road/Morningside area are of particular interest, given their roles as the main gateways to Joint Base Andrews. In both instances, targeted revitalization efforts could improve community appearance and help attract businesses that would serve JBA personnel and the needs of the local community. Both areas lie within a designated Enterprise Zone and the BRAC Revitalization and Incentive Zone.

Map 3-13. Economic Survey Assessment Areas



Source: M-NCPPC and Joint Base Andrews (2007, 2008)



## 3.6 ENVIRONMENTAL/NATURAL RESOURCES

Joint Base Andrews and Prince George's County share responsibility for protecting environmental resources in the base's vicinity. The health, safety, and welfare of the public are directly impacted by environmental conditions, and both the base and the county must ensure that their policies and activities have a beneficial impact on local environmental resources.

### Environmental Context

Joint Base Andrews is located atop a naturally formed plateau that has an elevation ranging from 215–281 feet above mean sea level. The base straddles the Potomac River Basin and the Patuxent River Basin, two tributary basins that flow into the Chesapeake Bay. The portion of the base in the Potomac River Basin includes parts of the three subwatersheds: Henson Creek, Tinkers Creek, and Piscataway Creek. The portion of the base in the Patuxent River Basin includes parts of two subwatersheds: Western Branch and Charles Branch. In addition, a sixth watershed, Southwest Branch, is located north of Joint Base Andrews within the JLUS study area. **Map 3–15** offers a graphic representation of the base's location within local river basins and subwatersheds.

### Prince George's County Environmental Plans and Studies

Prince George's County adopted the *Approved Countywide Green Infrastructure Plan* in 2005. The plan identifies a contiguous network of environmentally-sensitive areas throughout the county and sets forth a goal, objectives, policies, and strategies to preserve, protect, and enhance these elements. Several Green Infrastructure (GI) corridors begin on Joint Base Andrews in the headwaters of the five watersheds (**See Map 3–14**).

### Joint Base Andrews Environmental Plans and Studies

Guidelines for environmental planning at Joint Base Andrews include Natural Infrastructure Management (NIM) and an Integrated Natural Resources Management Plan (INRMP).

NIM is a management philosophy that extends environmental responsibility to organizations that control aspects of the environmental resources or “natural infrastructure” on the base. The NIM allows the Air Force to utilize and manage environmental resources on the base while complying with and supporting their military mission.

The INRMP fulfills the requirements of the Sikes Act Improvement Act of 1997 by providing management activities that include the conservation and rehabilitation, as well as the sustainable multipurpose use, of natural resources on Joint Base Andrews. The objective of the INRMP is to facilitate the integration of natural resources management into other plans and activities across the base. Goals of the INRMP include reducing loadings of toxic substances to surface water and providing high quality natural resources-based recreational opportunities.

### Environmental Concerns

#### *Wetlands and Streams*

Wetland surveys conducted at Joint Base Andrews have identified approximately 87 acres of wetlands, most of which are located in forested, natural watercourses and marshlands northeast and southeast of the base. The base maintains a 25-foot buffer boundary around delineated wetlands.

Joint Base Andrews has a Water Program Manager who facilitates wetland and stream restoration projects on base. In the past the base undertook stream restoration projects on Cabin Branch, part of the Western Branch watershed. Future restoration projects are planned for this tributary.

Joint Base Andrews has an ongoing wetland restoration and enhancement project near the southern border in the Piscataway Creek watershed that is monitored annually. A stream restoration project is underway for a section of Piscataway Branch located near the end of the runway. In the Tinkers Creek watershed Joint Base Andrews has a stream restoration project underway on Meetinghouse Branch.

### ***Forestry Management***

Trees can interfere with the base mission because they can grow into airspace used by aircraft for navigation. Joint Base Andrews, in conjunction with the National Park Service and affected off-base landowners, has a management plan that identifies trees requiring trimming or removal as well as locations for planting replacement trees (**See Section 3.1**). Off-base tree trimming or removal to prevent conflicts with the base's mission does not require a Prince George's County Tree Conservation Plan.

Joint Base Andrews has an Arbor Plan that includes a tree planting plan and requirements for tree replacement. For the past 15 years Joint Base Andrews has been awarded the "Tree City, U.S.A." designation, which is sponsored by the Arbor Day Foundation in cooperation with the USDA Forest Service and the National Association of State Foresters. To receive this designation, a community must, among other requirements, have a viable tree management plan and program.

### ***Rare, Threatened, and Endangered Species***

No state or federally listed rare, threatened, or endangered plant or animal species are found on JBA. The original location of one previously identified plant species is being managed as a preservation area.

### ***Bird/Wildlife Aircraft Strike Hazard (BASH)***

Birds and wildlife can hamper the base mission by interfering with aircraft operations. Joint Base Andrews is located near the Atlantic Flyway bird migratory route, which increases the potential for conflicts between birds and wildlife and air operations. The potential for a Bird/Wildlife Aircraft Strike Hazard (BASH) incident is highest during the bird migratory periods, with most BASH incidents occurring between August and October. Each year approximately 30 reportable BASH incidents occur on Joint Base Andrews.

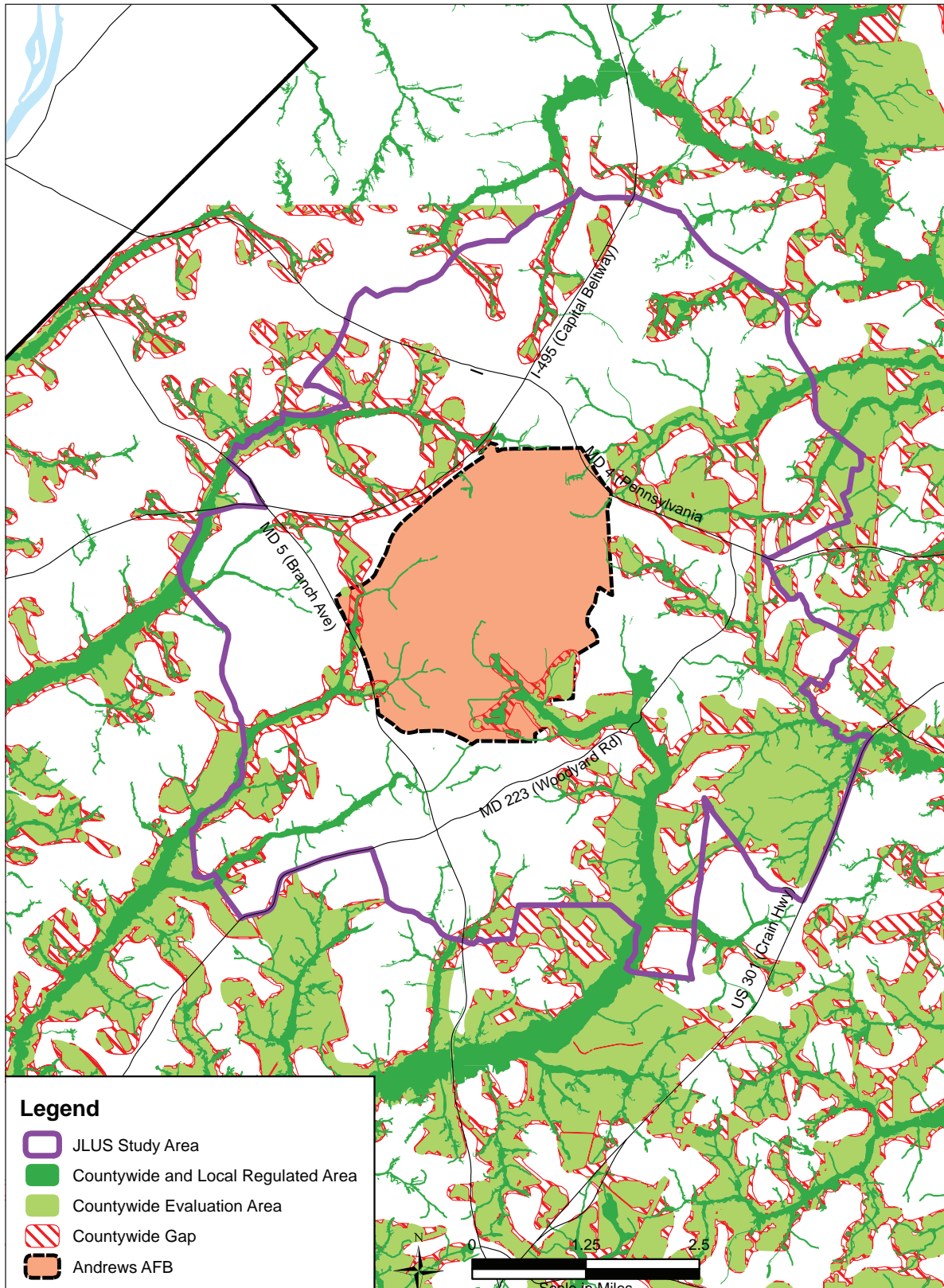
While most BASH incidences occur off base at altitudes of 500–3,000 feet, birds, especially those in flocks like starlings and seagulls, can be dangerous on the airfield and may cause damage to equipment and injure personnel. Canada geese and other water birds tend to congregate on or near water bodies, including the Base Lake and Belle Chance ponds near the northern Clear Zone, and are rarely seen on the airfield except when the wetland at the north end of the field fills with water during high rain events.

Joint Base Andrews has a bird and wildlife airstrike hazard (BASH) plan, the goal of which is to reduce BASH. The BASH management plan includes grounds maintenance, physical removal of birds by implementing bird harassment measures, reduction of wet areas within the airfield boundary, and improving flight crew awareness.

### ***Groundwater Contamination***

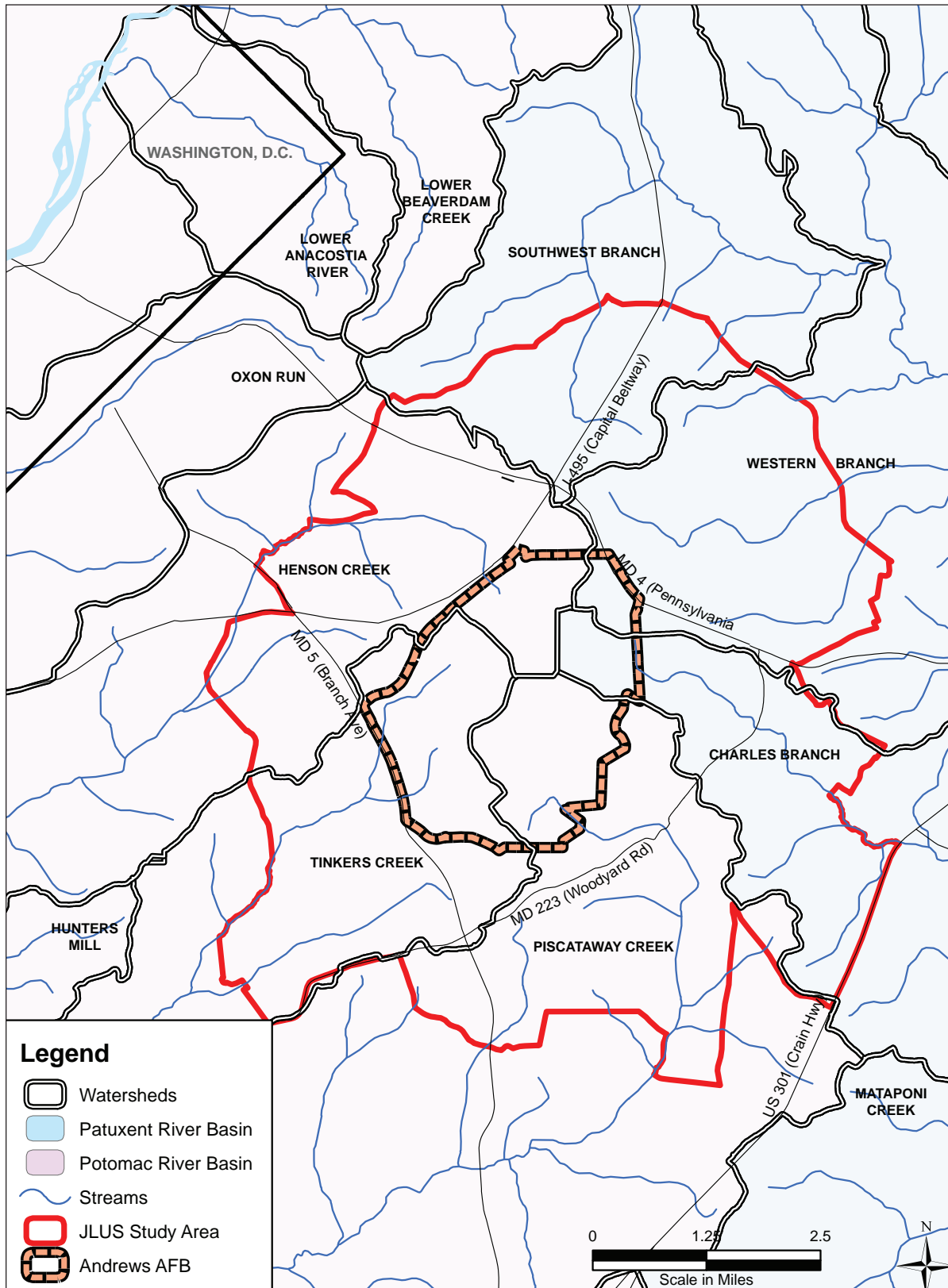
A former landfill located on the southeastern part of the base near Foxley Road is a source of groundwater contamination that has migrated off base. This area, including the off-base area, is being remediated and will need to be continued and monitored for the next 10-15 years. Prince George's County will need to condition permits for development in the off-base area to take account of this remediation and long term monitoring.

Map 3–14. Green Infrastructure Network



Source: M-NCPPC

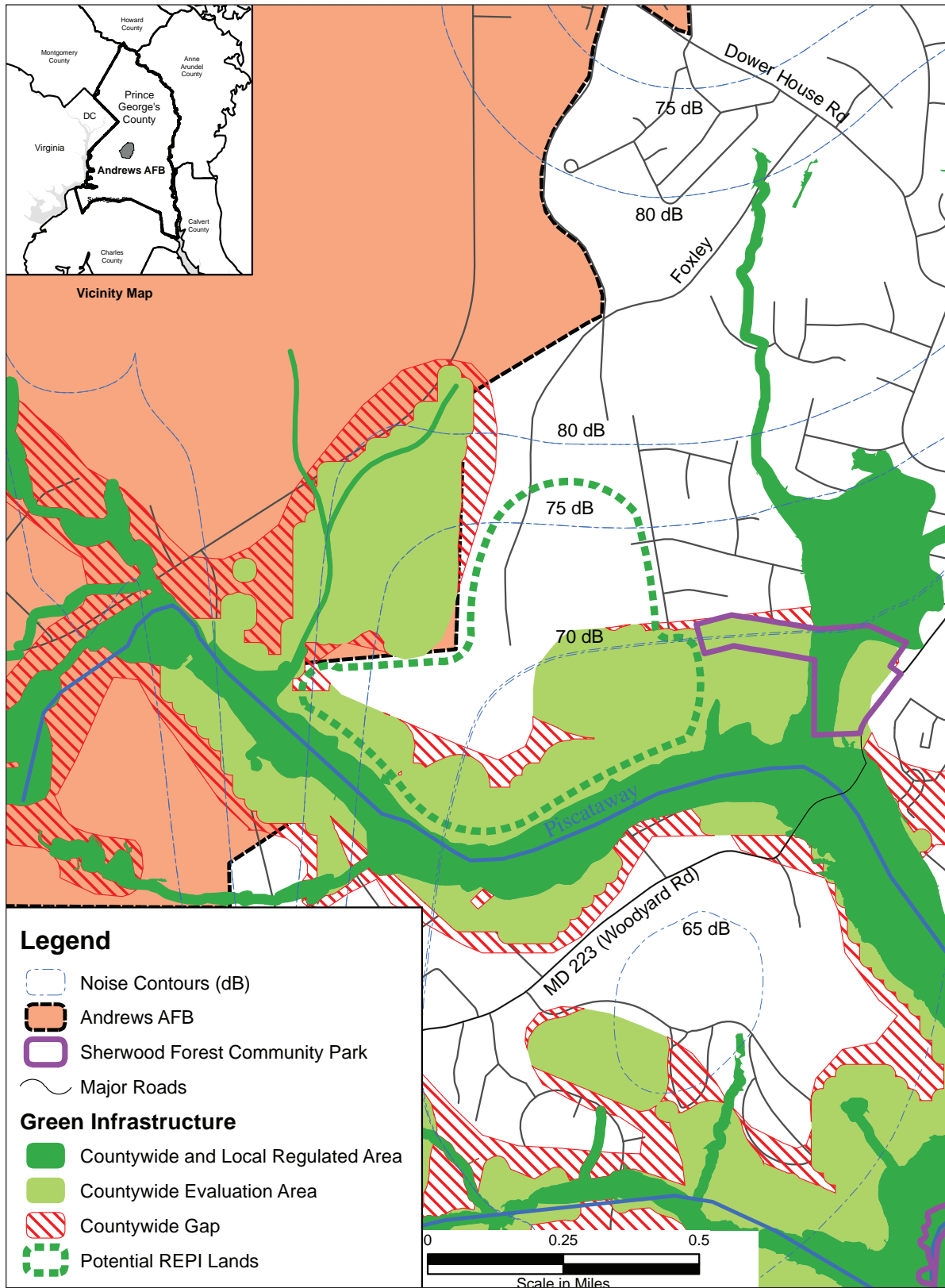
Map 3–15. Study Area Watersheds



Source: M-NCPPC



Map 3–16. Piscataway Creek Area



Source: M-NCPPC

## Potential Funding for Environmental Initiatives

### *Coordination Opportunities and the Readiness for Environmental Protection Initiative (REPI)*

Joint Base Andrews contains the headwaters of several streams that form components of the county's Green Infrastructure network. Potential opportunities exist to meet both the base's Natural Infrastructure Management objectives and the County's Green Infrastructure Plan policies and strategies.

The Office of the Secretary of Defense (OSD) created the Conservation Partnering Program (now known as the Readiness for Environmental Protection Initiative, or REPI) to implement the authority to establish buffer areas near training and testing areas. The REPI program is a potential source of funding for eligible projects that limit incompatible development and protect valuable open space and habitat. Under the program, OSD funds services to implement compatible land use partnering projects to relieve encroachment pressures on training, testing, and support operations at U.S. military bases from either incompatible development or loss of natural habitat.<sup>34</sup>

One opportunity exists on the southeastern side of the base along Piscataway Creek (**See Map 3-16**). The base's long term development plans call for a munitions storage area in this location. The Piscataway Creek headwaters area is on base property, and M-NCPPC's Sherwood Forest Community Park lies approximately one mile downstream on the northern side of the creek. Between the two is a largely forested area that, if protected, could serve as an additional environmental buffer for the base and expand the buffer along Piscataway Creek outside the base. This area is labeled "Potential REPI Lands" on **Map 3-16**. Another consideration is that this area is slightly south of a former landfill located on the southeastern part of the base near Foxley Road. This former landfill is a source of groundwater contamination that has migrated off-base.

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<sup>34</sup> The primary authority for the program is 10 U.S.C. §2684a. Projects may also be implemented under the Sikes Act, 16 U.S.C. §§ 670(a)-670(o). (Readiness and Environmental Protection Initiative Program Guide, v.2 [May 2008].)

## 3.7 HISTORIC AND CULTURAL RESOURCES

As noted in Chapter 2, shortly after the United States entered World War II a portion of the largely rural Maryland countryside in Camp Springs was transformed into a military airfield. President Franklin D. Roosevelt directed the Secretary of War to acquire land in the vicinity of Camp Springs, MD, for the establishment of an army airfield to protect Washington, D.C. Then named Camp Springs Army Air Field, the base was renamed as Andrews Army Air Field in honor of Lt. Gen. Frank Andrews in early 1945.

To connect Joint Base Andrews with the military facilities of Bolling Field and the Pentagon, the federal government constructed Suitland Parkway between 1943 and 1944. The parkway travels through an extensively landscaped corridor of 400 acres today owned and maintained by the National Park Service. The parkway was listed in the National Register of Historic Places in 1995.

Several historic sites remain from the pre-World War II era, including three from the nineteenth century. **Table 3–8** summarizes these sites. Two of the sites are located on Joint Base Andrews: Belle Chance and Forest Grove Methodist Church (**See Map 3–17**).

**Table 3–8. Historic Sites in the Joint Base Andrews Vicinity**

Site Number*	Site Name	Year Built	Prince George's County Historic Site Type***	National Register Status
75A-006	Epiphany Episcopal Church and Cemetery	1862	Historic resource	Eligibility not yet determined
77-012	St. Luke's Church Site and Cemetery	1893	Historic resource	Eligibility not yet determined
77-013	Leapley House	1896	Documented property	Determined eligible, 1996
76B-017	Old Bells Methodist Church	1910	Historic site	Determined eligible, 1997
77-014	Belle Chance**	1912	Historic site	Determined eligible, 2000
77-001	Forest Grove Methodist Church**	1914	Historic site	Unclear
75A-007	Forestville School	1922	Historic resource	Eligibility not yet determined
76A-022	Suitland Parkway	1943-1944	Historic site	Listed, 1995
75A-008	Forestville Methodist Episcopal Church Site and Cemetery	Unknown	Historic resource	Eligibility not yet determined

\* Prince George's County Identification Number

\*\* Located on Joint Base Andrews

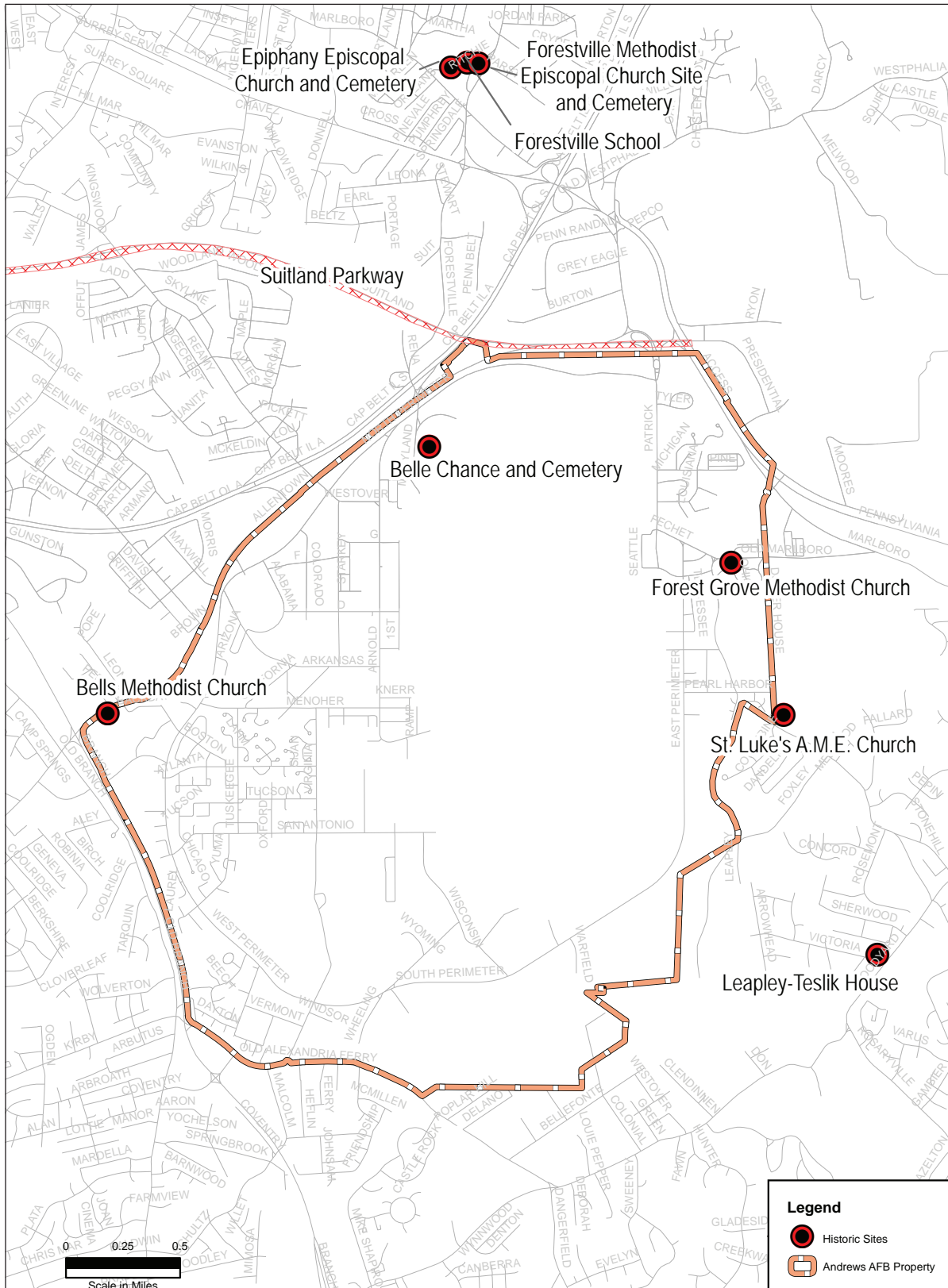
\*\*\* The National Register of Historic Places is the federal government's list of the nation's cultural resources worthy of preservation. Properties listed on the National Register (or determined eligible to be listed on the National Register) receive a degree of protection from federally licensed or funded projects that might adversely affect them. This is commonly known as the Section 106 Process and is administered through the State Historic Preservation Office, also known as the Maryland Historical Trust.

Historic site means any individual historic resource that has been evaluated according to the process called for in the Prince George's County Historic Preservation Ordinance (Subtitle 29 of the County Code) and found to be significant. Historic sites are protected by the ordinance and by other regulations. Exterior changes must be approved by the county Historic Preservation Commission administered through M-NCPPC's Historic Preservation Section, Countywide Planning Division.

Historic resources are historic properties listed in the county's Inventory of Historic Resources. A historic resource is an area of land, building, structure, or object, or a group or combination thereof, including appurtenances and environmental setting, which may be significant in national, state, or local history, archeology, or culture.

Documented properties are properties not listed on the county's Inventory of Historic Resources. Documented properties may or may not meet the criteria for county or National Register designation.

Map 3-17. Study Area Historic Resources



Source: M-NCPPC



## Historic Sites, Historic Resources, and Inventoried Properties on and in the Vicinity of JBA

The following list of historic sites, historic resources, and inventoried properties catalogues culturally significant buildings, structures, and sites on the base and in the base vicinity.

### *Historic Properties Located on Joint Base Andrews*



**77-001 Forest Grove Methodist Church**  
**Chapel 2 Fechet Avenue, Joint Base Andrews**

Historic site status: Historic Site 77-001

National Register Status: Unclear; there is no formal date of eligibility (DOE) according to MHT. Correspondence in M-NCPPC files between the Maryland Historic Trust (MHT) and Joint Base Andrews indicates a mutual understanding and/or assumption that the resource is eligible. Built in 1914, the church is an example of a modest rural chapel in the vernacular Gothic Revival style. In the church graveyard are stones dating from 1874 to 1938. The present church, erected in 1914 on the site of two earlier church buildings, served the small defunct community of Centreville. Federally-owned structures are not subject to provisions of the county's preservation ordinance; however, as a courtesy, Joint Base Andrews consults with M-NCPPC's Historic Preservation Section before undertaking changes.



**77-014 Belle Chance**  
**Maryland Drive, Joint Base Andrews**

Historic Site Status: Historic Site 77-014

National Register Status: Eligible (MHT, 2000)

Belle Chance was built in 1912 for Dr. William Stewart, who employed modern fireproof technology to construct the dwelling and its related outbuildings after an earlier house on the property was destroyed by fire in 1910. The property is part of the tract known as Chance that had belonged to the Darcey family, and the Darcey family burial ground, with stones dating from 1807 to 1843, is located a short distance from the house.

### *Properties Located in the Vicinity of Joint Base Andrews*



**76A-022 Suitland Parkway**  
**From the North Gate of Joint Base Andrews to Bolling Air Force Base**

Historic Site Status: Historic Site 76A-022

National Register Status: Listed 1995

Constructed from 1943–1944, Suitland Parkway consists of nine miles of roadway (of which more than six run through Prince George's County) and is a dual-lane parkway with concrete-arch bridges faced with stone. Planned before the outbreak of World War II, the project came to fruition with the entrance of the United States into the war in December 1941 and the establishment of Joint Base Andrews a few months later.



**76B-017 Old Bells Methodist Church**  
**6016 Allentown Road, Camp Springs**

Historic Site Status: Historic Site 76B-017

National Register Status: Eligible (MHT, 1997)

Built in 1910, Old Bells Church is a large front-gabled frame church building with an inset corner bell tower and gothic-arch stained-glass windows. It was the third church on the site, and is adjoined by a large graveyard and a new (1954) church building. The church is a good example of a Gothic Revival style church, of a type popular in Prince George's County early in the twentieth century.



**77-012 St. Luke's Church Site and Cemetery**  
**9007 Dower House Road West**

Historic site status: Historic resource; not yet determined eligible.  
 National Register status: No formal determination of eligibility is on file.  
 Also known as Niles Chapel, only the graveyard remains. A gable-roofed chapel stood here from 1893 into the 1970s. This is a significant site of an early black church and marker for a complete post-Civil War community known as Meadows, which grew up around Niles Chapel and an old schoolhouse. Early in the 20th century, a lodge or "colored hall" was constructed south of the church. By 1928 the Board of Education had replaced the old schoolhouse with a new Rosenwald-funded school. The new school, the social hall, and the church were the center of the Meadows community, which was short-lived, for in August 1942, in a Declaration of Taking by the United States of America, several thousand acres of land, including Meadows, were acquired for the building of Camp Springs Army Air Field (now Joint Base Andrews). Many families, both black and white, were required to vacate their homes and farms.



**75A-006 Epiphany Episcopal Church and Cemetery**  
**3111 Ritchie Road**

Historic site status: Historic resource; not yet determined eligible.  
 National Register status: No formal determination of eligibility on file.  
 The first Episcopal Chapel in the town of Long Old Fields (now Forestville) was established in 1862 by Henry Kershaw, Rector of Trinity Church, Upper Marlboro. The tower was constructed in 1904. A good example of Gothic Revival ecclesiastical architecture, it retains much of its historic character.



**75A-008 Forestville Methodist Episcopal Church Site and Cemetery**  
**3111 Forestville Road**

Historic Site Status: Historic resource; not yet determined eligible.  
 National Register Status: No formal determination of eligibility is on file.  
 The old Methodist church was demolished sometime between 1938 and 1965; only the old church cemetery, containing approximately 185 grave markers dating from c. 1830 to 1970, remains.





**75A-007 Forestville School  
3101 Ritchie Road**

Historic Site Status: Historic resource; not yet determined eligible.  
National Register Status: No formal determination of eligibility is on file.  
A schoolhouse was located on this property before the Board of County School Commissioners was established in 1865. It was rebuilt, as were all early school buildings, in the 1880s. The current building was built in 1922 and closed in 1942. It is particularly significant for the intact molded patterned tin ceiling in the original classroom. The portico is a modern, non-significant addition.



**77-013 Leapley House  
9410 Victoria Drive**

Historic Site Status: Determined eligible 1996; documented property.  
National Register Status: No formal determination of eligibility is on file.  
Built in 1896 for George and Nellie Leapley, this property was sold out of the Leapley family in 1935 and the house was restored/renovated in the 1980s. Distinguished by the unusual lines of its projecting cross-gable, the Leapley House is one of the county's best examples of late Victorian I-house form.



## Chapter 4: Policy Recommendations and Implementation

This chapter provides recommendations to address each of the seven topics identified and discussed in Chapter 3. It concludes with an implementation strategy for these recommendations, which will be critical for achieving long-term compatibility between the base's mission and the communities that surround it.

### 4.1 LAND USE

Regulating the extent, type, and intensity of land use in the base's safety zones requires balancing the community's land use and development policies with the base's mission requirements. As discussed in **Chapters 2 and 3**, much of the land around Joint Base Andrews (JBA) is already developed with a range of land uses and densities. The majority of this development predates AICUZ guidelines. However, Prince George's County currently has an opportunity to promote compatible future development that accommodates both the base's interests and the community's concerns.



The strategies in this section are intended to balance the following safety considerations and economic goals:

- ❖ **The risk of aircraft crashes.**
- ❖ **The desire to minimize the potential effects of a crash on life and property.**
- ❖ **Consideration of existing development.** Most of the area's residential neighborhoods, commercial centers, and employment centers were built prior to the establishment of the safety zones. Much of this development would prove both difficult and expensive to relocate or change to other uses.
- ❖ **Economic and local community vitality.** All partners in the development of this JLUS agree that development around Joint Base Andrews should be of high quality. Land use controls that stifle the potential for quality development or that attract blighting uses will dampen efforts to improve the economic vitality of the area.
- ❖ **Regulatory limitations.** The primary regulatory control available to the county is the zoning code that defines permitted land uses in different zoning districts as well as the density and intensity of development. The main concern in airfield safety zones is avoiding or reducing concentrations of people. Zoning regulations cannot directly regulate the number of people on a parcel of land at one time. Consequently, limiting concentrations of people in the safety zones must be done indirectly through the zoning code.
- ❖ **Cost of land and property or easement acquisition, relocation, or compensation.** Unlike the land and property acquisition and relocation programs around many civilian airports, such as at Baltimore-Washington International Thurgood Marshall Airport (BWI), no programs are specifically targeted to land around Joint Base Andrews, and special funding would need to be obtained for such programs.

The AICUZ guidelines tend to emphasize the development of low intensity industrial uses in a base's safety zones. This strategy typically works well for bases that are located in undeveloped or rural areas. However, Joint Base Andrews is located adjacent to the Capital Beltway (I-95/495) and is surrounded by major transportation routes and extensive suburban development. Most of the communities that surround the base developed before the AICUZ guidelines were established in 1974. It is not feasible to recommend industrial uses in such close proximity to well-established residential neighborhoods. Nor is it feasible to force these neighborhoods to convert to industrial land uses. Additionally, the county seeks to promote new high-quality economic development in specific locations near the Capital Beltway, which would not be permitted if the AICUZ guidelines were followed closely.

As a result, the strict application of the AICUZ guidelines to the area surrounding Joint Base Andrews is not practical or appropriate. While these guidelines have been used as the starting point for the recommendations listed below, this JLUS does not strictly follow them or argue that the county should seek to implement them without modification to suit local conditions and concerns.

## Land Use Policy and Strategies

### *Policy*

#### Promote compatible land uses in areas surrounding Joint Base Andrews.

### *Strategies*

#### *General*

##### ❖ **Establish a “Military Installation Overlay Zone” as a new zoning overlay district.**

The county should enact a new overlay zoning district that covers the base’s safety zones, AICUZ noise contours, and other areas impacted by noise and height. This overlay zone would prohibit certain uses that regularly attract high densities of people, such as schools, theatres, and community centers, and limit the density of people that can congregate in the allowed commercial and employment uses.

Land use analysis of safety zones areas concluded that there is very little commercial zoning in these zones and that the vast majority of non-residential zoning consists of industrially-zoned properties. These industrial zones generally promote compatible low-density development. To address the goal of minimizing concentrations of people in non-residential development, the JLUS recommends limiting the number of parking spaces allowed for a given use—which ultimately limits the size of the building, therefore limiting the number of customers and employees on site. The vast majority of existing development currently meets this criteria since most industrial development generates fewer employees and visitors than commercial uses. See **Appendix 13** for more details.

Additional recommended overlay zone regulations are discussed in the noise and height sections below.

#### *Clear Zone*

##### ❖ **Remove all buildings and structures from the Clear Zone (CZ).** The 2007 AICUZ study states that accident potential on or adjacent to the base runways or within the CZ is so high that land use restrictions should limit all development in this zone. According to the AICUZ report, Air Force policy regarding privately-held land in CZs is to request that Congress authorize and appropriate funds for the military or other federal agencies to use to purchase the real property interests in this area to prevent incompatible land uses.

The cost to achieve this strategy will be relatively high. The appraised value of properties in the CZ was approximately \$12.7 million as of January 2009.<sup>1</sup> Acquisition costs should be borne by the federal government. In addition to JBA and Prince George’s County, the National Park Service may have an interest in the CZ since it abuts Suitland Parkway, which it owns. All properties within the Clear Zone should be acquired by the federal government within ten years. The purchasing entity shall be responsible for developing a strategy to ensure that these CZ properties are properly maintained, including appropriate pruning/trimming of vegetation to comply with maximum heights permitted under the Military Installation Overlay Zone requirements.

<sup>1</sup> See **Appendix 5** for a table of these properties.

- ❖ **Consider the possibility of a moratorium on new development while Clear Zone properties are being acquired.** To avoid new development on properties in this zone while funds are being secured for Clear Zone property acquisition, a short-term moratorium on all new development in the north CZ should be enacted. This moratorium would allow time for an acquisition program to be established and for government purchase of properties to begin. The moratorium would prevent vacant parcels from being developed and would limit building permits for large renovation/addition projects on existing developed properties.
- ❖ **Relocate businesses from the Clear Zone.** Businesses currently located within the CZ should be moved to nearby locations wherever possible so as to retain jobs in the area. These moves should be accomplished with government assistance. Land swaps have been used at some bases to facilitate relocations.
- ❖ **Obtain federal funding for Clear Zone property acquisition and business relocation.** The base and county should work together to investigate and pursue funding sources for CZ property acquisition and subsequent business relocation. A request should be made for a congressional appropriation and applications should be made for additional monies from relevant federal programs.
- ❖ **Identify the safety zones on future land use maps used in county plans, studies, and reports.** Future land use maps should designate the AICUZ safety zones as a means of highlighting the significance of these areas and the necessity of treating them differently than surrounding areas due to unique safety risks.

### ***APZ I and APZ II***

- ❖ **Prohibit specific land uses in APZ I and APZ II to minimize public safety risks.** APZ I and APZ II are specially-designated zones that statistically have a higher potential for aircraft accidents than other nearby areas. The heightened risk of an aircraft crash warrants regulations that minimize the number of people at a given time within a particular safety zone and that proscribe uses involving hazardous materials.

In order to reduce the number of people regularly congregating within the APZ I and APZ II areas, the following land uses should be prohibited within these safety zones:

- ⊗ Hospitals, doctor's offices, and medical clinics
- ⊗ Emergency/first response services (fire stations, ambulance)
- ⊗ Government services (libraries, post offices, offices)
- ⊗ Churches
- ⊗ Nursing or care homes
- ⊗ Schools (private and public)
- ⊗ Daycare centers (for children and/or adults)
- ⊗ Housing for the elderly
- ⊗ Hotels
- ⊗ Multifamily dwellings
- ⊗ Bowling alleys
- ⊗ Clubs or private lodges
- ⊗ Theatres (indoor or outdoor)
- ⊗ Indoor rifle or pistol ranges
- ⊗ Mobile home parks

- ⊗ Restaurants (permitted in APZ II)
- ⊗ Catering uses with banquet facilities
- ⊗ Funeral parlors
- ⊗ Other similar uses that invite/allow regular congregations of people

The following land uses should be prohibited in APZ I and APZ II because they involve the storage or use of explosive, flammable, or toxic materials:

- ⊗ Storage of explosive, flammable, or toxic materials in outdoor above-ground storage tanks.
- ⊗ Petroleum refining or related industries.
- ⊗ Chemical manufacturing.
- ⊗ Manufacturing of rubber or plastic products.
- ⊗ Gas stations and fuel depots.
- ⊗ Other similar uses containing hazardous materials.

❖ **Limit the density of non-residential uses in APZ I and APZ II.**

A density limitation will restrict the number of people that can congregate on a particular property at a given time, thus minimizing injuries in the event of an aircraft accident. A density requirement should be placed on all permitted commercial uses (including retail and office) and industrial development. In APZ I, this density requirement is based on a 35 person (maximum) per acre density that will be regulated through applying a parking limitation on all new development in the APZ I area. The density requirement for APZ II should be 50 people (maximum) per acre. The density limitation should be calculated by limiting the number of parking spaces allowed for a given use, which ultimately limits the size of the building and therefore restricts the number of customers and employees on a site.

However, any density regulation should allow existing uses and permitted densities to remain as nonconforming uses.

Please see **Appendix 13** for additional explanation of safety zone risks and detail about how to calculate proposed performance standards.

❖ **Establish a notification requirement at real estate sale and lease execution.**

This requirement should notify a prospective buyer or renter that the property is in the proximity of Joint Base Andrews. Sample language to serve as a basis for a notification requirement is provided in **Appendix 6**. This language is already used elsewhere in Prince George's County's Aviation Policy Areas and for new subdivisions and site plans in noise-affected areas around Joint Base Andrews.<sup>2</sup> The notice should not specify that the property is in a safety zone, however, as such a reference might unnecessarily create an impression of imminent danger and stigmatize all land in safety zones, potentially resulting in long-term area disinvestment. It might also wrongly imply that non-safety zone property around Joint Base Andrews has no risk of an accident. The real estate notification requirement should apply to properties within the proposed Military Installation Overlay Zone.

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<sup>2</sup> Aviation Policy Areas are defined areas adjacent to general aviation airports such as Washington Executive Airport and College Park Airport.



❖ **Formalize the development review process between Joint Base Andrews and the county.**

Prince George's County currently refers development projects within the base vicinity to the base for advisory review. However, personnel changes in county government and base administration have resulted in inconsistent referrals and transmittal of base comments. The county and the base should establish a formal referral system whereby designated personnel on both sides are responsible for coordinating the review of proposed development projects within the new Military Installation Overlay Zone.

**APZ I**

❖ **Do not allow additional residential development in APZ I.**

As noted above, all residential uses in APZ I are considered incompatible with the AICUZ guidelines. Under current zoning, there are almost no opportunities for new residential development in APZ I north or south of the base. The residentially-zoned land in these areas is mostly developed, and the future land use maps propose no additional residential land use. Proposed rezoning of non-residential land to residential zoning districts should not be approved.

❖ **Work towards rezoning residential land to employment zoning districts in the long term.**

Over time some areas in APZ I have changed from residential uses that are inconsistent with the AICUZ guidelines to industrial uses that are consistent. One such area in Subregion 5 is along Poplar Hill Lane and Delano Road. The county has supported these changes, provided they comprise contiguous properties, ideally in full blocks, so that intact residential neighborhoods are not broken up by small, piecemeal rezonings. The possibility of streamlining the approval process for these groups of properties should be investigated.

❖ **Discourage additional commercial retail zoning in APZ I.**

Although retail uses should not be prohibited in APZ I, due to safety risks they should be subject to density limitations that prevent the construction of large stores that regularly attract large numbers of people (see above). However, rezoning residential or industrial land to commercial retail districts is strongly discouraged.

**APZ II**

❖ **Allow existing residential development to remain.**

Many of the residential areas in APZ II, especially those north of the base, developed before the AICUZ program and should not be disturbed because they are stable, well-established neighborhoods. Residential zoning should continue in these areas.

❖ **Do not allow increased permitted residential density in APZ II.**

Under current zoning, limited opportunities exist for new residential development in APZ II north or south of the base. All undeveloped residential land is zoned as Rural Residential (R-R), which is compatible with AICUZ land use guidelines.<sup>3,4</sup> Proposed rezoning to higher density residential zones should not be approved.

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<sup>3</sup> The only provision of the district that appears incompatible is the permissibility of multifamily dwellings/apartments, though it is unclear how these could be developed under the Rural Residential (R-R) density limit of 2.17 dwelling units per acre.

<sup>4</sup> Some developed parcels, however, have not been built out to the density permitted by existing regulations. It is possible that new development could occur on these parcels, which provides a density increase over existing development but complies with the residential zoning district density standards.

## 4.2 NOISE

The strategies in this section are intended to balance noise impacts of mission-related aircraft operations at Joint Base Andrews with the health, safety, and welfare of existing and future residents and workers in the base vicinity, and with Prince George's County development goals and objectives. Historically, base noise has not been a significant issue for the resident and working population, who appear to recognize that noise is an inevitable consequence of living or working near the base (**See Chapter 3**). These strategies are aimed at achieving compatibility with AICUZ land use guidelines for noise zones, closing the minor gaps in development review procedures, and ensuring that the public is well-informed regarding base-area noise impacts.

### *Policy*

**Reduce public exposure to loud and potentially harmful aircraft noises.**

### *Strategies:*

#### ***Public Awareness***

- ❖ **Create an aggressive public awareness and outreach program that emphasizes aircraft noise as an integral part of living or working near an Air Force base.**
  - ⊗ *Develop informational materials* that can be widely disseminated to the public, realtors, and other interested parties, and which use easy-to-understand graphics to explain noise issues.
  - ⊗ *Publicize appropriate contacts for residents or businesses to register noise complaints.* Inform the public that noise complaints can be registered with the Prince George's County Health Department and the Public Affairs Office at Joint Base Andrews.
  - ⊗ *Establish a notification requirement at sale and lease execution for property in the vicinity of Joint Base Andrews.* Add a requirement to the real estate practices section (Section 2-162.01) of the Prince George's County Code that mandates all contracts for the sale or lease of properties within the Military Installation Overlay Zone be subject to the section's real estate disclosure requirements. The notification requirement should be established as early in the process as possible, perhaps when a real estate agent enters into a contract with a buyer. If notification comes late in the process, such as at a contract settlement, a buyer may not have the ability to reconsider a decision.

#### ***Future AICUZ Reports***

- ❖ **Seek compatibility with future military operations.**

As AICUZ noise contour lines change over time to reflect new technologies and operations, future Joint Base Andrews AICUZ reports should be monitored for changes in the noise contour lines. If a change occurs, the Military Installation Overlay Zone boundary should be modified to reflect these changes (**See Strategy 4**). Therefore, all land use recommendations related to noise levels need to be flexible to account for potential changes.

#### ***Compatible Land Use***

- ❖ **Promote compatible development in the 75 dB and above noise zones.**

The 2007 AICUZ noise contours differ from the 1998 noise contours due to advancements in noise monitoring technology and operations changes. These changes primarily impact the Melwood and Westphalia areas (**See Map 3-7**).

- ☉ *Support rezoning residential land in the 75 dB and above noise zones to non-residential districts as opportunities arise.* Potential rezoning areas are shown on master and sector plan future land use maps. Opportunities may arise in sectional map amendments or zoning map amendments. However, single-parcel rezonings are discouraged.<sup>5</sup>
- ☉ *Investigate the feasibility of creating a program to assist property owners of older residential homes without noise attenuation with relocation costs (when their property is redeveloped to a nonresidential use as part of the implementation of the JLUS land use recommendations).*
- ☉ *Discourage the location of noise-sensitive institutional uses in the AICUZ noise zones.* Only two institutional uses are currently located in the 75 dB and above noise zones: the rear of the Clinton Bible Baptist Church property on Woodyard Road north of Dowerhouse Road and the Forestville Fire Station. Additional institutional uses should not be permitted.
- ☉ *Designate a district within which development projects are automatically referred to Joint Base Andrews for review and comment.* This district should include all properties in the new Military Installation Overlay Zone as well as properties along the perimeter of the overlay zone. Additionally, a formal procedure for referral and comment should be established and regularly followed.

### **Noise Attenuation**

#### **❖ Ensure noise attenuation for development in all noise zones greater than 65 dB.**

- ☉ *Continue to require that all new development in noise zones greater than 65 dB incorporate noise level reduction (NLR) measures.*

As discussed in **Chapter 3** and **Appendix 6**, Prince George’s County has special development review procedures for projects in areas affected by noise. NLR measures may be required for projects reviewed by the Prince George’s County Planning Department, including lots in new subdivisions, projects requiring detailed site plans (DSPs), and any special exceptions. Required NLR measures may be noted on a project site plan and made a requirement for a building permit. This review and requirement of NLR measures should continue.

However, this process has a deficiency: projects on older parcels and lots in older subdivisions may receive building permits from DER without being reviewed by the Prince George’s County Planning Department, which means that these projects will not be required to incorporate NLR if the property is located in a noise-affected area.<sup>6</sup> While such cases are likely to be rare, the situation could be

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<sup>5</sup> The *Approved Subregion 5 Master Plan and Sectional Map Amendment* (2009) states this policy: “Over time some areas in the APZ I have changed from residential uses that are inconsistent to industrial uses that are consistent. One such area is along Poplar Hill Lane and Delano Road. The county has supported these changes provided they comprise contiguous properties, ideally in full blocks, so that intact residential neighborhoods are not broken up by small, piecemeal rezonings.” (p. 37).

<sup>6</sup> Additional difficulties are created by lots in newer subdivisions which were reviewed prior to the most recent change in AICUZ noise contours. Although these properties may have been required to incorporate NLR measures, the degree of required NLR may no longer be sufficient under the new noise contours.

remedied by adding NLR requirements to the county's zoning ordinance, thus ensuring that all new development in noise-affected areas will contain attenuation measures. Please see the last strategy in this section for additional details.

- ☛ *Investigate funding options to retrofit existing homes with NLR, giving priority to those in the 80 dB and above noise zones.*

As noted above, retrofitting homes with NLR can be achieved. Like many civilian airports, Baltimore-Washington International Thurgood Marshall Airport (BWI) airport has a homeowners' assistance program that uses federal and state noise mitigation funds. Average retrofit costs range from \$45,000 to \$55,000 per house.<sup>7</sup> The federal funds used at civilian airports such as BWI come from the Federal Aviation Administration's Part 150 program (**See Appendix 12**). This program currently does not apply to military airfields; however, this policy should be reconsidered at the federal level or efforts should be made to develop a separate federal funding source for properties affected by noise from Joint Base Andrews. Under the Part 150 program, a civilian airport develops a noise compatibility program (NCP), which may include operational measures to reduce noise exposure and land use changes to reduce the number of incompatible uses within the airport's noise contours. An NCP may also incorporate NLR requirements as a remedial measure. Once the airport's NCP is approved by the FAA, it becomes eligible to apply for federal noise mitigation funds to implement the provisions of its NCP. These funds are awarded through a competitive process.

The base and Prince George's County should support the creation of a program similar to the Part 150 program that would provide funds for retrofitting homes in the vicinity of military airfields.

- ☛ *Add noise standards and reduction requirements to the zoning code.*

These are necessary so that NLR measures will apply to new development that applies directly for a building permit without going through the subdivision process (see the first strategy above). As part of these requirements, consideration should be given to the following:

- Requiring NLR in an area larger (farther out) than the current 65 dB noise line to allow for the possibility of noise-affected areas expanding due to new technologies or changes in base operations, as they have in the past.
- Requiring NLR from 5 dB to 10 dB higher than the relevant noise contour in the latest AICUZ study, to allow for the possibility of noise-affected area expansion. For example, in an area in the 65 to 69 dB noise zone, required noise reduction measures should equal those in today's 70 dB to 75 dB zone.

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<sup>7</sup> Personal communication with Randy Dickenson of the Maryland Aviation Administration on April 21, 2009. The additional cost to incorporate NLR into new construction is less than the cost to retrofit. Retrofitting manufactured homes is not considered practical.



## 4.3 HEIGHT OF STRUCTURES

As explained in **Chapter 3**, natural and man-made objects have the potential to interfere with aircraft operations. Tall buildings, structures, and trees become navigational hazards for aircraft when they rise beyond “imaginary surfaces” into the airspace where aircraft operate. Currently, there are no problems with buildings or vegetation intruding beyond the base’s imaginary surfaces. The JLUS recommendations below use regulatory procedures and public outreach activities to ensure that all future development remains below the base’s imaginary surfaces.

### Policy

**Do not allow building/vegetation heights to interfere with aircraft operations.**

### Strategies

❖ **Add a maximum height requirement to the Prince George’s County zoning code that applies to designated areas within the new overlay zone around JBA.**

Maximum height requirements should be added to the zoning code, possibly as a component of the Military Installation Overlay Zone. The zoning text would specify the following:

- ☉ The height limit applies to buildings, structures, and vegetation.
- ☉ The maximum height involves three considerations: the above-ground building height, identified imaginary surfaces (which are based on runway threshold height), and the natural grade of the property. (Re-grading of a site may require special review.)
- ☉ The height of a building would be measured to the top of the building. Under the current zoning code, building height is measured differently based on roof type. The definition of “height of structure” is currently to the top of the structure, so no change to the current regulations would be needed.
- ☉ The maximum permitted height for any development in this overlay zone area will be the height specified on a map accompanying the overlay zone text. (**Map 4–1** provides a model for this building height map.) However, the height restriction will not affect previously-approved projects with height limitations and will not impair the ability of a government board to impose maximum height restrictions below the overlay’s permitted heights as a condition for ensuring compatible development.

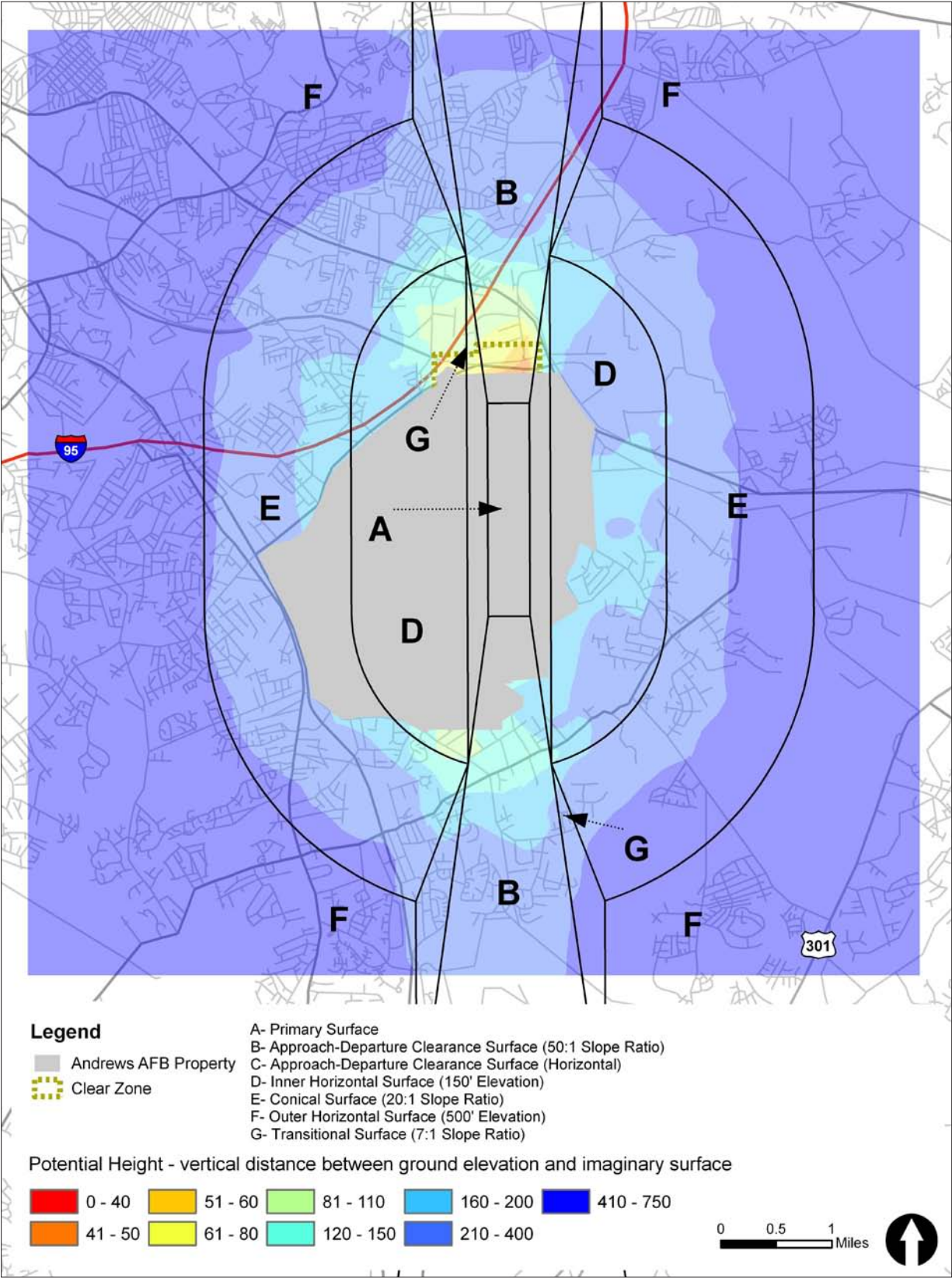
❖ **Refer to federal and state aviation regulations in the county zoning code.**

For the area around Joint Base Andrews, a reference should be included in the zoning code to Federal Aviation Regulations, Part 77 or the Code of Maryland, COMAR 11.03.05, Obstructions to Air Navigation. This reference would clarify the source of state and federal laws relating to airspace protections from intrusive buildings, structures, or vegetation.

The following language currently applies in the county’s Aviation Policy Areas (see earlier footnote):

*Except as necessary and incidental to airport operations, no building, structure, or natural feature shall be constructed, altered, maintained, or allowed to grow so as to project or otherwise penetrate the airspace surfaces defined by Federal Aviation*

Map 4-1: Potential Building Heights



Source: ERM.

*Regulations, Part 77, or the Code of Maryland, COMAR 11.03.05, Obstructions to Air Navigation. (Sec. 27-548.42).*

Similar language could be incorporated for the proposed Military Installation Overlay Zone area.

❖ **Increase public awareness of the height issue around Joint Base Andrews.**

As part of a broader public awareness and outreach program about base-community encroachment issues, publicize the height issue and explain what the public, builders, developers, and others need to understand about their responsibilities and requirements as residents or workers in the Joint Base Andrews vicinity.

❖ **Require consideration of building heights by M-NCPPC and Joint Base Andrews when reviewing proposed development projects near the base.**

M-NCPPC and Joint Base Andrews staff responsible for reviewing proposed development projects in the base's vicinity should consider building heights and identify any potential conflicts with the base's protected airspace.

# 4.4 TRANSPORTATION

The availability of a safe and efficient transportation network is a critical issue for Joint Base Andrews’ long-term viability. **Chapter 3** profiles the current condition of transportation infrastructure around the base and indicates that significant improvements to this infrastructure are possible. Reducing traffic congestion on roads and intersections around the base, providing a range of transportation options for people traveling to and from the base, and integrating community concerns about transportation improvements into base-area projects will help protect the base’s mission and reinforce community support for its continued presence.

***Policy***

**Provide efficient and safe transportation connections to and around the base.**

***Strategies***

***Roadway Network***

❖ **Work cooperatively to support important road projects near Joint Base Andrews.**

Prince George’s County’s Department of Public Works and Transportation (DPW&T), the Transportation Section of M-NCPPC, and the Maryland State Highway Administration (SHA) should work together to make improvements to the roadways in the Joint Base Andrews vicinity. Important projects include:

<b>High-Priority</b>
Realignment of Dower House Road and associated improvements at the Pearl Harbor Gate
Upgrading the Suitland Parkway/MD 4 (Pennsylvania Avenue) intersection
Signalization and road capacity improvements along Allentown Road to enhance base access at the Main Gate
Virginia Gate access realignment and alternatives study to examine improvements along Old Alexandria Ferry Road
<b>Longer-Term</b>
Intersection improvements along MD 4 at Dower House Road and MD 223
Widening of MD 223 to four lanes
Upgrading MD 4 and MD 5 (Branch Avenue) to freeway condition
Improvements to the Allentown Road (MD 337) exit from the I-95/495 inner loop to reduce queuing delays

❖ **Seek grant funding to supplement state and local funds for roadway projects.**

Grant funding provided by the BRAC Revitalization Zone may be used to support road projects. The BRAC zone is currently designated on the west side of the base and includes the Branch Avenue Metro station, Allentown Road, and Suitland Road. BRAC monies could assist in funding high-priority roadway projects identified above, as BRAC-related traffic impacts are expected in the short term.

❖ **Continue to work with members of the Westphalia development team to ensure Westphalia development coordinates with necessary road improvements.**

The proposed Westphalia Town Center contains a significant amount of residential and commercial development. This development will require extensive transportation improvements, including improvements to intersections on MD 4 (Pennsylvania Avenue) near the base. Proper staging, timing, and review of planned roadways are necessary.



### *Transit*

❖ **Work with JBA and WMATA to improve transit service to the base area.**

As discussed in **Chapter 3**, the base is served by transit, but this service is limited. JBA has been working with WMATA to explore the possibility of improving existing headways and creating a new bus stop at the West Gate along Allentown Road for pedestrian access to the base. The county should be involved in these discussions.

❖ **Support light rail/bus rapid transit extension with access to JBA.**

The county should build on the findings from the Southern Maryland Transit Corridor Study to facilitate the extension of light rail/bus rapid transit with access to Joint Base Andrews. The establishment of a transit corridor along MD 5 (Branch Avenue) with a possible transit stop near the Virginia Gate would greatly improve access to the base and reduce area vehicle trips.

❖ **Support longer-term mass transit extension plans, such as the Green and Purple Lines, to serve the base and surrounding community.** High demand exists for mass transit access serving JBA and surrounding areas. Two Metrorail projects, the Purple Line and the Green Line, could potentially serve the study area in the long term.

### *Pedestrian and Bicycle Access*

❖ **Expand pedestrian, bicycle, and transit opportunities to connect the base with the surrounding community.** A new sector plan for this area, the Morningside–Andrews–Camp Springs Sector Plan, should fully study improving and expanding bike and pedestrian access to the base. This plan should include recommendations for making these corridors more attractive and usable for pedestrians and bicyclists, especially to facilitate travel to and from the base. The plan should also support Joint Base Andrews' short-term plans for pedestrian access improvements, including pedestrian-entry gates near on-base destinations.

❖ **Improve multi-modal transportation options with more sidewalks, pathways, and bicycle routes.** The goal of creating a multi-modal transportation system for the JLUS study area is included in the many subregion master plans that affect the base area, the base's Strategic Plan, and the county's approved Master Plan of Transportation (MPOT). Future high-density mixed use centers in the study area, such as the Westphalia Town Center, town center at Camp Springs, and the on-base town center should include amenities that increase pedestrian and bicycle activity.

## 4.5 ECONOMIC AND COMMUNITY DEVELOPMENT

Economic and community development issues, as profiled in **Chapter 3**, are a key concern for those who live and work in the areas around Joint Base Andrews. This JLUS seeks to build on the base's economic resources by using it as a catalyst for new economic development initiatives in the surrounding communities. The recommendations below are intended to reflect community input and to guide future planning and redevelopment efforts in areas around the base. Recommendations include expanding retail options for both local residents and base employees, promoting key locations around the base as office/contractor sites, and building relationships between the base and local firms that can supply the base's needs.

### Policy

**Promote quality economic development that builds on the base's presence and provides both the base and the local community with a variety of commercial and employment opportunities.**

### Strategies

#### ***Employment and Business Growth***

##### **❖ Encourage more contractors doing work for JBA to locate near the base.**

While the exact share of procurements from Joint Base Andrews that results in spending in Prince George's County is not known, participants in the JLUS process familiar with the base and related business activity believe strongly that the share could and should increase. Newer development and redevelopment around the base should offer attractive locations to desired businesses.

Achieving this strategy is beyond JBA's and the county's direct control. A key component of this strategy is for county and state officials and elected representatives to work with the Air Force and federally-elected representatives to review the Air Force's contractor location proximity policies. Some branches of the military require contractors to locate near the facilities from which their businesses benefit. A policy that would require more Joint Base Andrews contractors to locate near Andrews would increase the demand for contractor space—thus boosting the local real estate market—and increase local spending by employees. The county, particularly the Economic Development Corporation, should continue to work with the Andrews Business and Community Alliance and other organizations to expand growth and economic development opportunities in the communities surrounding JBA and further the Andrews Business and Community Alliance's vision for the National Defense and Technology Corridor (**See Chapter 3**).

##### **❖ Seek to attract uses in the base vicinity that would better serve base personnel and the local community.** Working with base staff to identify services most desired by base personnel will help the county focus investment and revitalization efforts on attracting and supporting businesses that may provide needed/desired services for base personnel and the local community.

##### **❖ Publicize potential business opportunities with JBA to local businesses.**

On March 4, 2009, JBA held its first Annual Andrews Leadership Summit, a forum for interaction between base leadership and community leaders and businesses. At this

event, base leaders shared the “Andrews Way” vision and processes which included joint basing, BRAC, and other activities that provide contracting and subcontracting opportunities.<sup>8</sup> Fostering a dialogue between Joint Base Andrews business services and local business leaders and economic development groups can lead to greater opportunities for area businesses to procure Joint Base Andrews-related contracts.

### ***Revitalization and Development***

❖ **Give priority to the implementation of relevant economic development recommendations in county plans.** Implementation of economic development recommendations for the JBA vicinity should be assigned high importance in subregion and master plan implementation plans. Additionally, the following recommendations should supplement those in the relevant subregion or sector plan:<sup>9</sup>

- ⊗ *Balance the desire for quality economic development and the need to discourage blighting uses with the need to minimize the potential effects of an aircraft crash on life and property.* This issue primarily affects aircraft safety zones. Portions of commercial/industrial areas in the base vicinity lie in the base’s safety zones (**See Chapter 3**). Land use recommendations for these areas are discussed above.
- ⊗ *Encourage redevelopment along Branch Avenue.* Branch Avenue is one of the main gateways to Andrews. Development has recently occurred in the town center at Camp Springs; however, many commercial vacancies exist. The county, led by the Economic Development Corporation, should work closely with local business leaders to encourage development in this gateway area and reduce the number of business vacancies. The county should also explore opportunities to utilize incentives from the BRAC Revitalization and Incentive Zone to achieve its redevelopment goals.
- ⊗ *Create revitalization strategies for the Allentown Road and Suitland Road corridors.* Like Branch Avenue, Allentown Road and Suitland Road serve as key gateways to JBA. Many commercial buildings in these areas are obsolete, have low occupancy rates, and present unattractive appearances. The area assessment conducted for this study reinforced the importance of the Henson Creek-South Potomac Master Plan proposal for revitalizing the Allentown Road corridor. Findings from the assessment also highlight the need to include the Suitland Road corridor as a component of a revitalization plan. The Allentown Road and Suitland Road corridors should be analyzed together to determine the potential for revitalization and reinvestment opportunities. The proposed revitalization plan should include collaboration with Joint Base Andrews, the Town of Morningside, the Andrews Business and Community Alliance, and other interested stakeholders.

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<sup>8</sup> “Joint basing” refers to the BRAC-mandated requirement to combine military installations administratively to reduce duplication of effort and achieve efficiencies.

<sup>9</sup> These recommendations are based on an assessment of commercial and industrial areas in the JLUS study area (**See Chapter 3 and Appendix 10**).

### *Incentive Programs*

❖ **Focus economic development incentive programs on growing existing businesses and attracting new businesses to the base vicinity.** Various incentive programs exist, often in the form of tax credits to commercial property owners and developers and other funds, that can help attract businesses to the area around Joint Base Andrews. Three main state and local incentive programs could directly benefit these areas:

- ⊗ *Revitalization Area Tax Credits.* These credits apply to new construction and renovation of business property in certain census tracts. The credit represents a reduction of property taxes during a five-year period.
- ⊗ *BRAC Revitalization and Incentive Zone funds.* Auth Road, Allentown Road, and the Branch Avenue Metro station area lie within the BRAC Zone. Potential infrastructure projects that may be funded by BRAC monies include upgrades to Suitland Road, Auth Road, and Morningside Fire/EMS Station 27.
- ⊗ *Enterprise Zone Tax Credits.* A Maryland Enterprise Zone is a state-designated commercial area in which special incentives are offered to stimulate economic development. Businesses that locate in one of these zones may be eligible for income tax credits and real property tax credits in return for job creation and investments made in the zone. The Enterprise Zone program also designates special “focus areas” in Baltimore and Prince George’s County for additional tax incentives. Thus, businesses that locate in one of Prince George’s County’s Enterprise Zone focus areas are also eligible for personal property tax credits.



## 4.6 ENVIRONMENTAL/NATURAL RESOURCES

The recommendations below are aimed at protecting natural resources and improving environmental conditions around the base. Incompatible and poorly-considered development can threaten public health and safety by placing people and property in potentially hazardous situations. Protecting local natural resources will support the base mission by improving the long-term sustainability of both the base and civilian communities.

### Policy

**Protect environmental resources on and around the base from incompatible uses and development.**

### Strategies

- ❖ **Coordinate with the base to improve water quality and watershed health.**  
Implement the recommendations of Prince George's County's stream corridor assessments and Watershed Restoration Action Strategies, and coordinate with Joint Base Andrews stream restoration and wetland restoration and enhancement projects.
- ❖ **Work jointly to protect and enhance green infrastructure in and around the base.**  
Joint Base Andrews contains the headwaters of several streams that form components of the county's green infrastructure network (**See Chapter 3**). Potential opportunities exist to meet both Joint Base Andrews' Natural Infrastructure Management objectives and the policies and strategies of the *Approved Countywide Green Infrastructure Plan*. Consider, in particular, opportunities on the southeastern side of the base along Piscataway Creek, and whether the Readiness for Environmental Protection Initiative (REPI) program could be used in this area.
- ❖ **Ensure that future development in the vicinity of Joint Base Andrews does not attract birds or waterfowl.** Stormwater management ponds and wetlands can be designed in ways that do not attract large numbers of birds, for example, through vegetation choices. This strategy will also be addressed by continuing to refer development projects to Joint Base Andrews for review (**See Chapter 3**).
- ❖ **Address groundwater contamination concerns and issues associated with the former landfill near Foxley Road.** Concerted efforts need to be undertaken to ensure adequate community awareness of the extent and effects of groundwater contamination in two areas off Air Force property. County agencies have been aware of these issues and have been reluctant to allow development on contaminated properties. The process by which these agencies track impacted lands should be improved for permit review. A shared process through which DER, the Prince George's County Planning Department, and other agencies can jointly annotate constraints or opportunities in parcel permits should be developed. This would apply to all properties in the base's safety zones and noise contours, along with any base area properties affected by groundwater contamination.

## 4.7 HISTORIC AND CULTURAL RESOURCES

**Chapter 3** describes the historical and cultural buildings, structures, and sites that are located on and near the base. These resources should be protected from incompatible development because they contribute to community character and provide a tangible link to the past. Two historic properties, Forest Grove Methodist Church (designated as Chapel 2 by Joint Base Andrews) and the Belle Chance house, are located on the base and are actively used by the Air Force.

### *Policy*

**Protect historic and cultural resources on and around the base from incompatible uses and development.**

### *Strategies*

- ❖ **Continue to work cooperatively to preserve historic sites on and surrounding the base.** Historic sites on federal land are not subject to the protections of the county's Historic Preservation Ordinance. However, Joint Base Andrews consults with the Maryland Historic Trust before undertaking changes to these sites.
- ❖ **Investigate the possibility of improved public access to on-base historic properties.** Two historic resources, Belle Chance and the Forest Grove Methodist Church, are located on the base, which limits opportunities for the public to visit these properties. The county should work with the base to determine whether access to these sites could be improved for the general public.
- ❖ **In a manner sensitive to historic resources, manage vegetation growth north of the base that may interfere with aircraft flight patterns.** The historic Suitland Parkway north of Joint Base Andrews is managed by the National Park Service. The parkway is partially located within the Clear Zone, and concerns have arisen about vegetation growth interfering with aircraft departure and arrivals. Officials involved should seek to respect the aesthetic significance of Suitland Parkway while facilitating military operations at the base.
- ❖ **Continue to maintain the Joint Base Andrews Integrated Cultural Resources Management Plan (ICRMP).** The ICRMP is required every five years and provides guidance for the effective and efficient management of cultural resources as an integral part of the Base Comprehensive Plan. The county and the Maryland Historical Trust should be given the opportunity to participate in the preparation of the ICRMP and review and comment on the document prior to its release.

## 4.8 IMPLEMENTATION

Implementation is a vital element of the JLUS program and of this Joint Land Use Study. No JLUS is considered a success unless the study recommendations are implemented and incorporated into the study partners' plans, policies, ordinances, regulations, and codes.

This section summarizes the above recommendations, identifies responsible parties, provides additional detail for some of the strategies, and gives a time frame for implementation. Implementing the JLUS will require collaboration among a broad range of interested parties, including Prince George's County; M-NCPPC; various federal, state, and local agencies; Joint Base Andrews; the State of Maryland; the Department of Defense; the Town of Morningside; residents; and businesses of the JLUS study area.

An important first step in the implementation process is the adoption of the recommendations by the JLUS Policy Committee, and transmittal of the JLUS report and recommendations to the Prince George's County Planning Board and County Council for their endorsement of the JLUS as a guide for implementation actions.

### Implementation Leadership

This JLUS envisions that responsibility for implementation would rest with a new oversight committee, called perhaps the Joint Base Andrews JLUS Implementation Committee. This committee should include a mix of senior technical and professional staff from the county and the base as well as elected and appointed officials. The committee might need to meet frequently (monthly) at the beginning of the implementation process and perhaps quarterly thereafter. Key actions for the implementation committee include:

- ❖ Leading and coordinating the strategic planning needed to implement the JLUS (i.e., what needs to be done first, second, and so on).
- ❖ Taking initiatives to further plan implementation (e.g., work with Joint Base Andrews to seek Congressional appropriations for Clear Zone property acquisition; seek grant funds such as REPI funds, BRAC Zone funds, and transportation funds; and help coordinate plans of various implementation parties).
- ❖ Advising the Prince George's County Planning Board and County Council on regulatory changes needed for the plan.
- ❖ Ensuring that all actions and decisions are consistent with the JLUS goals, and ensuring that one action does not preclude or prevent implementation of another key element.
- ❖ Spearheading public outreach and involvement.
- ❖ Helping coordinate public agency decision-making that may influence implementation of the JLUS recommendations.

### Implementation Matrix

The following implementation table summarizes strategies in the form of an action plan and identifies which parties or agencies would be responsible for implementation. To facilitate implementation, the table is organized by study area element. In many cases responsibility would be shared among more than one partner. In the table the lead partner is identified in bold. The time frame for implementation is given as ongoing, short-term (within three years), or long-term (after three years).

<b>Joint Base Andrews Joint Land Use Study Implementation Table</b>				
Strategy Number	Action	Key Features	Implementation Partners	Timeframe Short = < 3 years Long = > 3 years
<b>Implementation Leadership</b>				
1	Create an implementation committee responsible for coordinating the strategic planning needed to implement JLUS recommendations.	<p>The committee should include staff from the county and the base, as well as elected and appointed officials. This group should be primarily responsible for:</p> <ul style="list-style-type: none"> <li>❖ Coordination of planning needed to implement JLUS recommendations, including working with public agencies and other implementation partners.</li> <li>❖ Working with the base/military to seek funding for plan initiatives, such as seeking a Congressional appropriation for the acquisition of Clear Zone properties and pursuing BRAC Zone funds.</li> <li>❖ Advising the Prince George’s County Planning Board and County Council on regulatory changes needed to enact plan recommendations.</li> <li>❖ Leading public outreach efforts.</li> </ul>	Planning Board, County Council* and Joint Base Andrews.	Short

\* See page 105 for an explanation of abbreviations.



Joint Base Andrews Joint Land Use Study Implementation Table				
Strategy Number	Action	Key Features	Implementation Partners	Timeframe Short = < 3 years Long = > 3 years
<b>Land Use Compatibility</b>				
General				
1	Establish a Military Installation Overlay Zone District as a new zoning overlay district.	<p>Include the following provisions:</p> <ul style="list-style-type: none"> <li>❖ Permitted uses: Prohibit specific land uses that regularly attract large concentrations of people, such as schools, community centers, theatres, and churches.</li> <li>❖ Limit non-residential uses by restricting the permitted number of people per acre. The limitation is calculated by restricting the number of parking spaces allowed for a given use, which ultimately limits the size of the building, therefore limiting the number of customers and employees on the site.</li> <li>❖ The maximum permitted density requirement is based on a 35 persons per acre density that will be achieved by applying a parking limitation on all new commercial and industrial development in APZ I. The maximum permitted density for APZ II commercial and industrial uses is 50 people per acre.</li> <li>❖ Do not allow permitted residential densities to increase through rezoning in APZ I and II.</li> <li>❖ Allow existing uses to remain.</li> <li>❖ Retail and additional residential development are not encouraged in APZ I.</li> </ul>	Planning Board and County Council.	Short
Clear Zone				
2	Remove all buildings and structures from the Clear Zone.	For public health and safety reasons all properties in the CZ should be publicly acquired and all buildings/structures should be removed. Acquisition costs should be borne by the federal government.	Department of Defense, Joint Base Andrews.	Long
3	Consider the possibility of a moratorium on new development while Clear Zone properties are being acquired.	To avoid development that would create additional safety risks, a short-term moratorium should be placed on new development in the northern CZ while a property acquisition program is being funded and initiated.	Planning Board and County Council.	Short
4	Relocate businesses from the Clear Zone.	Government assistance should be provided to help businesses relocate from the CZ. However, these businesses should be kept in the general area so that they continue to contribute to the local economy.	Prince George's County EDC.	Long

<b>Joint Base Andrews Joint Land Use Study Implementation Table</b>				
Strategy Number	Action	Key Features	Implementation Partners	Timeframe Short = < 3 years Long = > 3 years
5	Obtain federal funding for Clear Zone property acquisition and business relocation.	The base and the county should work together to obtain a Congressional appropriation and other federal monies for Clear Zone property acquisition and business relocation.	<b>JBA, Department of Defense</b> , Prince George's County.	Short
6	Identify the Clear Zone on future land use maps used in county plans, studies, and reports.	All future land use maps should identify the Clear Zone so as to highlight its importance and the need for special restrictions for this area.	County Planning Department, Planning Board, and County Council.	Short
<b>APZ I and APZ II</b>				
7	Prohibit specific land uses in APZ I and APZ II to minimize public safety risks.	The proposed Military Installation Overlay Zone should contain provisions that prohibit land uses that attract large concentrations of people and/or involve hazardous materials.	Planning Board and County Council.	Short
8	Limit the density of non-residential uses in APZ I and APZ II.	Limit the number of people per acre on commercial and industrial properties through reductions in allowed parking spaces.	Planning Board and County Council.	Short
9	Establish a notification requirement at real estate sale and lease execution.	Add a requirement to the real estate practices section (Section 2-162.01) of the County Code that mandates all contracts for the sale or lease of properties within the JLUS study area should disclose the property's location within a designated safety zone.	Planning Board, County Council, and Prince George's County Association of Realtors.	Short
10	Formalize the development review process between JBA and the county.	The county and the base should create a formal system whereby designated personnel on both sides are responsible for coordinating the review of proposed development projects.	County Planning Department and JBA.	Short
<b>APZ I</b>				
11	Do not allow additional residential development in APZ I.	Rezoning of non-residential land to a residential zoning district should not be permitted.	County Planning Department, Planning Board, and County Council.	Ongoing
12	Work towards rezoning residential land to employment zoning districts in the long term.	As the opportunity arises, blocks of residential land should be rezoned to an appropriate employment zoning category per the master plan recommendations. The possibility of streamlining the rezoning process for these large groups of properties should be investigated.	County Planning Department and the Planning Board.	Ongoing

<b>Joint Base Andrews Joint Land Use Study Implementation Table</b>				
Strategy Number	Action	Key Features	Implementation Partners	Timeframe Short = < 3 years Long = > 3 years
13	Discourage additional commercial retail zoning in APZ I.	Discourage the rezoning of residential and industrial properties to commercial districts that permit retail uses, due to the number of people that retail uses can attract.	County Planning Department, Planning Board, and County Council.	Ongoing
<b>APZ II</b>				
14	Allow existing residential development to remain.	Stable existing residential neighborhoods should not be disturbed.	County Planning Department.	Ongoing
15	Do not allow increased permitted residential density in APZ I and APZ II.	Residential zoning in APZ I and APZ II should be low density to minimize safety risks. Rezoning to higher-density residential zoning districts should not be permitted.	County Planning Department, Planning Board, and County Council.	Ongoing
<b>Noise</b>				
1	Create an aggressive public awareness and outreach program that emphasizes aircraft noise as an integral part of living or working near an Air Force base.	<ul style="list-style-type: none"> <li>❖ Develop informational materials that can be widely disseminated to the public, realtors, and other interested parties and that use easy-to-understand graphics to explain noise issues.</li> <li>❖ Publicize the appropriate contacts for residents or businesses to register noise complaints.</li> <li>❖ Establish a notification requirement at sale and lease execution for property in the vicinity of Joint Base Andrews.</li> </ul>	Joint Base Andrews, Prince George's County Health Department, and Prince George's County Association of Realtors.	Short
2	Seek compatibility with future military operations.	In the future, modify the boundaries of the Military Installation Overlay Zone to reflect any changes in AICUZ noise contours.	Planning Board and County Council.	Ongoing
3	Promote compatible development in the 75 dB and above noise zones.	<ul style="list-style-type: none"> <li>❖ Support rezoning residential land to non-residential in the 75 dB and above noise zones as opportunities arise.</li> <li>❖ Investigate the feasibility of creating a program to assist property owners of older residential homes without noise attenuation with relocation costs if their property is redeveloped to a non-residential use as part of the JLUS recommendations.</li> <li>❖ Discourage the location of noise-sensitive institutional uses in the AICUZ noise zones.</li> </ul>	County Planning Department and Planning Board.	Ongoing

<b>Joint Base Andrews Joint Land Use Study Implementation Table</b>				
Strategy Number	Action	Key Features	Implementation Partners	Timeframe Short = < 3 years Long = > 3 years
4	Ensure noise attenuation for development in all noise zones greater than 65 dB.	<ul style="list-style-type: none"> <li>❖ Continue to require all new development in noise zones greater than 65 dB to incorporate noise level reduction (NLR) measures.</li> <li>❖ Investigate funding options to retrofit existing homes with NLR, giving priority to those in the 80 dB and above noise zones.</li> <li>❖ Add noise standards and reduction requirements to the zoning code.</li> </ul>	Prince George's County Planning Department.	Ongoing
<b>Height of Structures</b>				
1	Add a maximum height requirement to the Prince George's County zoning code that applies to designated areas within the new overlay zone around Joint Base Andrews.	<ul style="list-style-type: none"> <li>❖ The height limit would apply to buildings and structures.</li> <li>❖ The maximum height would involve three considerations: the above-ground building height, identified imaginary surfaces, and the natural grade of the property. Substantial re-grading of a site may require special review.</li> <li>❖ The maximum permitted height would be the lesser of the maximum height of the underlying zoning district and the height specified on the building heights map.</li> </ul>	Planning Board and County Council.	Short
2	Refer to federal and state aviation regulations in the Prince George's County zoning code.	A reference should be included in the zoning code to Federal Aviation Regulations, Part 77, or the Code of Maryland, COMAR 11.03.05, Obstructions to Air Navigation.	Planning Board and County Council.	Short
3	Increase public awareness of the height issue around Joint Base Andrews.	Include height issues in a public awareness and outreach program about base-community encroachment issues.	County Planning Department.	Short
4	Require consideration of building heights by M-NCPPC and JBA when reviewing proposed development projects near the base.	Development review should include consideration of proposed building heights and identification of any conflicts with Joint Base Andrews airspace.	County Planning Department and Joint Base Andrews.	Short

<b>Joint Base Andrews Joint Land Use Study Implementation Table</b>				
Strategy Number	Action	Key Features	Implementation Partners	Timeframe Short = < 3 years Long = > 3 years
<b>Transportation</b>				
1	Work cooperatively to support important road projects near Joint Base Andrews.	Projects are shown in Chapter 3. High priority projects include: <ul style="list-style-type: none"> <li>❖ Realignment of Dower House Road and associated improvements at the Pearl Harbor Gate.</li> <li>❖ Upgrading the Suitland Parkway/MD 4 intersection.</li> <li>❖ Signalization and road capacity improvements along Allentown Road to enhance base access at the Main Gate.</li> <li>❖ Virginia Gate access realignment and alternatives study to examine improvements along Old Alexandria Ferry Road.</li> </ul>	County Planning Department, Joint Base Andrews, DPW&T, and SHA.	Ongoing
2	Seek grant funding to supplement state and local funds for roadway projects.	Funding from the BRAC Revitalization Zone should be used to support road projects.	DPW&T, SHA, and FHWA.	Ongoing
3	Continue to work with members of the Westphalia development team to ensure Westphalia development coordinates with necessary road improvements.	Ensure proper staging, timing, and review of proposed Westphalia transportation projects.	County Planning Department and Westphalia development team.	Short
4	Work with Joint Base Andrews and WMATA to improve transit service to the base area.	Work to improve bus service to Joint Base Andrews, including providing more frequent service and creating a new bus stop at the base's West Gate.	County Planning Department, DPW&T, JBA, and WMATA.	Short
5	Support light rail/ bus rapid transit extension with access to Andrews AFB.	Continue to work with the Southern Maryland Transit Corridor Study team to facilitate an extension of transit to Joint Base Andrews.	Joint Base Andrews and Maryland Transit Administration.	Short
6	Support longer-term mass transit extension plans, such as the Green and Purple Lines, to serve the base and surrounding community.	Mass transit access to Joint Base Andrews from metropolitan Washington, D.C., is critical to the economic viability of the base and the community.	<b>FTA</b> , Joint Base Andrews, Maryland Transit Administration, and DPW&T.	Ongoing



<b>Joint Base Andrews Joint Land Use Study Implementation Table</b>				
Strategy Number	Action	Key Features	Implementation Partners	Timeframe Short = < 3 years Long = > 3 years
7	Expand pedestrian, bicycle, and transit opportunities to connect the base with the surrounding community.	The Morningside—Andrews—Camp Springs Sector Plan will study expanding bike and pedestrian access around the base.	County Planning Department, DPW&T, and JBA.	Short
8	Improve multimodal transportation options with more sidewalks, pathways, and bicycle routes.	Plans for revitalization and future high-density mixed-use centers in the Joint Base Andrews area should include amenities that increase pedestrian and bicycle activity.	County Planning Department and DPW&T.	Short
<b>Economic and Community Development</b>				
<b>Employment and Business Growth</b>				
1	Encourage more contractors doing work for Joint Base Andrews to locate near the base.	Some branches of the military require contractors to locate near the facilities from which their businesses benefit. A policy that requires more Joint Base Andrews contractors to locate near the base would increase the demand for contractor space, thus boosting the real estate market, and increase local spending by employees.	DOD, Air Force, EDC, and ABCA.	Short
2	Seek to attract uses in the base vicinity that would better serve base personnel and the local community.	Working with base staff to identify services most desired by base personnel will help the county focus investment and revitalization efforts on attracting and supporting businesses that provide needed/desired services for base personnel and the local community.	<b>EDC</b> , ABCA, and Joint Base Andrews.	Ongoing
3	Publicize business opportunities with Joint Base Andrews to local businesses.	Foster a dialogue of open communication between Joint Base Andrews business services, local business leaders, and economic development groups to lead to greater opportunities for area businesses to procure contracts.	<b>EDC</b> , Joint Base Andrews, and ABCA.	Short
<b>Revitalization and Development</b>				
4	Give priority to the implementation of relevant economic development recommendations in county plans.	<ul style="list-style-type: none"> <li>❖ Balance the desire for quality economic development and the need to discourage blighting uses with the need to minimize the potential effects of an aircraft crash on life and property.</li> <li>❖ Encourage redevelopment along Branch Avenue (a main gateway to JBA).</li> <li>❖ Create revitalization strategies for the Allentown Road and Suitland Road corridors.</li> </ul>	<b>EDC</b> , County Planning Department, ABCA, RA, and DHCD (state and county).	Ongoing

<b>Joint Base Andrews Joint Land Use Study Implementation Table</b>				
Strategy Number	Action	Key Features	Implementation Partners	Timeframe Short = < 3 years Long = > 3 years
5	Focus economic development incentive programs on growing existing businesses and attracting new businesses to the base vicinity.	Utilize various incentive programs to spur economic development, such as tax credits or BRAC incentive zone funds.	<b>EDC</b> , DHCD (state and county), DBED, and SBA.	Ongoing
<b>Environmental/Natural Resources</b>				
1	Coordinate with the base to improve water quality and watershed health.	Implement recommendations of county stream corridor assessments and watershed restoration action strategies, and coordinate with Joint Base Andrews stream restoration, wetland restoration, and enhancement projects.	<b>DER</b> , Joint Base Andrews, and County Planning Department.	Ongoing
2	Work jointly to protect and enhance green infrastructure in and around the base.	Potential opportunities exist to meet both Joint Base Andrews' Natural Infrastructure Management objectives and the county's Green Infrastructure Plan policies and strategies. The REPI program could potentially be used to fund acquisitions in the area along Piscataway Creek.	<b>Joint Base Andrews</b> , M-NCPPC, DER, and DOD.	Short
3	Ensure that future development in the vicinity of Joint Base Andrews does not attract birds and/or waterfowl.	Continue to refer development projects to Joint Base Andrews for review (see above recommendation).	<b>M-NCPPC</b> , Joint Base Andrews.	Ongoing
4	Address groundwater contamination concerns and issues associated with the former landfill near Foxley Road.	Community awareness of the extent of contamination and its impacts should be improved. Additionally, the county and the base should work together to develop an improved permitting system that allows for joint annotation of development constraints or opportunities on base area parcel permits.	<b>Joint Base Andrews</b> , DER, and Prince George's County Health Department.	Short
<b>Historic and Cultural Resources</b>				
1	Continue to work cooperatively to preserve historic sites on and surrounding the base.	Continue to work cooperatively with Prince George's County, military officials, and the Maryland Historic Trust. Investigate opportunities for increased public access to on-base historic sites.	<b>JBA</b> , County Planning Department, and Maryland Historic Trust (MHT).	Ongoing
2	Investigate the possibility of improved public access to on-base historic properties.	Work with Joint Base Andrews to determine whether access to these on-base historic resources can be improved for the general public.	<b>County Planning Department</b> , MHT, and JBA.	Short

<b>Joint Base Andrews Joint Land Use Study Implementation Table</b>				
Strategy Number	Action	Key Features	Implementation Partners	Timeframe Short = < 3 years Long = > 3 years
3	In a manner sensitive to historic resources, manage vegetation growth north of the base that may interfere with aircraft flight patterns.	Coordinate an approach to managing vegetation that respects the historic character of Suitland Parkway and facilitates base aircraft operations.	<b>Joint Base Andrews</b> and the National Park Service.	Ongoing
4	Continue to maintain the Joint Base Andrews Integrated Cultural Resources Management Plan (ICRMP).	The county and the Maryland Historical Trust should be given the opportunity to participate in the preparation of the plan and review and comment on the document prior to its release.	<b>Joint Base Andrews</b> , County Planning Department, and MHT.	Ongoing

#### **Explanatory Note**

**ABCA:** Andrews Business and Community Alliance

**Air Force:** United States Air Force

**County Council:** Prince George's County Council

**County Planning Department:** Prince George's County Planning Department

**DBED:** Maryland Department of Business and Economic Development

**DER:** Prince George's County Department of Environmental Resources

**DHCD:** Department of Housing and Community Development (state and local)

**DOD:** United States Department of Defense

**DPW&T:** Prince George's County Department of Public Works and Transportation

**EDC:** Prince George's County Economic Development Corporation

**FHWA:** Federal Highway Administration

**FTA:** Federal Transit Administration

**JBA:** Joint Base Andrews Naval Air Facility Washington

**MHT:** Maryland Historic Trust

**M-NCPPC:** The Maryland-National Capital Park and Planning Commission

**Planning Board:** Prince George's County Planning Board

**RA:** Redevelopment Authority of Prince George's County

**SBA:** Maryland Small Business Administration

**SHA:** Maryland State Highway Administration

**WMATA:** Washington Metropolitan Area Transit Authority



# Appendix 1: Glossary of Terms

Acronym	Full Name	Explanation/Definition
JBA	Joint Base Andrews Naval Air Facility Washington	The Air Force base which is responsible for the defense of Washington, D.C., and which serves as the capital's gateway for distinguished national and international visitors.
AFDW	Air Force District of Washington	The Air Force component for the National Capital Region.
AFRES	Air Force Reserve	Air Force reserve units for national security missions.
ANG	Air National Guard	Air Force reserve units for national security missions.
AICUZ	Air Installations Compatible Use Zone	Department of Defense program established in 1974 to promote compatible land development in areas subject to aircraft noise and accident potential.
APA	Aviation Policy Area	Adjacent to general aviation airports in Prince George's County, these areas have special regulations to promote safety and compatible development.
APZ	Accident Potential Zone	An area around an airfield that has a statistically higher possibility of aircraft accidents than other areas.
BRAC	Base Realignment and Closure	A federal process intended to result in the closure and realignment of military installations inside the United States in order to reduce maintenance and operations costs.
CES	Civil Engineer Squadron	One of the units of the 316 <sup>th</sup> Wing at Joint Base Andrews, this group oversees base facilities and plans for the base's physical development.
CZ	Clear Zone	The safety zone located at the end of air base runways, it has the highest accident potential of the three safety zones.
DOD	Department of Defense	The federal department responsible for the national security of the United States.
JLUS	Joint Land Use Study	A study to address incompatibilities between a military installation and the surrounding community.
M-NCPPC	The Maryland- National Capital Park and Planning Commission	A bicounty agency with geographic authority over the majority of Montgomery and Prince George's Counties, the Commission has three major functions: the preparation, adoption, and, from time to time, amendment or extension of the General Plan for the physical development of the Maryland-Washington Regional District; the acquisition, development, operation, and maintenance of a public park system; and, in Prince George's County only, the operation of the entire county public recreation program. The Commission operates in each county through a planning board appointed by and responsible to the county government.
MTA	Maryland Transit Administration	An arm of the Maryland Department of Transportation, this agency oversees a regional transit system in the Washington, D.C.–Baltimore area.
NCR	National Capital Region	A federal government designation for Washington, D.C., and the areas surrounding it in northern Virginia and Maryland.
OEA	Office of Economic Adjustment	The Department of Defense's primary source for assisting communities adversely impacted by defense program changes, such as base closures or realignments, base expansions, and contract or program cancellations.
SLUCM	Standard Land Use Coding Manual	A detailed listing of land-use categories with numeric codes assigned to them.
SMA	Sectional Map Amendment	Comprehensive rezoning of an area of Prince George's County to implement a comprehensive plan.
TAZ	Traffic Analysis Zone	Small statistical area used primarily in traffic flow analyses. Prince George's County has approximately 380 TAZs.



## Appendix 2: Demographic Tables

<b>Joint Base Andrews Study Area Population, 2000—2030</b>				
Transportation Analysis Zone (TAZ)	Subregion	2000 <sup>1</sup>	2008 <sup>2</sup>	2030 <sup>3</sup>
744	4/Suitland	2,951	3,136	3,013
745	4/Suitland	4,473	4,600	4,478
746	4/Suitland	1,236	1,259	1,250
747	4/Suitland	2,308	2,427	6,710
760	7/Heights	220	1,528	2,280
761	7/Heights	1,178	1,225	1,232
762	7/Heights	1,432	1,469	1,566
764	4/Suitland	8,617	10,249	10,052
765	4/Suitland	2,309	2,613	2,565
766	7/Heights	2,315	2,549	2,522
821	6/Westphalia	2,366	2,383	4,101
822	6/Westphalia	611	754	9,968
824	6/Westphalia	220	321	268
825	6/Westphalia	2,045	2,497	4,212
826	6/Westphalia	46	65	1,571
827	6/Westphalia	31	31	1,042
828	6	72	73	71
829	6	8,591	2,318	2,244
830	7/Henson Creek	1,999	2,305	2,834
831	5	835	2,766	2,884
832	6	821	1,450	1,442
833	6	1,658	1,888	2,467
842	5	5,403	5,136	5,364
843	5	1,014	951	1,037
844	7/Henson Creek	2,911	2,844	3,228
845	5	1,243	1,450	1,442
846	7/Henson Creek	4,056	1,417	2,467
847	7/Henson Creek	505	3,970	5,364
951	5	3,381	3,165	3,365
954	5	1,882	1,984	2,565
956	6	1,480	1,779	2,834
957	6	1,497	2,396	3,289
959	6	1,304	1,463	1,847
964	5	1,775	1,764	1,989
<b>TOTAL</b>		<b>72,785</b>	<b>76,224</b>	<b>101,235</b>
<b>Prince George's County</b>		<b>808,060</b>	<b>852,884</b>	<b>992,868</b>

<sup>1</sup> 2000 population data based on M-NCPPC Round 7.0 Cooperative Forecast.  
<sup>2</sup> 2008 population data derived from M-NCPPC dwelling unit projections, applying a household size factor of 2.59.  
<sup>3</sup> 2030 population data derived from M-NCPPC dwelling unit projection, applying a household size factor of 2.53.

Joint Base Andrews Study Area Dwelling Units, 2000—2030						
Transportation Analysis Zone (TAZ)	Subregion	2000 <sup>1</sup>	2008 <sup>2</sup>	2008 + Pipeline <sup>3</sup>	2030 <sup>4</sup>	2030 JLUS Working Numbers <sup>5</sup>
744	4/Suitland	1,146	1,211	1,211	1,191	1,191
745	4/Suitland	1,729	1,776	1,776	1,770	1,770
746	4/Suitland	476	486	489	494	494
747	4/Suitland	890	937	2,652	1,084	2,652
760	7/Heights	87	590	603	901	901
761	7/Heights	466	473	473	487	487
762	7/Heights	565	567	567	619	619
764	4/Suitland	3,784	3,957	3,979	3,973	3,973
765	4/Suitland	1,001	1,009	1,009	1,014	1,014
766	7/Heights	978	984	984	997	997
821	6/Westphalia	915	920	1,125	1,621	1,621
822	6/Westphalia	237	291	3,940	416	3,940
824	6/Westphalia	85	124	124	106	106
825	6/Westphalia	788	964	1,302	1,665	1,665
826	6/Westphalia	18	25	25	621	621
827	6/Westphalia	12	12	12	412	412
828	6	28	28	28	28	28
829	6	2,338	895	895	887	887
830	7/Henson Creek	847	890	890	1,120	1,120
831	5	329	1,068	1,068	1,140	1,140
832	6	291	560	560	570	570
833	6	556	729	968	975	975
842	5	1,911	1,983	2,001	2,120	2,120
843	5	359	367	367	410	410
844	7/Henson Creek	1,088	1,098	1,276	1,151	1,276
845	5	435	560	560	585	585
846	7/Henson Creek	515	547	547	563	563
847	7/Henson Creek	1,512	1,533	1,563	1,597	1,597
951	5	1,134	1,222	1,284	1,330	1,330
954	5	666	766	999	1,014	1,014
956	6	522	687	1,111	1,120	1,120
957	6	528	925	1,180	1,300	1,300
959	6	460	565	690	730	730
964	5	563	681	776	786	786
<b>TOTAL</b>		<b>27,259</b>	<b>29,430</b>	<b>37,051</b>	<b>34,797</b>	<b>40,014</b>
<b>Prince George's County</b>		<b>306,190</b>	<b>328,928</b>	<b>364,719</b>	<b>392,490</b>	<b>392,490</b>

<sup>1</sup> 2000 dwelling unit data based on M-NCPPC Round 7.0 Cooperative Forecast.

<sup>2</sup> 2008 dwelling unit data based on M-NCPPC staff forecast.

<sup>3</sup> 2008 + pipeline data based on M-NCPPC staff forecast.

<sup>4</sup> 2030 dwelling unit data based on M-NCPPC staff forecast.

<sup>5</sup> In cases where the 2008 + Pipeline data exceeded the 2030 forecast, the pipeline number is used for 2030 data.

<b>Joint Base Andrews Study Area Employment, 2000—2030</b>					
Transportation Analysis Zone (TAZ)	Subregion	2000 <sup>1</sup>	2005 <sup>2</sup>	2005 + Pipeline <sup>3</sup>	2030 <sup>4</sup>
744	4/Suitland	2,847	2,867	--	3,610
745	4/Suitland	829	836	--	1,044
746	4/Suitland	2,397	2,397	--	3,022
747	4/Suitland	355	356	--	413
760	7/Heights	2,747	3,996	--	5,120
761	7/Heights	158	179	--	208
762	7/Heights	166	166	--	193
764	4/Suitland	182	193	--	224
765	4/Suitland	1,948	2,095	--	2,641
766	7/Heights	245	248	--	288
821	6/Westphalia	559	561	--	1,561
822	6/Westphalia	489	475	--	1,059
824	6/Westphalia	20	22	--	521
825	6/Westphalia	64	71	--	71
826	6/Westphalia	1,802	1,948	--	8,881
827	6/Westphalia	25	30	--	10,144
828	6	1,718	1,738	1,784	2,191
829	6	10,039	10,096	12,296	12,796
830	7/Henson Creek	1,109	1,116	--	1,407
831	5	3,396	3,584	4,373	5,282
832	6	162	181	181	400
833	6	2,947	2,947	2,947	3,459
842	5	899	1,272	1,272	1,300
843	5	2,996	3,099	3,099	3,378
844	7/Henson Creek	1,698	1,799	--	2,268
845	5	278	308	631	750
846	7/Henson Creek	400	416	--	483
847	7/Henson Creek	649	678	--	806
951	5	281	345	345	500
954	5	30	31	31	47
956	6	11	12	12	12
957	6	103	118	118	137
959	6	230	234	560	572
964	5	548	532	647	950
<b>TOTAL</b>		<b>42,327</b>	<b>44,946</b>	<b>28,296</b>	<b>75,738</b>
<b>Prince George's County</b>		<b>338,296</b>	<b>347,886</b>	<b>423,983</b>	<b>518,386</b>

<sup>1</sup> 2000 employment data from M-NCPPC Round 7.0 Cooperative Forecast.  
<sup>2</sup> 2005 employment data from M-NCPPC Round 7.0 Cooperative Forecast and Round 7.1 Cooperative Forecast.  
<sup>3</sup> 2005 + Pipeline data based on M-NCPPC staff forecast.  
<sup>4</sup> 2030 employment data based on M-NCPPC staff forecast and Round 7.1 Cooperative Forecast.

## Appendix 3: Compatible Land Uses

SLUCM Number	Land Use Name <sup>1</sup>	Clear Zone Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
<b>10</b>	<b>Residential</b>				
11	Household units				
11.11	Single units: detached	N	N	Y <sup>2</sup>	Maximum density of 1-2 Du/Ac
11.12	Single units: semidetached	N	N	N	
11.13	Single units: attached row	N	N	N	
11.21	Two units: side-by-side	N	N	N	
11.22	Two units: one above the other	N	N	N	
11.31	Apartment: walk-up	N	N	N	
11.32	Apartment: elevator	N	N	N	
12	Group quarters	N	N	N	
13	Residential hotels	N	N	N	
14	Mobile home parks or courts	N	N	N	
15	Transient lodgings	N	N	N	
16	Other residential	N	N	N	
<b>20</b>	<b>Manufacturing<sup>3</sup></b>				
21	Food and kindred products; manufacturing	N	N	Y	Maximum FAR 0.56 in APZ II
22	Textile mill products; manufacturing	N	N	Y	Same as above
23	Apparel and other finished products; products made from fabrics, leather and similar materials; manufacturing	N	N	N	
24	Lumber and wood products	N	Y	Y	Maximum FAR of 0.28 in APZ I & FAR of 0.56 in APZ II
25	Furniture and fixtures; manufacturing	N	Y	Y	Same as above
26	Paper and allied products; manufacturing	N	Y	Y	Same as above
27	Printing, publishing, and allied industries	N	Y	Y	Same as above
28	Chemicals and allied products; manufacturing	N	N	N	
29	Petroleum refining and related industries	N	N	N	
<b>30</b>	<b>Manufacturing<sup>3</sup> (continued)</b>				
31	Rubber and miscellaneous plastic products; manufacturing	N	N	N	
32	Stone, clay and glass products; manufacturing	N	N	Y	Maximum FAR 0.56 in APZ II
33	Primary metal products; manufacturing	N	N	Y	Same as above
34	Fabricated metal products; manufacturing	N	N	Y	Same as above
35	Professional, scientific, and controlling instruments; photographic and optical goods; watches and clocks	N	N	N	
39	Miscellaneous manufacturing	N	Y	Y	Maximum FAR of 0.28 in APZ I & FAR of 0.56 in APZ II

SLUCM Number	Land Use Name <sup>1</sup>	Clear Zone Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
<b>40</b>	<b>Transportation, Communication, and Utilities<sup>3,4</sup></b>				<b>See footnote 3 below</b>
41	Railroad, rapid trail transit, and street railway transportation	N	Y <sup>5</sup>	Y	Same as above
42	Motor vehicle transportation	N	Y <sup>5</sup>	Y	Same as above
43	Aircraft transportation	N	Y <sup>5</sup>	Y	Same as above
44	Marine craft transportation	N	Y <sup>5</sup>	Y	Same as above
45	Highway and street right-of-way	N	Y <sup>5</sup>	Y	Same as above
46	Automobile parking	N	Y <sup>5</sup>	Y	Same as above
47	Communication	N	Y <sup>5</sup>	Y	Same as above
48	Utilities	N	Y <sup>5</sup>	Y	Same as above
48.5	Solid waste disposal (landfills, incinerators, etc.)	N	N	N	
49	Other transportation, communication, and utilities	N	Y <sup>5</sup>	Y	Same as above
<b>50</b>	<b>Trade</b>				
51	Wholesale trade	N	Y	Y	Maximum FAR of 0.28 in APZ I and 0.56 in APZ II
52	Retail trade-building materials, hardware, and farm equipment	N	Y	Y	Maximum FAR of 0.14 in APZ I and 0.28 in APZ II
53	Retail trade-general merchandise	N	N	Y	Maximum FAR of 0.14
54	Retail trade-food	N	N	Y	Maximum FAR of 0.24
55	Retail trade-automotive, marine craft, aircraft, and accessories	N	Y	Y	Maximum FAR of 0.14 in APZ I & 0.28 in APZ II
56	Retail trade-apparel and accessories	N	N	Y	Maximum FAR 0.28
57	Retail trade-furniture, home furnishings, and equipment	N	N	Y	Same as above
58	Retail trade-eating and drinking establishments	N	N	Y	
59	Other retail trade	N	N	Y	Maximum FAR of 0.22
<b>60</b>	<b>Services<sup>6</sup></b>				
61	Finance, insurance, and real estate services	N	N	Y	Maximum FARs of 0.22 for "General Office/Office Park"
62	Personal services	N	N	Y	Office uses only; Maximum FAR of 0.22
62.4	Cemeteries	N	Y <sup>7</sup>	Y <sup>7</sup>	
63	Business services	N	Y	Y	Maximum FARs of 0.11 in APZ I; 0.22 in APZ II
63.7	Warehousing and storage services	N	Y	Y	Maximum FAR of 1.0
64	Repair services	N	Y	Y	Maximum FARs of 0.11 in APZ I; 0.22 in APZ II
65	Professional services	N	N	Y	Maximum FAR of 0.22



SLUCM Number	Land Use Name <sup>1</sup>	Clear Zone Recommendation	APZ-I Recommendation	APZ-II Recommendation	Density Recommendation
65.1	Hospitals, nursing homes	N	N	N	
65.16	Other medical facilities	N	N	N	
66	Contract construction services	N	Y	Y	Maximum FARs of 0.11 in APZ I; 0.22 in APZ II
67	Government services	N	N	Y	Maximum FAR of 0.22
68	Educational services	N	N	N	
69	Miscellaneous	N	N	Y	Maximum FAR of 0.22
<b>70</b>	<b>Cultural, Entertainment, and Recreational</b>				
71	Cultural activities	N	N	N	
71.2	Nature exhibits	N	Y <sup>8</sup>	Y <sup>8</sup>	
72	Public assembly	N	N	N	
72.1	Auditoriums, concert halls	N	N	N	
72.11	Outdoor music shells, amphitheatres	N	N	N	
72.2	Outdoor sports arenas, spectator sports	N	N	N	
73	Amusements	N	N	Y <sup>8</sup>	
74	Recreational activities (including golf courses, riding stables, water recreation)	N	Y <sup>8</sup>	Y <sup>8</sup>	No club house
75	Resorts and group camps	N	N	N	
76	Parks	N	Y <sup>8</sup>	Y <sup>8</sup>	Same as 74
79	Other cultural, entertainment and recreation	N	Y <sup>8</sup>	Y <sup>8</sup>	Same as 74
<b>80</b>	<b>Resource Production and Extraction</b>				
81	Agriculture (except livestock) <sup>9</sup>	Y <sup>4</sup>	Y	Y	
81.5, 81.7	Livestock farming and breeding	N	Y <sup>10</sup>	Y <sup>10</sup>	
82	Agriculture-related activities (processing and husbandry services)	N	Y	Y	Maximum FAR of 0.28; no activity that produces smoke, or glare—or that involves explosives
83	Forestry activities <sup>11</sup>	N	Y	Y	Same as above
84	Fishing activities <sup>12</sup>	N <sup>12</sup>	Y	Y	Same as above
85	Mining activities <sup>13</sup>	N	Y	Y	Same as above
89	Other resource production or extraction	N	Y	Y	Same as above
<b>90</b>	<b>Other</b>				
91	Undeveloped land	Y	Y	Y	
93	Water areas	N <sup>14</sup>	N <sup>14</sup>	N <sup>14</sup>	

## Legend

**The following legend refers to the preceding table.**

**\*Standard Land Use Coding Manual (SLUCM)**, U.S. Department of Transportation.

**Y (Yes)**—Land uses and related structure are normally compatible without restriction.

**N (No)**—Land uses and related structure are not normally compatible and should be prohibited.

**Y<sup>x</sup> (Yes with restrictions)**—The land uses and related structures are generally compatible; see notes indicated by the superscript.

**N<sup>x</sup> (No with exceptions)**—See notes indicated by the superscript.

**FAR (Floor area ratio)**—A floor area ratio is the ratio between the square feet of floor area of the building and the site area. It is customarily used to measure non-residential densities.

**Du/Ac (Dwelling Units per Acre)**—This is customarily used to measure residential densities.

## Notes

**The following notes refer to the preceding table.**

1. A “Yes” or “No” designation for compatible land use is to be used only for general comparison. Within each, uses exist where further evaluation may be needed in each category as to whether it is clearly compatible, normally compatible, or not compatible due to the variation of densities of people and structures. In order to assist installations and local governments, general suggestions as to floor/area ratios are provided as a guide to density in some categories. In general, land use restrictions which limit commercial, services, or industrial buildings or structure occupants to 25 per acre in APZ I and 50 per acre in APZ II are the range of occupancy levels considered to be low density. Outside events should normally be limited to assemblies of not more than 25 people per acre in APZ I and maximum assemblies of 50 people per acres in APZ II. Recommended FARs are calculated using standard parking generation rates for various land uses, vehicle occupancy rates, and desired density in APZ I and II.
2. The suggested maximum density for detached single-family housing is 1 to 2 Du/Ac. In a planned unit development (PUD) of single-family detached units, this density could possibly be increased slightly, where the amount of open space is significant and the amount of surface area covered by structures does not exceed 20 percent of the PUD total area.
3. Other factors to be considered: labor intensity, structural coverage, explosive characteristics, air pollution, electronic interference with aircraft, height of structures, and potential glare to pilots.
4. No structures (except airfield lighting and navigational aids necessary for the safe operation of the airfield when there are no other siting options), buildings, or above-ground utility/communications lines should normally be located in Clear Zone areas on or off the installation. The clear zone is subject to severe restrictions.
5. No passenger terminals and no major aboveground transmission lines in APZ I.
6. Low-intensity office uses only. Ancillary uses such as meeting places, auditoriums, etc. are not recommended. See recommended FARs.
7. No chapels are allowed within APZ I or APZ II.

8. Facilities must be low-intensity; club houses, meeting places, auditoriums, large classes, etc., are not recommended.
9. Excludes feedlots and intensive animal husbandry (see SLUCM 81.5, 81.7). Activities that attract concentrations of birds, creating a hazard to aircraft operations, should be excluded.
10. Includes feedlots and intensive animal husbandry.
11. Lumber and timber products removed due to establishment, expansion, or maintenance of clear zones will be disposed of in accordance with appropriate DOD Natural Resources Instructions.
12. Controlled hunting and fishing may be permitted for the purpose of wildlife management.
13. Surface mining operations that could create retention ponds that may attract waterfowl and present bird aircraft strike hazards (BASH)—or operations that produce dust and/or light emissions that could impact pilot vision—are not compatible.
14. Naturally occurring water features (e.g. rivers, lakes, streams, wetlands) are pre-existing, non-conforming land uses. Naturally occurring water features that attract waterfowl present a potential BASH. Actions to expand naturally occurring water features should not be encouraged.

# Appendix 4: Guide to Existing and Future Land Use Designations and Zoning Districts

## a. Existing Land Use

### Residential

Rural – Detached single-family dwelling units w/ associated areas at densities less than or equal to .5 du/acre (Property acreages of 2 acres to 15 acres as 15 acres is the cut off for residential labels).

Residential Low – Detached single-family dwelling units w/ associated areas at densities between .5 du/acre and 2 du/acre.

Residential Low Medium – Detached single-family dwelling units w/ associated areas at densities between 2 du/acre and 3 du/acre.

Residential Medium – Detached and attached dwelling units w/ associated areas at densities between 3 du/acre and 8 du/acre.

Residential Medium-High – Detached and attached dwelling units w/ associated areas at densities between 8 du/acre and 20 du/acre.

Residential High – Detached and attached dwelling units w/ associated areas at densities higher than 20 du/acre.

Mixed-Use Residential – These are mixed-use properties which are predominantly residential and are selected on a case by case basis from: Residential Medium, Residential Medium-High, and Residential High categories as well as Mixed-Use Zones.

### Commercial

Mixed-Use Commercial – These are mixed-use properties which are predominantly commercial and are selected on a case by case basis from Commercial, Industrial, and Mixed-Use Zones.

Commercial – Offices, retail and wholesale services. Areas used primarily for offices and /or the sale of products and services, including associated yards and parking areas.

**Industrial** – Manufacturing and industrial parks, including associated warehouses, storage yards, research laboratories, and parking areas.

**Institutional** – Elementary and secondary schools, middle schools, junior and senior high schools, public and private colleges and universities, military installations (built-up areas only, including buildings and storage, training, and similar areas), churches, medical and health facilities, correctional facilities, and government offices and facilities that are clearly separable from the surrounding land cover.

**Extractive** – Active surface mining operations, including sand and gravel pits, quarries, coal surface mines, and deep coal mines.

**Parks and Open Space** – Areas whose use does not require structures such as golf courses, parks, recreation areas (except areas associated with schools or other institutions), cemeteries.

**Agricultural** – Cropland, Pasture, Orchards/vineyards/horticulture, feeding operations, agricultural buildings and facilities, row and garden crops.

**Forest** – Deciduous forest (trees characteristically lose their leaves at the end of the growing season), Evergreen forest (trees are characterized by persistent foliage throughout the year), Mixed forest (neither deciduous nor evergreen species dominate but both are present), brush (areas which do not produce timber or other wood products but may have cut-over timber stands, abandoned agriculture fields, or pasture).

**Water** – Rivers, waterways, reservoirs, ponds, bays, estuaries, and ocean.

**Wetlands** – Forested or non-forested wetlands, including tidal flats, tidal and non-tidal marshes, and upland swamps and wet areas.

**Beaches** – Extensive shoreline areas of sand and gravel accumulation, with no vegetative cover or other land use.

**Bare exposed rock** – Areas of bedrock exposure, scarps, and other natural accumulations of rock without vegetative cover.

**Bare ground** – Areas of exposed ground caused naturally, by construction, or by other cultural processes including grassy areas.

**Transportation** – Miscellaneous Transportation features not elsewhere classified (ex. public and private roads, parking lots).

**b. Future Land Use**

Future Land Use Designation	Intent/Types of Land Uses
Commercial	Retail and business areas, including employment uses such as office and service uses.
Industrial	Manufacturing and industrial parks, warehouses and distribution. May include other employment such as office and service uses.
Mixed use	Areas of various residential, commercial, employment and institutional uses. Residential uses may include a range of unit types. Different mixed use areas may vary with respect to their dominant land uses; i.e. commercial uses may dominate overall land use in one mixed use area, whereas residential uses may dominate in another.
Institutional	Uses such as military installations, sewerage treatment plants, schools.
Residential high	Residential areas over 20 dwelling units per acre. Mix of dwelling unit types, including apartments.
Residential medium-high	Residential areas between eight and 20 dwelling units per acre. Mix of dwelling unit types, including apartments.
Residential medium	Residential areas between 3.5 and eight dwelling units per acre. Primarily single-family dwellings (detached and attached).
Residential low	Residential areas up to 3.5 dwelling units per acre. Primarily single-family detached dwellings.
Rural	Agricultural land (cropland, pasture, farm fields), forest, very low density residential. The county’s intent is for these areas to remain rural and to conserve these areas’ natural resources, primarily forest and forest resources, for future generations. New residential development is permitted at a maximum density of one dwelling unit per five acres.
Public parks and open space	Parks and recreation areas, publicly owned natural areas.



**c. Zoning**

This portion of the appendix contains excerpts from the *Guide to Zoning Categories* published by The Maryland-National Capital Park and Planning Commission in May 2002. These excerpts include only zoning districts in safety zones north and south of Andrews Air Force Base.

**RESIDENTIAL ZONES<sup>1</sup>**

**R-O-S:** Reserved Open Space - Provides for permanent maintenance of certain areas of land in an undeveloped state, with the consent of the property owners; encourages preservation of large areas of trees and open space; designed to protect scenic and environmentally sensitive areas and ensure retention of land for nonintensive active or passive recreational uses; provides for very low density residential development and a limited range of public, recreational, and agricultural uses.

Minimum lot size	-	20 acres*
Maximum dwelling units per net acre	-	0.05

\* Except for public recreational uses, for which no minimum area is required.

**O-S:** Open Space - Provides for areas of low-intensity residential (5 acre) development; promotes the economic use and conservation of land for agriculture, natural resource use, large-lot residential estates, nonintensive recreational use.

Standard lot size	-	5 acres
Maximum dwelling units per net acre	-	0.20

**R-A:** Residential-Agricultural - Provides for large-lot (2 acre) residential uses while encouraging the retention of agriculture as a primary land use.

Standard lot size	-	2 acres
Maximum dwelling units per net acre	-	0.50

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<sup>1</sup> Definitions:

Minimum or Standard lot size: The current minimum net contiguous land area required for a lot.

Average dwelling units per acre: The number of dwelling units which may be built on a tract--including the typical mix of streets, public facility sites and areas within the 100-year floodplain--expressed as a per-acre average.

Maximum dwelling units per net acre: The number of dwelling units which may be built on the total tract--excluding streets and public facility sites, and generally excluding land within the 100-year floodplain--expressed as a per-acre average.

**R-R:** Rural Residential - Permits approximately one-half-acre residential lots; subdivision lot sizes depend on date of recordation; allows a number of nonresidential special exception uses.

Standard lot size	-	20,000 sq. ft.
	-	15,000 sq. ft. if recorded prior to February 1, 1970
	-	10,000 sq. ft. if recorded prior to July 1, 1967
Maximum dwelling units per net acre	-	2.17
Estimated average dwelling units per acre	-	1.85

**R-80:** One-Family Detached Residential - Provides for variation in the size, shape, and width of subdivision lots to better utilize the natural terrain and to facilitate planning of single-family developments with lots and dwellings of various sizes and styles.

Standard lot size	-	9,500 sq. ft.
Maximum dwelling units per net acre	-	4.5
Estimated average dwelling units per acre	-	3.4

**R-55:** One-Family Detached Residential - Permits small-lot residential subdivisions; promotes high density, single-family detached dwellings.

Standard lot size	-	6,500 sq. ft.
Maximum dwelling units per net acre	-	6.70
Estimated average dwelling units per acre	-	4.2

**R-T:** Townhouse - Permits one-family detached and attached, two-family, and three-family dwellings; promotes the maximum amount of freedom in the design of attached dwellings and their grouping and layout; Detailed Site Plan approval required for attached dwellings.

Standard lot size per attached dwelling	-	1,800 sq. ft.
Maximum dwelling units per net acre	-	Three-family dwellings - 9
	-	Two-family dwellings - 8
	-	Other attached dwellings - 6
Minimum area for development	-	2 acres

**R-30:** Multifamily Low Density Residential - Provides for low density garden apartments; single-family detached; single-family attached, two-family and three-family dwellings in accordance with R-T Zone provisions; Detailed Site Plan approval required for multifamily and attached dwellings.

- Standard lot size
  - Garden apartments - 14,000 sq. ft.
  - Two-family dwellings - 1,500 sq. ft.
  - Other attached dwellings - 1,800 sq. ft.
- Maximum dwelling units per net acre
  - Garden apartments - 10
  - Three-family dwellings - 9
  - Two-family dwellings - 8
  - Other attached dwellings - 6

**R-30C:** Multifamily Low Density Residential-Condominium - Same as R-30 above except ownership must be condominium, or development in accordance with the R-T Zone; Detailed Site Plan approval required for multifamily and attached dwellings.

- Standard lot size
  - Garden apartments - 14,000 sq. ft.
  - Two-family dwellings - 1,500 sq. ft.
  - Other attached dwellings - 1,800 sq. ft.
- Maximum dwelling units per net acre
  - Garden apartments - 12
  - Three-family dwellings - 9
  - Two-family dwellings - 8
  - Other attached dwellings - 6

### **COMMERCIAL ZONES**

- C-O:** Commercial Office - Uses of a predominantly nonretail commercial nature, such as business, professional and medical offices, or related administrative services.
- C-A:** Ancillary Commercial - Certain small retail commercial uses, physician and dental offices, and similar professional offices that are strictly related to and supply necessities in frequent demand and daily needs of an area with a minimum of consumer travel; maximum size of zone: 3 net acres.
- C-2:** General Commercial, Existing - All of the uses permitted in the C-S-C Zone, with additions and modifications.
- C-C:** Community Commercial, Existing - All of the uses permitted in the C-S-C Zone.
- C-S-C:** Commercial Shopping Center - Retail and service commercial activities generally located within shopping center facilities; size will vary according to trade area.
- C-M:** Commercial Miscellaneous - Varied commercial uses, including office and highway-oriented uses, which may be disruptive to the compactness and homogeneity of retail shopping centers.

**INDUSTRIAL ZONES**

- I-1:** Light Industrial - Light intensity manufacturing, warehousing, and distribution uses; 10% green area required.
- I-2:** Heavy Industrial - Highly intensive industrial and manufacturing uses; 10% green area required.
- I-3:** Planned Industrial/Employment Park - Uses that will minimize detrimental effects on residential and other adjacent areas; a mixture of industrial, research, and office uses with compatible institutional, recreational, and service uses in a manner that will retain the dominant industrial/employment character of the zone; standard minimum tract size of 25 adjoining gross acres; standard minimum lot size of two acres; Conceptual and Detailed Site Plan approval required; 25% green area required; outdoor uses restricted; warehousing and wholesaling uses limited.
- I-4:** Limited Intensity Industrial - Limited intensity (0.3 FAR) commercial, manufacturing, warehousing, and distribution uses; development standards extended to assure limited intensity industrial and commercial development, and compatibility with surrounding zoning and uses; 25% green area required.

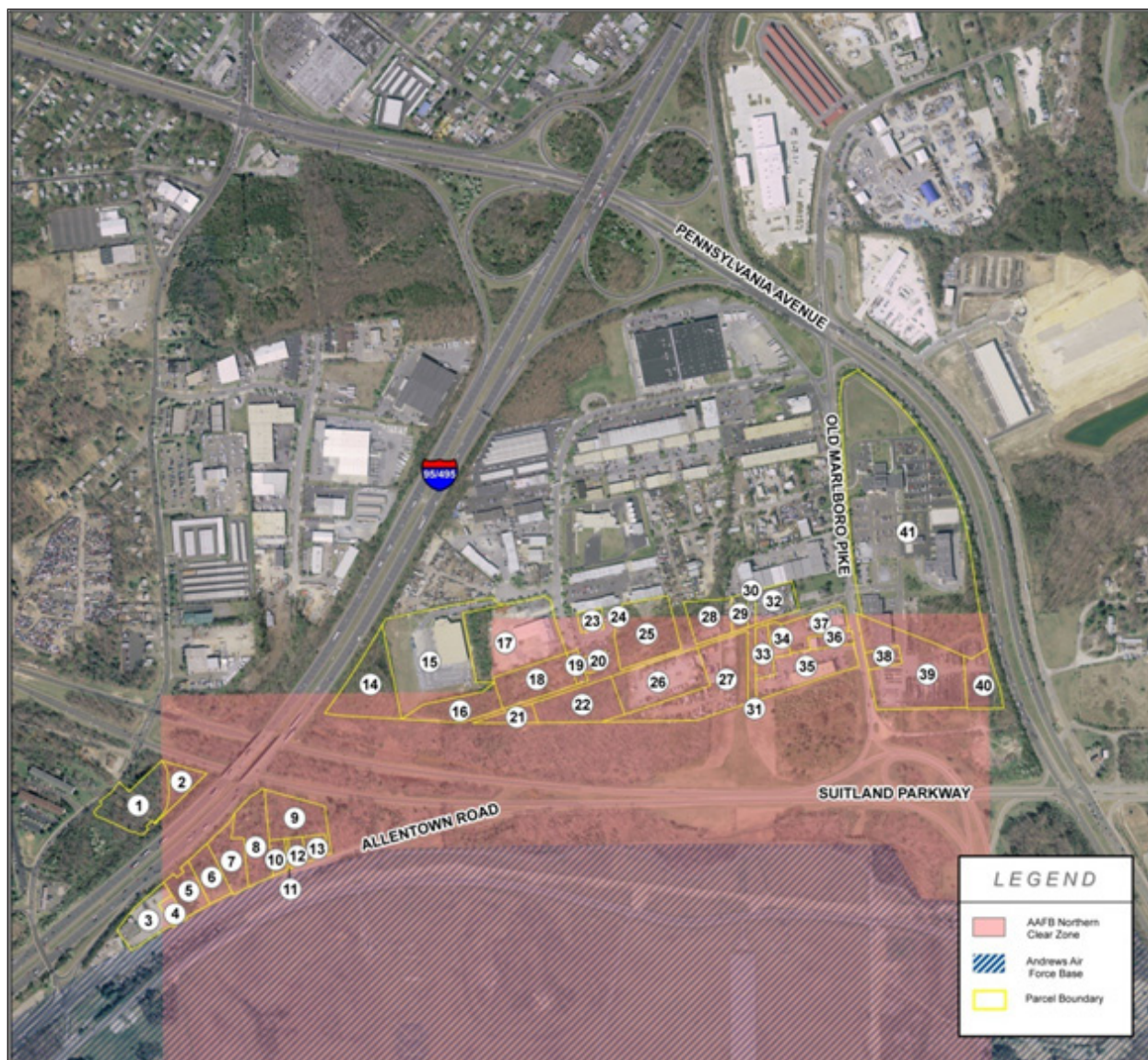
# Appendix 5: Clear Zone Parcels

Map ID	Account Number	Tax District	Existing Land Use	SLUCM No.* (by field survey)	Compatibility with AICUZ Guidelines	Owner	Tax Use (Md. DAT)	Year Structure Built	Enclosed Building Area (sf)	Land Area (sf)	Assessed Value	
<b>Parcels Slightly Impacted by Clear Zone</b>												
3	594119	06	Commercial	58 Retail trade	N	Lawrence Hillman	Commercial	1971	8,861	1,58	\$1,489,466	
15	0455204	06	Industrial	63 Business services	N	Republic Properties	Industrial	1996	45,962	6.68	\$3,648,700	
										<b>TOTAL SLIGHTLY IMPACTED BY CLEAR ZONE:</b>	8	5,138,166
<b>Parcels Entirely within Clear Zone</b>												
1	646612	06	Forest	91 Undeveloped land	Y	Prince George's County	Exempt Commercial			2.15	\$0	
2	646653	06	Forest	91 Undeveloped land	Y	United States of America	Exempt Commercial			1.84	\$0	
4	646620	06	Transportation	49 Other transportation	Y	Lawrence Hillman	Industrial			0.37	\$84,600	
5	558700	06	Bare Ground	91 Undeveloped land	Y	United States of America	Exempt Commercial			1.04	\$0	
6	646646	06	Bare Ground	91 Undeveloped land	Y	United States of America	Exempt Commercial			1.06	\$0	
7	640144	06	Bare Ground	91 Undeveloped land	Y	United States of America	Exempt Commercial			1.46	\$0	
8	646638	06	Bare Ground	91 Undeveloped land	Y	United States of America	Exempt Commercial			1.97	\$0	
9	646653	06	Bare ground	91 Undeveloped land	Y	United States of America	Exempt Commercial			1.84	\$0	
10	646596	06	Bare Ground	91 Undeveloped land	Y	United States of America	Exempt Commercial			0.49	\$0	
11	552844	06	Bare Ground	91 Undeveloped land	Y	United States of America	Exempt Commercial			0.10	\$0	
12	538132	06	Bare Ground	91 Undeveloped land	Y	United States of America	Exempt Commercial			0.46	\$0	
13	538124	06	Bare Ground	91 Undeveloped land	Y	United States of America	Exempt Commercial			0.45	\$0	
14	455162	06	Forest	91 Undeveloped land	Y	Prince George's County	Exempt Commercial			2.93	\$0	
16	0455170	06	Forest	91 Undeveloped land	Y	Republic Properties	Industrial			1.64	\$35,700	
17	0455147	06	Industrial	34 Fabricated metal products	N	J.P. Penn Randall LLC	Industrial	1984	19,401	5.03	\$1,866,800	
18	0554394	06	Industrial	46 Junkyard	N	Strong, Ashbell	Residential	1928	1,533	2.14	\$421,883	
19	0579490	06	Forest	91 Undeveloped land	Y	Blakeney, Charles	Industrial			0.32	\$59,700	
20	0470443	06	Industrial	51 Wholesale trade	N	Trinity Investments LLC	Commercial Condo	1987	1,931	0.30	\$131,266	
22	0447029	06	Residential Low	11 Single family detached	N	Ramsey, Judith	Residential	1952	1,344	0.38	\$230,933	
22	0447045	06	Forest	91 Undeveloped land	Y	James, Patricia Et Al	Industrial			2.34	\$89,600	
23	0470419	06	Industrial	51 Wholesale trade	N	Roadrunner Property LLC	Commercial Condo	1987	4,898	0.30	\$333,033	
24	0463281	06	Forest	91 Undeveloped land	Y	Roadrunner Property LLC	Industrial			0.13	\$2,500	
25	0511220	06	Forest	91 Undeveloped land	Y	Prince Georges County	Exempt Commercial			2.86	\$294,600	
26	0536037	06	Industrial	63 Business services	N	Finechum Enterprises	Industrial			2.98	\$433,800	
27	0421305	06	Industrial	63 Business services	N	Burton Lane Properties LLC	Industrial			3.75	\$768,000	
28	0635920	06	Industrial	63 Business services	N	George Tate Trucking	Industrial			1.76	\$27,400	
29	426429	06	Industrial	63 Business services	N	George Tate Trucking	Industrial			0.48	\$83,700	
30 and 31	0640169	06	Bare Ground	91 Undeveloped land	Y	USA	Exempt Commercial			0.51	\$97,700	
32	0450163	06	Bare Ground	91 Undeveloped land	Y	MFR Properties	Industrial			1.57	\$201,166	
33	3155421	06	Bare Ground	91 Undeveloped land	Y	Prince Georges County	Exempt Commercial			0.70	\$100	
34	3155439	06	Industrial	63 Business services	N	Kelly Properties LLC	Industrial			0.56	\$67,400	
35	3155405	06	Industrial	63 Business services	N	Kelly Properties LLC	Industrial	2000	20,049	2.80	\$1,923,433	
36	0547083	06	Industrial	63 Business services	N	Blank, Victor	Industrial	1996	3,994	0.46	\$335,600	
37	3155447	06	Industrial	63 Business services	N	Moses Carpet Service Inc	Industrial			0.57	\$67,500	
38	0521145	06	Institutional	48 Utilities	N	PEPCO	Exempt Commercial			0.50	\$100	
39	0636225	06	Institutional	48 Utilities	N	PEPCO	Exempt Commercial			5.68	\$100	
40	0559468	06	Institutional	48 Utilities	N	PEPCO	Exempt Commercial			1.34	\$100	
41	0592345	06	Institutional	48 Utilities	N	PEPCO	Exempt Commercial			1.35	\$100	
										<b>TOTALS:</b>	53,150	\$7,556,814

\* Standard Land Use Coding Manual (SLUCM)  
 Sources: Maryland Department of Assessments and Taxation (January 11, 2009); Prince Georges County Existing Land Use (November 2008); ERM Field survey (December 2008)  
 Prepared by: Environmental Resources Management  
 7-May-09



### Clear Zone Parcels, Northern Side of Joint Base Andrews



## Appendix 6: Prince George's County Development Review Procedures for Noise

Prince George's County has instituted review procedures for development in noise affected areas to ensure that most new development incorporates noise level reduction (NLR) into buildings. Review of development with respect to noise is conducted by the Prince George's County Department of Environmental Resources (DER) and divisions of the M-NCPPC's Prince George's County Planning Department: Development Review Division; and Countywide Planning Division, Environmental Planning Section.

Development applications can be submitted in one of the following forms:

- ❖ Subdivision
- ❖ Detailed site plan (DSP)
- ❖ Special exception
- ❖ Building permit
- ❖ Change of use (use and occupancy permit)

Subdivisions, DSPs, and special exceptions are referred to the M-NCPPC Environmental Planning Section, which reviews the location of a proposed project in respect to AICUZ noise zones. The section requires notes on the approved plan and can require NLR, which must be incorporated into architectural drawings submitted with a building permit application for the development. The section below indicates notes typically required.

### Typical Plat Notes

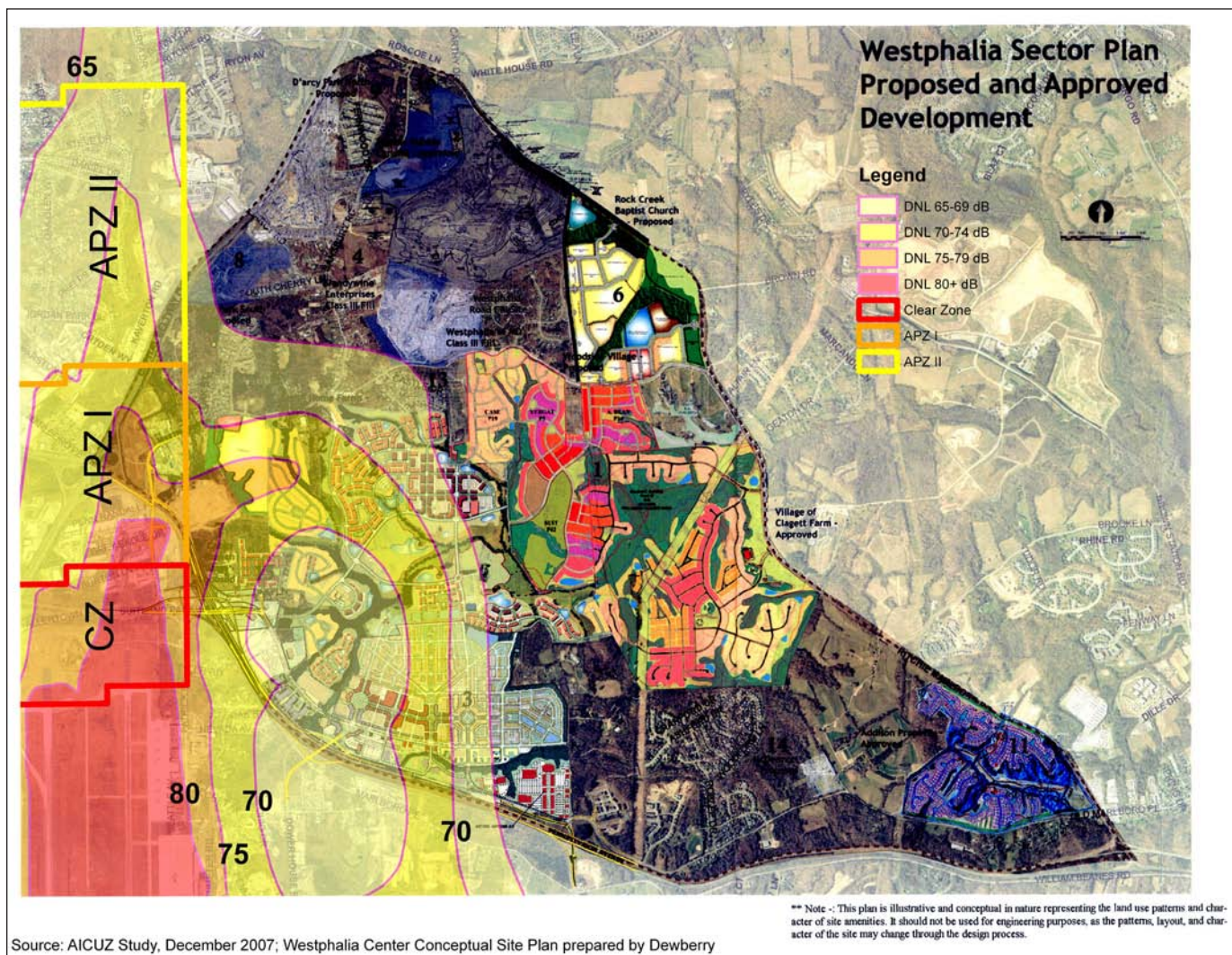
1. *"All deeds conveying lots to future homeowners within this subdivision shall include language notifying all future contract purchasers of the proximity of the property to Joint Base Andrews and noise levels related to military aircraft overflights. The deeds of conveyance shall include the disclosure notice. At the time of purchase contract with homebuyers, the contract purchaser shall sign an acknowledgement of receipt of the disclosure notice. This condition shall be noted on the final plat along with a description of the proximity of the development to Joint Base Andrews and noise levels related to military aircraft overflights."*
2. *"Properties within this subdivision have been identified as possibly having noise levels that exceed 65 dBA Ldn due to military aircraft overflights. This level of noise is above the Maryland designated acceptable noise levels for residential uses."*
3. *"Prior to the application for building permits, a certification by a professional engineer with competency in acoustical analysis shall be placed on the building permits stating that building shells of structures have been designed to reduce interior noise levels to 45 dBA Ldn or less."*

Applications for building permits and changes of use are made to DER. DER refers applications to the M-NCPPC Environmental Planning Section if there is a note on a subdivision plat. In these cases the Environmental Planning Section can require NLR. In Prince George's County construction plans must comply with the International Building Code.

The only cases where a development that should incorporate NLR may not be required to do so involve older parcels that never went through the subdivision process, or lots in an older subdivision that was approved without the plat notes now required. DER could approve a building permit or use and occupancy permit (U & O) on such parcels or lots without the application being reviewed by the Environmental Planning Section.



# Appendix 7: Westphalia Center Conceptual Site Plan with Noise and Accident Potential Zones



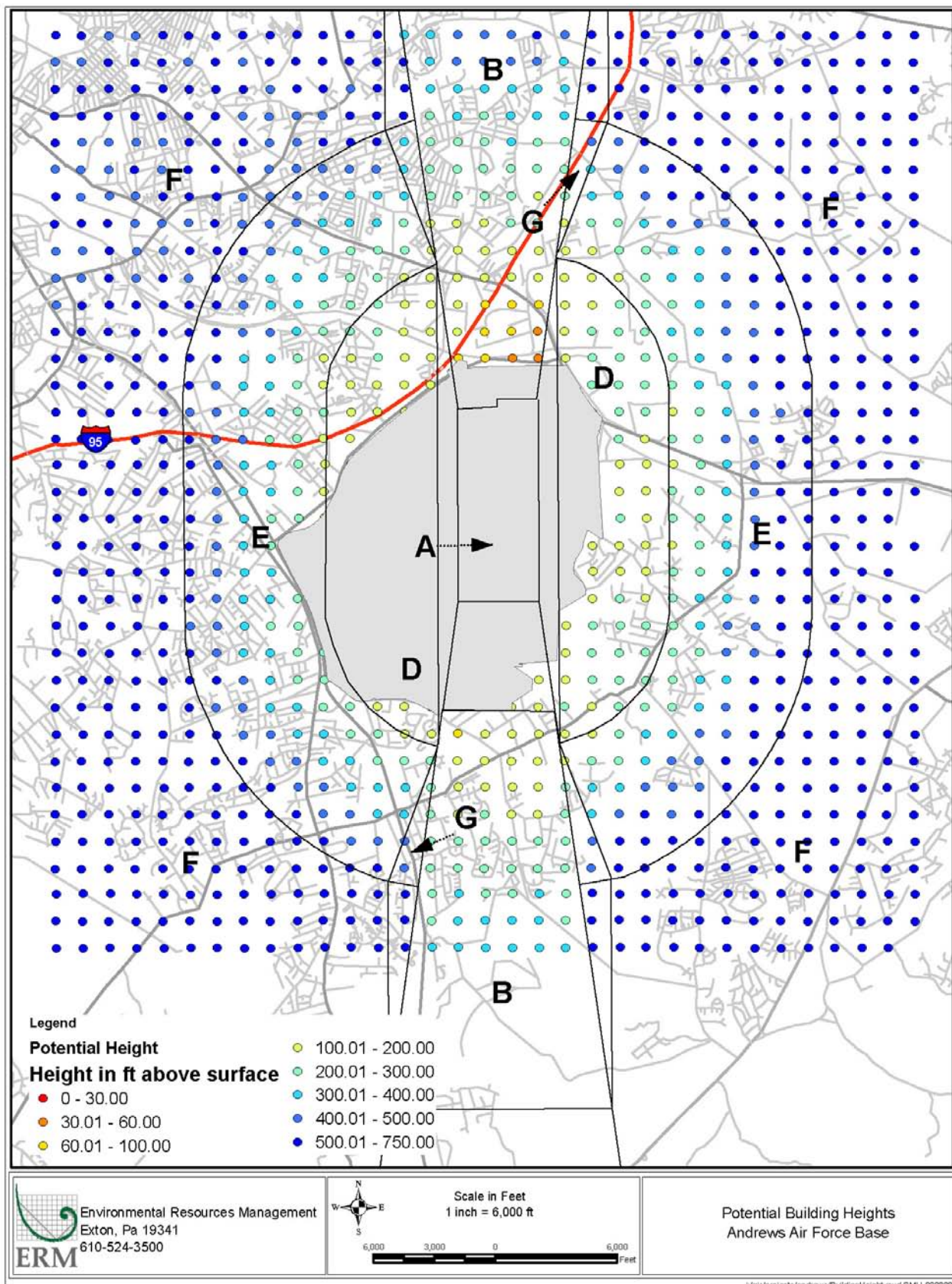
# Appendix 8: Zoning Districts in Runway Airspace Imaginary Surfaces

Zone	Specific	Height Restriction (feet)	AAFB Runway Airspace Imaginary Surfaces						
			A	B	C	D	E	G	
Residential	R-O-S (Reserved Open Space)	35		X	X	X	X	X	
	O-S Zone (Open Space)	35		X			X		
	R-A Zone (Residential-Agricultural)	50		X	X	X	X		
	R-E Zone (Residential-Estate)	35		X	X		X		
	R-R Zone (Rural Residential)	35		X	X	X	X	X	
	R-80 Zone (One-Family Detached Residential)	40		X		X	X	X	
	R-55 Zone (One-Family Detached Residential)	35		X		X	X	X	
	R-T Zone (Townhouse)	40					X		
	R-30 Zone (Multifamily Low Density Residential)	40					X		
	R-30C Zone (Multi family Low Density Residential Condominium)	40					X		
	R-18 Zone (Multifamily Medium Density Residential)	40				X	X		
	R-18C Zone (Multi family Medium Density Residential-Condominium)	40					X		
	Commercial	C-A Zone (Ancillary Commercial)	-						X
		C-O Zone (Commercial Office)	-		X		X	X	X
		C-S-C Zone (Commercial Shopping Center)	-		X	X	X	X	X
C-1 Zone (Local Commercial, Existing)		-					X		
C-2 Zone (General Commercial, Existing)		-					X		
C-M Zone (Miscellaneous Commercial)		-		X	X	X	X		
Industrial	I-3 Zone (Planned Industrial/Employment Park)	-			X				
	I-4 Zone (Limited Intensity Industrial)	-		X		X	X		
	I-1 Zone (Light Industrial)	-		X	X	X	X	X	
	I-2 Zone (Heavy Industrial)	-			X	X	X		
Comprehensive Design	R-S Zone (Residential Suburban Development)	40			X		X		
	R-M Zone (Residential Medium Development)	40			X	X	X		
	L-A-C Zone (Local Activity Center)	80			X	X	X		
	E-I-A Zone (Employment and Institutional Area)	-			X				
Planned Community	R-M-H Zone (Planned Mobile Home Community)	35				X			
Mixed Use	M-X-T Zone (Mixed Use - Transportation Oriented)	110				X	X	X	

Primary Surface - All Clear Zone On Base



# Appendix 9: Potential Building Heights





## Appendix 10: Economic Development Assessment

As part of the JLUS, the consultant team conducted a survey of the commercial and industrial areas around Joint Base Andrews in February 2009. This survey focused on vacancy and general appearance and condition of base area properties. It also considered the effects of potential JLUS land use policies and opportunities for economic synergies with the base. Areas were categorized as one of three conditions:

- ❖ Needs investment/revitalization (1)
- ❖ Healthy/stable (3)
- ❖ Intermediate (2) falling between conditions expressed by (1) and (3).

The areas assessed are depicted on **Appendix Map 1** and the categorizations are summarized in the following table.

**Appendix Table 10–1. Survey of Commercial and Industrial Land Uses**

Area		Condition			Located	
Number	Description	1. Needs investment/revitalization	2. Intermediate	3. Healthy/Stable	In BRAC Zone	In Enterprise Zone
1	D’Arcy Road, Cryden Way, the Kaverton Road Business, and Industrial Parks		✓			✓
2	Forestville Plaza Commercial	✓				✓
3	Intersection of Forestville Road, Marlboro Pike, and Marlo Plaza		✓			✓
4	Southeast Quadrant of Forestville Road and Pennsylvania Avenue	Vacant Land				
5	Penn-Belt Area Industrial and Business Parks		✓			
6	Penn-Mar Shopping Plaza, Centre at Forestville, Great Eastern Plaza, Penn Station Shopping Center, Silver Hill Plaza		✓			✓
7	Branch Avenue		✓		✓	✓
8	Allentown Road Corridor	✓			✓	✓
9	Suitland Road/Morningside	✓			✓	✓
10	Clinton			✓		
11	Old Alexandria Ferry Road	✓				
12	Presidential Parkway Area			✓		
13	Dower House Road/Melwood		✓			

*Source: ERM February 2009 fieldwork*

## Commercial and Industrial Area Assessment Data

The following section contains assessment details for each commercial/industrial area identified on **Appendix Map 1**. Arranged by Prince George's County planning subregions, this data describes current conditions and identifies existing master plan or sector plan recommendations relating to economic development for the relevant area.

### *Subregion 4*

**Area 1 on Appendix Map 1:** The D'Arcy Road, Cryden Way, and Kaverton Road business and industrial park area is in intermediate condition. Sections of D'Arcy Road need revitalization but the commercial areas have relatively high occupancy levels. Development on Kaverton Road and Cryden Way is newer and better maintained than on D'Arcy Road, although the newer buildings have higher vacancy rates.

**Area 2 on Appendix Map 1:** The Forestville Plaza commercial area needs revitalization and investment. The area is approximately 75 percent occupied but has an overall appearance of underutilization. The occupation of the site is mostly storefront churches which only see foot traffic on Sundays. The *Adopted Subregion 4 Master Plan and Endorsed Sectional Map Amendment* recommends the redevelopment of the Forestville Shopping Center for light industrial uses. It also recommends considering the area for a new business park and employment center, given its proximity to MD 4 (Pennsylvania Avenue) and Marlboro Pike. The plan recommends redeveloping the Marlo Furniture site and existing industrial uses at the northeastern corner of MD 4 (Pennsylvania Avenue) and Forestville Road as an expansion of the Penn-Belt South Industrial Park and the Penn-East Business Park.

**Area 3 on Appendix Map 1:** The southeastern quadrant of Forestville Road and MD 4 (Pennsylvania Avenue) currently is undeveloped. The Subregion 4 Master Plan recommends this area as an extension of the industrial area to the south.

**Area 4 on Appendix Map 1:** The shopping center cluster located at Marlboro Pike and Silver Hill Road is one of the best commercial/retail areas in the study area. With the exception of Eastern Plaza, which is in intermediate condition, the other shopping centers, including the one on Donnell Drive, appear healthy and stable. The *Approved Marlboro Pike Sector Plan and Sectional Map Amendment* recommends the following:

- ❖ Creation of a Silver Hill Cultural Triangle; strategically place new commercial structures along Marlboro Pike and Silver Hill Road to enhance the area and support a more pedestrian-friendly environment.
- ❖ Develop a health and wellness center at Great Eastern Plaza; redevelop and extend the existing retail structure to front Marlboro Pike. New retail stores should focus on health and wellness and include medical offices.
- ❖ Donnell Drive mixed-use development; extend Boone's Lane across Marlboro Pike into and through the Penn-Mar Center, crossing Donnell Drive and into the Centre at Forestville. New restaurants and retail businesses would be developed along Boone's Lane and Marlboro Pike. The Subregion 4 Master Plan goes one step further, showing a vision plan for the Donnell Drive site that extends to Pennsylvania Avenue.
- ❖ A marketing and branding program.

Areas 1, 2, 3, and 6 are wholly or partially located within an enterprise zone. Businesses that locate in these areas may be eligible for income tax credits and real property tax credits in exchange for job creation and investments made in the zone.

### ***Subregion 5***

**Area 10 on Appendix Map 1:** Clinton is another of the stronger commercial areas in the base vicinity. This area has high occupancy rates, exhibits an overall well-maintained appearance, and appears active with shoppers. The *Approved Subregion 5 Master Plan and Sectional Map Amendment* recommends the preparation of a Clinton Sector Plan and SMA to, among other issues, address the appropriate channeling of commercial development in this area.

**Area 11 on Appendix Map 1:** The entire stretch of Old Alexandria Ferry Road needs revitalization and reinvestment to improve the area as an economic center. The area appears to have a relatively low occupancy rate, and has sections in disrepair or in need of maintenance. Much light industrial warehouse and business park space zoned for light industrial warehouse and business park use is being occupied by ministries and churches. The Subregion 5 plan recommends retaining existing industrial and employment areas along Old Alexandria Ferry Road and Kirby Road.

### ***Subregion 6***

**Area 5 on Appendix Map 1:** The Penn-Belt industrial and business parks area is located partially in Subregion 4 and partially in Subregion 6. Categorized as in intermediate condition, the area is well maintained; however, ministries and churches occupy some underutilized spaces. The Subregion 6 Plan encourages industrial uses in areas affected by aircraft noise and flight paths, and in base accident potential zones.

**Area 12 on Appendix Map 1:** The Presidential Parkway area in Westphalia is developed as a business park and is one of the most attractive business parks in the entire county. Occupants include the International Association of Machinists and Aerospace Workers. The Westphalia Sector Plan recommends this area for mixed-use and secure office park development.

**Area 13 on Appendix Map 1:** The Dower House Road area on the eastern side of Joint Base Andrews contains a mix of industrial uses, undeveloped areas, and residential uses. The area is in intermediate condition. Most of the industrial uses are set back from the road and are not highly visible. The Subregion 6 plan recommends industrial uses for most of this area, with commercial uses north of Old Marlboro Pike.

### ***Subregion 7***

**Area 7 on Appendix Map 1:** MD 5 (Branch Avenue) is an important gateway to Joint Base Andrews. Branch Avenue north of the Capital Beltway is dominated by car dealerships and new mixed-use development at the Camp Springs town center near the Branch Avenue Metro station. While development in this area is fairly new and well-maintained, a significant amount of commercial vacancies exists, especially in the mixed-use areas off Branch Avenue on Capital Gateway Drive and Auth Way. Area 7 was not covered in the *Approved Branch Avenue Corridor Sector Plan and Sectional Map Amendment*.

The *Approved Master Plan and Sectional Map Amendment for the Henson Creek–South Potomac Plan Area* envisions the Camp Springs town center as a mixed-use activity center with an arts or cultural theme, providing a diverse and integrated mix of opportunities to live, work, shop, and play. The plan recommends a transit-oriented development pattern to aid in connecting this area to the Branch Avenue Metro station.

**Area 8 on Appendix Map 1:** The Allentown Road Corridor needs significant public and private investment if it is to become a stronger economic center for Joint Base Andrews. Allentown Road is the “front door” to the base but investment in the area is lacking, as evidenced by low occupancy rates and a lackluster appearance. The Henson Creek-South Potomac Master Plan recommends that the county designate revitalization overlay areas to direct revitalization assistance and efforts to small, targeted locations where

they would be most effective. The Allentown Road corridor is one such location. The Henson Creek plan recommends preparation of a revitalization plan for the north side of Allentown Road directly across from Joint Base Andrews. The proposed plan should promote a new identity and sense of place as the “Gateway to Joint Base Andrews” and should specifically:

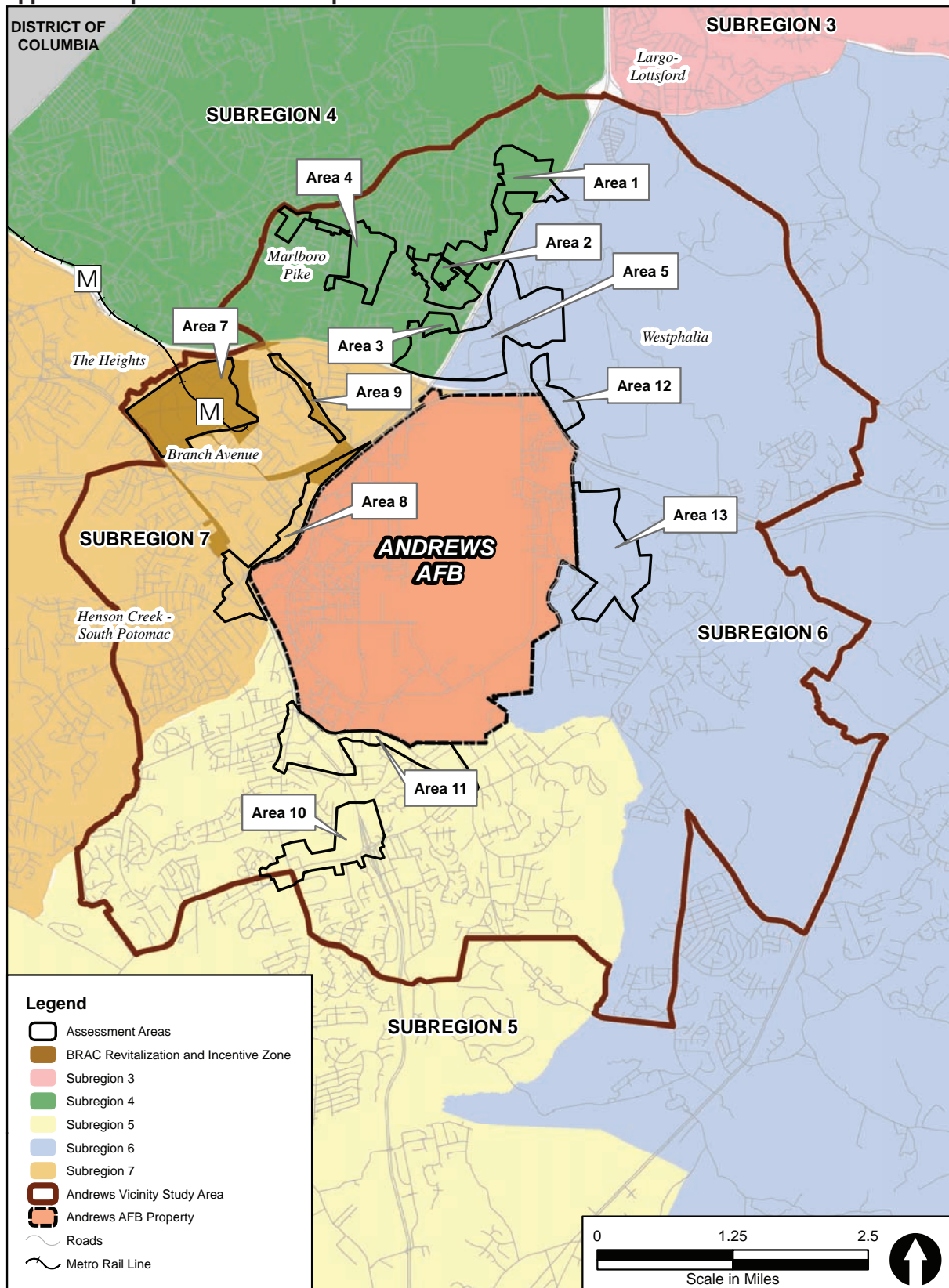
- ❖ Promote a balanced mix of new or revitalized commercial and residential land uses.
- ❖ Identify specific urban design elements for the Joint Base Andrews “gateway,” including:
  - New buildings facing onto wide, tree-lined sidewalks along Allentown Road.
  - Surface parking lots located in the rear of buildings.
  - A new street and sidewalk grid to connect Allentown Road to adjacent residential areas, enhance pedestrian circulation, improve access to bus stops, and reduce traffic conflicts.
  - Live/work or elderly housing located in edge areas that face onto existing residential neighborhoods.
  - Streetscape and public art elements that create a sense of arrival or departure from the area.

Additionally, the Henson Creek plan calls for the development of a Padgett’s Corner community-scaled activity center at the intersection of Allentown Road and Temple Hill Road.

**Area 9 on Appendix Map 1:** The Town of Morningside and Suitland Road area needs new investment due to high vacancy rates and a somewhat unappealing streetscape. Thoughtful revitalization in this area could attract businesses that would be patronized by Joint Base Andrews personnel due to the proximity of this area to the base’s Main Gate. The *Approved Master Plan and Sectional Map Amendment for the Heights and Vicinity (Planning Area 76A)* recommends the Morningside Industrial Center for light industrial uses to encourage employment development. A county streetscape project for Suitland Road is currently in the construction phase.

Areas 7, 8, and 9 in Subregion 7 are located in the BRAC Revitalization and Incentive Zone. These areas are also located within an enterprise zone.

### Appendix Map 1: Economic Development Assessment Areas

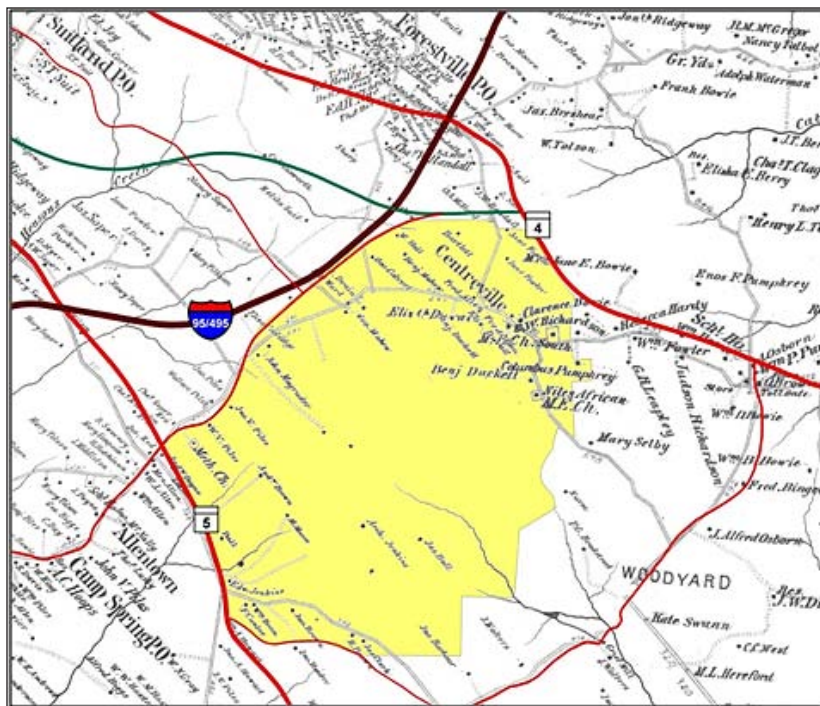


Source: ERM



## Appendix 11: History of Joint Base Andrews Vicinity

From the period of colonial settlement until the twentieth century, the area surrounding what is today Joint Base Andrews was agricultural, catering to the cash crop of tobacco and later diversifying into farming that supplied the food needs of Washington and Baltimore. The only settlements, such as Clinton and Long Old Fields (now Forestville), were small, little more than crossroad communities consisting of dwellings and farm-related buildings. Beginning in the twentieth century, development began occurring outside Washington, D.C., as the idea of living on the outskirts of the city became increasingly appealing to people looking for housing. Large-scale development did not begin until after the extension of the rail lines and



Joint Base Andrews Vicinity in 1878. (Modern roadways and base boundaries have been added for ease of reference.)

affordability of the houses there, Capitol Heights proved to be a popular new subdivision. A review of the 1910 census indicates that residents of Capitol Heights and Greater Capitol Heights were white, had small families, and had working-class jobs that included firemen, salesmen, electricians, plasterers, carpenters, post office workers, merchants, and printers. By the third quarter of the twentieth century, the historic commercial core of Capitol Heights was losing many businesses, largely because of the construction of a new Central Avenue that bypassed the town. By the 1970s, the once-bustling commercial corridor along Old Central Avenue had begun to decline and buildings were abandoned.<sup>1</sup> Vacant lots and parking lots that replaced the older commercial buildings in Capitol Heights have no visual or physical relationship to the historic neighborhood.

Seat Pleasant was located at the convergence of two railroad lines and the streetcar line, which made it a convenient location for commuters. Seat Pleasant contains a wide variety of buildings constructed from

streetcar lines from the city. This prompted the establishment of towns at the edge of the city about five miles away from present-day Joint Base Andrews, including Capitol Heights (1910), Seat Pleasant (1931), and District Heights (1936).

### Early Suburbs

Capitol Heights was established in the early twentieth century as a residential suburb. Although the subdivision was not directly located on railroad or streetcar lines, the adjacent neighborhoods of Maryland Park and Seat Pleasant were served by the rail lines. Residents of Capitol Heights lived within a mile of railroad and streetcar stops. Because of its relative convenience to public transportation and the

<sup>1</sup> Town of Capitol Heights, Maryland, "Capitol Heights," <http://www.mdmunicipal.org/cities/index.cfm?townname=CapitolHeights&page=home>, accessed 20 December 2008.

the 1890s through the present. The most intense period of development dates from the 1890s through the 1940s. Buildings in Seat Pleasant reflect a variety of popular architectural styles, including Queen Anne, Italianate, Colonial Revival, Craftsman, and several illustrations of the Modern Movement. Several structures are vernacular interpretations of popular styles. Common building forms in Seat Pleasant include Foursquare, bungalow, Cape Cod, ranch houses, minimal traditional houses, and split-levels. A common building form in Seat Pleasant is the detached rowhouse. These wood-frame houses are typically two stories in height with a full-width porch and have either flat roofs or shed roofs. Most display modest interpretations of the Queen Anne or Italianate styles, common in the late nineteenth century.

District Heights was established in the first quarter of the twentieth century as a commuter suburb located approximately two miles east of the District of Columbia. By 1926, the District Heights Company constructed approximately 25 houses, which included five-room “California” bungalows and two-story, six-room American Foursquares.<sup>2</sup> The new subdivision was described as a “community of homes for government employees” and a place that “answers the cry of the wage earner for a restricted community coming up to the high ideals of the average working man and still at a price within his reach.” Unlike suburban developments in northwestern Prince George’s County, District Heights was not accessible by streetcar or public transportation. The District Heights Company provided bus service to local residents. Buildings in District Heights are primarily residential, with limited commercial development along Marlboro Pike. Public buildings include a fire station, municipal center, and several schools. Several churches are also located within the survey area. Buildings range in age from 1925 to circa 1965. There is little modern infill within the community. Building forms represented include the bungalow, American Foursquare, Cape Cod, minimal traditional, ranch houses, split foyers, and split-level houses.

Other than these incorporated towns and some scattered development in Forestville (1930s), Suitland (1909), and Morningside (1949), most of the nearby lands remained agricultural with small scattered villages across the landscape.

## Post-World War II Development

By the late 1940s and early 1950s population in the surrounding area gradually increased, prompted by the suburbanization of Washington. Trolley and streetcar service radiated from Washington and towns at the edge began to expand. The Town of Morningside came into existence in 1949 when residents, mainly veterans of World War II, decided to incorporate. Other neighborhoods and communities began to appear during this same time frame in areas north and west of the base.

Rapid population growth occurred in the 1960s following construction of the Capital Beltway in the late 1950s, which provided regional access and the opportunity for a greater range in housing choice. Subdivisions of single-family detached dwellings were approved steadily in locations such as Camp Springs, south of District Heights, and along Woodyard Road (MD 223).

Between the 1970s and mid 1990s development continued, especially south and east of the base in Clinton and Melwood, though east of Melwood the area remained largely rural. Since the mid-1990s much of the development has been “infill,” filling in previously undeveloped land.

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<sup>2</sup> Norton, *A History of Suitland*.

# Appendix 12: Land Use Regulations for Safety Zones

## Memorandum

**To:** Andrews AFB Joint Land Use Study (JLUS) Policy Committee

**From:** Planning Department JLUS Project Team

**Subject:** Land Use Regulations for Safety Zones

**Date:** August 31, 2009

### Introduction

This memorandum describes and explains the process by which the Andrews Air Force Base Joint Land Use Study (JLUS) proposes to regulate land uses and development in areas exposed to above average accident potential and noise levels. This process will be used by Andrews AFB and Prince George's County staff to ensure that future development in these areas is compatible with the base's mission.

### Background

Regulating land uses within Andrews AFB's Safety Zones (APZ I and APZ II) is a critical issue from the perspective of public health, safety and welfare. Andrews AFB and Prince George's County are currently working collaboratively on a Joint Land Use Study, which is aimed at limiting the loss of life and property in the event of an aircraft accident in the safety zones. This can be done by reducing the public's exposure to hazards through planning for low density land uses and development patterns.

Through the Andrews AFB Air Installation Compatible Use Zone (AICUZ) study, the Air Force delineated three safety zones at each end of the base's runways: a Clear Zone (CZ), Accident Potential Zone I (APZ I), and Accident Potential Zone II (APZ II). The CZ has the highest accident potential of the three zones. At the southern end of the base's runways the CZ is entirely on the base. However, at the northern end of the runways the CZ is partially on the base and partially off the base, extending across the Suitland Parkway into the Penn-Belt South Industrial Center. The JLUS recommends that existing businesses in the CZ be relocated to nearby sites and the land acquired by a government agency.

The potential for accidents in APZ I is less than in the CZ, but APZ I still has a higher than normal risk factor for crashes. The AICUZ compatibility guidelines for land uses in APZ I are more flexible when compared to guidelines for the CZ and are intended to allow reasonable economic use of the land. However, all residential uses and any non-residential uses that concentrate people in small areas are considered incompatible.

Accident potential in APZ II is still higher than normal, but less than in APZ I. Under the AICUZ guidelines acceptable uses include those of APZ I, as well as low density single-family residential uses, low intensity office and retail uses, and certain types of manufacturing uses.

In general, the AICUZ land use guidelines recommend combining two approaches towards regulating land uses within the safety zones: 1) Prohibiting specific land uses that concentrate large gatherings of people or vulnerable populations such as the elderly or disabled on a regular basis, and 2) Using density restrictions to keep land use densities low, such as to 25 people per acre in APZ I and 50 people per acre in APZ II.

The APZ I and APZ II land use guidelines recommend the prohibition of land uses that:

- ❖ Promote the concentration of large gatherings of people on a regular basis, such as theaters, community centers, hospitals, schools, churches, and high density office uses.
- ❖ Require multistory buildings that could impair aircraft operation and navigation.
- ❖ Specifically cater to people who may not be able to respond to an emergency situation, such as children, the elderly, the disabled, and those requiring medical attention.
- ❖ Are highly labor intensive.
- ❖ Create a potential hazard to the public by involving the storage or use of explosive, flammable, or toxic material in outdoor above ground storage tanks.

In addition to prohibiting specific uses in APZ I and APZ II, the AICUZ guidelines recommend setting density limits on most allowable land uses in order to reduce the number of people that regularly congregate in the safety zones. “In general, land use restrictions which limit commercial, services, or industrial buildings or structures occupants to 25 per acre in APZ I, and 50 per acre in APZ II are the range of occupancy levels considered to be low density.”<sup>1</sup> The JLUS study recommends this approach of limiting non-residential uses by placing a limit on the allowable number of people per acre. The limitation is calculated by limiting the number of parking spaces allowed for a given use, which ultimately limits the size of the building, therefore limiting the number of customers and employees on-site.

The critical statistic in this approach is the vehicle occupancy rate that is used to calculate the number of people per car. Staff reviewed a number of sources to determine this number. The 2000 United States Census lists Maryland’s average vehicle occupancy as 1.08 persons per vehicle. The U.S. Transportation Energy Data Book set the overall vehicle occupancy in the county as 1.57 in 2006. According to the 2007-2008 Prince George’s County Growth Policy Update, vehicle occupancy in the county was approximately 1.3 persons per car. This figure was used in the transportation modeling for the 2002 General Plan and the 2009 Master Plan of Transportation. The figure represents the average number of persons per car in the county. The transportation model does not differentiate between geographic areas in the county, nor can it document trip purpose such as journey to work or shopping trips. The staff recommends that any regulations be based on the 2007–2008 Growth Policy Update figures which give a more accurate indication of local driving behavior.

General light industrial uses generate 0.97 trips per 1000 square feet according to the Institute of Transportation Engineers trip generation rates. A general office building generates 1.40 trips per 1000 sq. ft. and a shopping center generates 3.73 trips per 1000 sq. ft. Commercial is the most intense use, generating more trips and more people, while general office and light industrial uses generate considerably less trips and people. It would be preferable if the undeveloped areas in the APZ locations developed as a mix of general office and light industrial uses. The JLUS study does not recommend changing the existing base zoning on any property in the study area but rather recommends using one or more zoning overlay districts to limit development to keep the concentration of people low.

## Recommendations

The following recommendations are presented in the JLUS report and are summarized here. The JLUS land use policy will prohibit specific land uses and limit the density of most allowed uses. For a detailed explanation and the complete recommendations please see Chapter 4 of the JLUS.

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<sup>1</sup> OPNAV Instruction 11010.36b, Chief of Naval Operations, AICUZ Programs-Dec. 19, 2002, p. 26.

***1: Prohibit specific land uses in APZ I and APZ II.***

The JLUS study recommends prohibiting the following land uses that attract high concentrations of people from the safety zones:

- ❖ Hospitals, doctor's offices, and medical clinics
- ❖ Emergency/first response services (fire stations, ambulance)
- ❖ Government services (libraries, post offices, offices)
- ❖ Churches
- ❖ Nursing or care home
- ❖ Schools—private/public
- ❖ Daycare centers—children and adults
- ❖ Elderly housing
- ❖ Hotels
- ❖ Multifamily dwellings
- ❖ Bowling alleys
- ❖ Clubs or private lodges
- ❖ Theatres—indoor/outdoor
- ❖ Indoor rifle or pistol range
- ❖ Mobile home parks
- ❖ Restaurants (permitted in APZ II)
- ❖ Catering use with banquet facility
- ❖ Funeral parlor

The following land uses are prohibited from APZ I and II because they involve the storage or use of explosive materials:

- ❖ Storage of explosive, flammable, or toxic materials in outdoor above ground storage tanks
- ❖ Petroleum refining or related industries
- ❖ Chemical manufacturing
- ❖ Manufacturing of rubber or plastic products
- ❖ Gas stations and fuel depots

***2: Limit the density of non-residential uses in APZ I and APZ II.***

The JLUS recommends placing a density requirement on all permitted commercial, retail, office uses, and industrial development. The density requirement is based on a 35 person per acre density that will be regulated through applying a parking limitation on all new development in APZ I. The density requirement for APZ II is 50 people per acre.

***3: Retain existing residential land uses and do not increase the permitted density of residential development.***


AICUZ land use guidelines recommend a maximum permitted residential density of one to two single-family detached dwellings per acre.<sup>2</sup> This density is generally already present on the southern side of the base in APZ I and II. On the north side of the base there is existing residential development that is 4.5 units per acre. It is not practical or financially feasible to relocate these households; therefore the JLUS recommendation is that the existing residential zoning should remain but no increase in permitted density be allowed.

---

<sup>2</sup> Andrews Air Force Base Air Installation Compatible Use Zone (AICUZ) Study, December 2007, p. 4-13, 4-17.



# Appendix 13: Density Calculations

Population Density Calculation for 1 Acre Sites									
A	B	C	D	E	F	G	H	I	
Density of People per Acre:	People per Car <sup>1</sup> :	Number of Parking Spaces per Acre <sup>2</sup> :	Allowable Commercial Square Footage per Parking Space:	Allowable Commercial Square Footage on a 1 Acre Site:	Percent of Lot Coverage:	Floor Area Ratio (FAR):	Possible Commercial Uses:	Visual Representation:	
		<i>Column A divided by Column B equals Column C</i>		<i>Column C multiplied by Column D equals Column E</i>	<i>Column E divided by 43,560, then multiplied by 100, equals Column F</i>	<i>6750 divided by 43,560 equals Column G</i>			
<b>Accident Potential Zone (APZ) I</b>									
35	1.3	27	250	6,750	15.5 %	0.15	Small Commercial Building (Bank)		

<sup>1</sup> The figure of 1.3 occupants per car is taken from the 2007-2008 Prince George's County Growth Policy Update.

<sup>2</sup> The allowable number of parking spaces per acre is derived from the Prince George's County Zoning Ordinance (Section 27-568).

# Appendix 14: Federal Policy and Funding Programs that Address Encroachment Issues around Civilian and Military Airports<sup>1</sup>

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1 Presented as a memorandum to the Prince George’s County Council on November 17, 2009.

# Introduction

All airports, military and civilian, affect their surrounding communities. Limiting development encroachment into flight approaches and “safety areas,” ensuring land use compatibility, and mitigating airport noise impacts are goals shared by local and state governments and federal agencies, including the Federal Aviation Administration (FAA) and the Department of Defense (DoD). Although airport configurations, compatibility goals, and land acquisition policies are similar for all types of airport facilities, federal funding programs markedly differ for military and civilian airports. The FAA operates the Airport Improvement Program (AIP), an annual competitive grant program funded by aviation user fees and taxes. In contrast, no similar funding program exists for land acquisition and compatibility efforts around military air installations. Small technical assistance programs are offered through the Department of Defense to promote joint land use planning between local governments and their military bases, but no large, ongoing funding source exists to help ensure appropriate land acquisition and noise attenuation around military airports. Any federal monies allocated for these projects would have to be authorized through a Congressional appropriation.

## Federal Funding Programs for Land Use Compatibility around Civilian Airports

### The Airport Improvement Program (AIP)

In the late 1960s, increased demand for commercial air travel placed operational strains on the United States’ existing system of airports. Recognizing the need for expansion of existing air facilities and construction of new airports, Congress authorized the Airport and Airway Development Act of 1970 and the associated Airport and Airway Revenue Act of 1970. These two acts established new federal funding sources for commercial airports, including the Airport Development Aid Program (ADAP), which was funded primarily through new aviation user fees and taxes. Modeled on the funding mechanism for the United States’ interstate highway system, this program ensured grant monies would be designated for aviation purposes only and would, given user trends, provide an increasing source of revenue in the future. The ADAP program was used throughout the 1970s to fund land acquisition for airport expansion/construction and airport improvements, such as runway extensions and the purchase of new navigational technologies.

The success of this federal funding program led to its renewal in the late 1970s. In 1982, Congress passed the Airport and Airway Improvement Act of 1982, which ended the ADAP but established a new grant program in its place, the Airport Improvement Program (AIP). This program expanded the types of aviation projects eligible for federal funding, including airport noise compatibility programs authorized by the Aviation Safety and Noise Abatement Act of 1979. The AIP has been reauthorized several times since its inception, and it currently is the main federal funding source available to projects at commercial airports. Grants are awarded annually on a competitive basis, and demand typically exceeds the amount of programmed funding. All sponsors of proposed projects must submit annual applications. In FY 2008, 2,457 grant awards were executed nationwide under this program.<sup>1,2</sup> The average grant totaled \$14,128, and the largest grant was for over \$34 million.<sup>3</sup> In FY 2009, over \$3.9 billion was programmed through the AIP for civilian airport improvements

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<sup>1</sup> “Airport Improvement Program,” Catalog of Federal Domestic Assistance ([www.cfda.gov](http://www.cfda.gov)).

<sup>2</sup> No Maryland aviation project was funded in the FY 2008 round of grants.

<sup>3</sup> *Ibid.*

and land use compatibility projects.<sup>4</sup> Additionally, Congress allocated \$1.1 billion for “ready-to-go” AIP aviation projects through the American Recovery and Investment Act (2009).<sup>5</sup> Although intended primarily for commercial airports, a small portion of AIP funds (2.5%) are set aside annually for the Military Airport Program (MAP), which helps current or former military airports convert to civilian facilities. No direct assistance is available through the AIP program to existing, viable military air installations.

## Land Use and Height Compatibility

As with military air bases, civilian airports have special “safety zones” that relate to aircraft approaches and takeoffs. Land use compatibility within these areas is critical to minimize safety hazards. Civilian airports have Runway Protection Zones (RPZs), which are divided into “object free” and “controlled activity” areas.<sup>6,7</sup> The dimensions of the RPZs vary by airport, as the length of an RPZ is determined by approach visibility and the size of aircraft served.<sup>8</sup>

The Federal Aviation Administration (FAA) recommends fee simple acquisition of all properties in the RPZ, ideally with all structures removed after acquisition. Each civilian airport is required to have an “object free” zone within the central portion of its RPZs. However, the FAA acknowledges that it may be impractical to displace some development which precedes the creation (or relocation) of an RPZ. In these “controlled activity” areas, FAA policy requires, at a minimum, the imposition of height restrictions and the prohibition of residential land uses and uses that promote gatherings of people.<sup>9</sup> Properties lying beyond the RPZ in an area known as a Transitional Zone incur a lower safety risk and thus require fewer restrictions. FAA policy for Transitional Zones states that: “Unless there is need for the land for future development or noise compatibility purposes, sponsors should be encouraged to acquire the minimum property interest necessary to ensure safe aeronautical use.”<sup>10</sup> This may come in the form of an avigation easement which limits height, prevents the development of incompatible structures, and “convey[s] the right of flight with inherent noise and vibration below the approach surface.”<sup>11</sup>

The federal Airport Improvement Program (AIP) provides funds for fee simple acquisition and the acquisition of avigation easements in the RPZs and the Transitional Zones.<sup>12</sup> In order to be eligible, an airport must be included in the National Plan of Integrated Airport Systems (NPIAS). For large and medium hub airports, an AIP grant will cover 75 percent of all eligible costs. Smaller commercial and

<sup>4</sup> Heibeck, Wayne T. “Economic Recovery Program Airport Improvement Program.” Presentation at the Eastern Region Airports Division Annual Airports Conference. March 5, 2009.

<sup>5</sup> *Ibid.*

<sup>6</sup> RPZs originally were called “Clear Zones” by the Federal Aviation Administration (FAA).

<sup>7</sup> FAA Order 5100.37B, Section 2-27 (2005) states that an RPZ is “centered about the extended runway centerline and begins 200 feet beyond the end of the area usable for takeoff and landing.”

<sup>8</sup> FAA Advisory Circular 150/5300-13 Change 4 describes RPZ dimensions as varying from spaces of approximately 1,000 feet in length and 450 feet in width (for small aircraft only) to areas 2,500 feet in length and 1,750 feet in width. Areas covered range from 8.035 acres to 78.914 acres.

<sup>9</sup> FAA Order 5100.37B, Section 2-27 (2005) identifies these incompatible land uses as “residences and places of public assembly (churches, schools, hospitals, office buildings, shopping centers, and other uses with similar concentrations of persons) and other uses inconsistent with airport operations.”

<sup>10</sup> FAA Order 5100.38C, Section 701 (2005).

<sup>11</sup> *Ibid.*

<sup>12</sup> FAA Order 5100.38C, Section 701 (2005) states, however, that funding for fee simple acquisition in the Transitional Zones is limited to an area within “5,000 feet from the end of the existing or proposed primary surface.”

general aviation airports will receive AIP grants covering 95 percent of all eligible costs. Land acquisition must occur no more than five years prior to property development/improvement. Land options may be purchased with AIP funds, but this is not strongly encouraged, due to the highly speculative nature of options. Land option costs may only be reimbursed with AIP funds if the land optioned is actually acquired in fee by an airport owner.

## Noise Compatibility

Noise impacts created by commercial and general aviation airports are regulated by Federal Aviation Regulation, Part 150, which focuses on planning for noise compatibility around civilian airports. Authorized under the Aviation Safety and Noise Abatement Act of 1979, Part 150 establishes a voluntary program through which airport owners/operators may acquire federal grants for noise abatement initiatives. Participation in the Part 150 program requires an airport owner/operator to prepare Airport Noise Exposure Maps (NEM) that delineate existing airport-area noise contours for DNL 65 dB and above areas and any anticipated future changes to these noise contours. These maps are used to identify areas within the noise zones that contain incompatible land uses. Additionally, an airport owner/operator must prepare a Noise Compatibility Program (NCP) that details how the airport intends to reduce incompatible land uses and/or mitigate adverse noise impacts in DNL 65 dB and above noise zones.

Noise compatibility projects receive 34 percent of the Airport Improvement Program's discretionary funds. Eligible projects may include land acquisition, noise monitoring equipment, noise barriers, and noise level reduction (NLR) in area residences or places of public assembly that fall within the DNL 65 dB and DNL 74 dB noise contours.<sup>13</sup> Land acquisition costs may include:

- ❖ Fee simple buyouts by the airport owner that allow a change in land use (to one that is compatible with the noise zone).
- ❖ Fee simple acquisition of residential properties in which AIP funds are used to purchase the properties and institute noise level reduction (NLR) measures before the property is resold for residential uses ("purchase assurance"). An aviation easement is placed on the property at the time of resale.
- ❖ A guarantee by the airport owner that properties falling within designated noise contours (DNL 65 dB–DNL 74 dB) will sell at their fair market value; if not, the airport owner will be responsible for using AIP funds to cover the difference. The seller will only be compensated if an aviation easement is placed on the property at the time of sale ("sales assurance").
- ❖ An agreement by the airport owner to pay certain transactional costs at the time of a property's sale in exchange for an aviation easement being placed on the property ("transaction assistance").<sup>14</sup>

Additionally, easements, restrictive covenants, and/or development rights may be purchased with AIP funds.

Noise level reduction (NLR) projects are commonly undertaken with AIP funds. AIP funds typically will cover 80 percent of costs associated with these projects. NLR projects must be identified in an NCP and funds must be used on properties falling within the DNL 65 dB–DNL 74 dB noise zone. Noise attenuation measures, which may include window and door replacement, increased insulation, weatherstripping, and

<sup>13</sup> FAA Order 5100.38C, Section 811 (2005) provides that noise compatibility projects may be eligible if they fall in DNL 55 dB–DNL 64 dB noise zones, if it can be established that the project will create a noise buffer or achieve equitable conditions across a neighborhood (*e.g.*, all houses in a neighborhood become eligible for noise level reduction measures).

<sup>14</sup> *Ibid.*



central air conditioning, should reduce interior noise levels to DNL 45 dB. Funds will not be allocated for proposed NLR in residences or places of assembly located in DNL 75 dB or greater noise zones, as FAA policy strongly recommends a land use change for these properties.<sup>15</sup>

## Federal Relocation Assistance

Any project receiving AIP funds for land use or noise compatibility falls under the jurisdiction of the Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 U.S.C. §4601 *et seq.*). Enacted in 1971, this federal law ensures that any individual or business displaced from his/her/its residence or property due to federal actions will receive federal reimbursement for new property acquisition and/or relocation costs (in addition to the fair market value purchase price). Individuals displaced from residences may receive moving costs, up to \$22,500 to purchase a replacement dwelling, and up to \$5,250 in downpayment assistance.<sup>16</sup> Businesses may receive up to \$2,500 for relocation searches, up to \$10,000 for re-establishment costs, and moving costs. Businesses and individual residents will also receive relocation assistance in the form of advisory services, assistance in locating new property, and help in completing any necessary forms/applications.

## Federally-Funded Compatibility Programs at Baltimore-Washington International Airport (BWI)

Operated by the Maryland Aviation Administration (MAA), the Baltimore-Washington International Airport (BWI) participates in the FAA's Part 150 program. BWI's Office of Noise, Real Estate, and Land Use Compatibility has an FAA-approved Noise Compatibility Program (NCP) and uses several AIP-funded strategies for noise mitigation, including acquisition of aviation easements, a Voluntary Noise Acquisition (Buyout) Program, a purchase assistance program, and a noise level reduction (NLR)/soundproofing program for eligible homeowners and airport-area schools.

Under the Voluntary Noise Acquisition Program, the MAA uses AIP funds to purchase properties located in noise zones greater than DNL 70 dB. Homes that can remain in residential use will receive noise level reduction measures; others will be rezoned to industrial or commercial uses. In 2007, 343 properties were eligible for this program; of these, 250 had been acquired. Participation is voluntary, and 89 owners either declined or did not apply for this program. The MAA has received approximately \$28 million over the course of the Voluntary Noise Acquisition Program to purchase 200 residential properties and rezone them to compatible industrial uses. In addition, the MAA spent \$9.3 million to purchase a mobile home park located within the DNL 65 dB noise zone and relocate its residents.<sup>17</sup> The MAA has received and expended over \$40 million in AIP funds on this acquisition program since the AIP grant process began in 1982.<sup>18</sup>

BWI's Homeowners Assistance Program has two prongs: 1) "purchase assurance"; and 2) an NLR component. Under "purchase assurance," the MAA will provide financial assistance to homeowners in the DNL 70 dB–75 dB noise contour who do not qualify for the Voluntary Noise Acquisition Program. This comes in the form of a contract that commits the MAA to pay the difference between the property's fair

<sup>15</sup> Additionally, FAA Order 5100.38C, Section 12 (2005) states that mobile homes are not eligible for any NLR funding.

<sup>16</sup> Actual amount received varies according to tenure (owner-occupant or renter) and time one occupied a residence.

<sup>17</sup> Personal communication with Ellen Sample, Director of the Aviation Noise and Abatement Office of the MAA, on 12 November 2009.

<sup>18</sup> "Baltimore-Washington International Thurgood Marshall Airport," found at <http://www.boeing.com/commercial/noise/baltimore.html>.

market value and its actual selling price (if lower) and also cover a portion of closing costs on a new home so the homeowner can move out of the noise zone. The noise attenuation component of the Homeowners Assistance Program is a voluntary program that applies to all properties located in noise zones greater than DNL 65 dB.<sup>19</sup> Applicants to this program can receive funds to reduce interior noise levels to DNL 45 dB in exchange for the conveyance of an avigation easement on the property after NLR measures are completed and approved by the MAA.<sup>20, 21</sup> As of September 2004, 675 homes around BWI had received NLR funding, and another 40 were on a waiting list. Additionally, the MAA provided AIP funds to conduct soundproofing measures at four middle and elementary schools falling within the DNL 65 dB and above noise zones.<sup>22</sup>

## Federal Policy and Funding for Land Use Compatibility around Military Air Installations

Land use compatibility issues around military air installations are as important as those around civilian airports. Although many military bases are located in relatively undeveloped areas, others have experienced steady encroachment due to patterns of suburban development during the late twentieth century. Minimizing land use, height, and noise level conflicts has become of paramount importance to the Department of Defense to ensure that a military base's mission will not be compromised. Similarly, local and state governments have strong interests in supporting base missions due to the economic benefits these military installations bring to a community.

Local land use planning, however, is considered the province of state and local governments. Although some federal decisions can impact local ordinances, the federal government generally does not intervene in community land use and zoning issues. This system of legal powers places the burden of ensuring land use compatibility on state and local governments. Few federal regulations exist, and federal policy for safety zones and noise zones is limited. Cooperative efforts with local governments are anticipated, but little federal funding is available to support land use compatibility planning around military installations.<sup>23</sup>

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<sup>19</sup> This noise contour extends approximately seven miles from the end of BWI's runways.

<sup>20</sup> According to the Maryland Aviation Administration handout "Residential Sound Insulation Program," "standard treatment" in the NLR program includes new windows, prime doors, storm doors, wall treatment, attic insulation, central air conditioning (for homes that do not already have this), a fresh air system, and kitchen and bath exhaust fans.

<sup>21</sup> The average total for retrofitting is \$45,000–\$50,000 per home, and the entire retrofitting process typically takes four to six weeks. According to the MAA's website (<http://www.maacommunityrelations.com/content/communityprograms/homeownerassistprograms.php>), approximately 60 homes receive NLR measures each year.

<sup>22</sup> Completed in 1991, this project cost \$9.3 million. Maryland Aviation Administration, *Baltimore-Washington International Airport FAR Part 150 Update/Noise Exposure Map Executive Summary* (March 2005).

<sup>23</sup> Department of Defense Instruction (DODI) 4165.57, Section 4.2.1.1. (1977) states that "DoD policy is to work toward achieving compatibility between air installations and neighboring civilian communities by means of a compatible land use planning and control process conducted by the local community."

## Federal Policy for Safety Zones

Department of Defense Instruction (DODI) 4165.57 (32 CFR Part 256) identifies basic federal policy for the three safety zones associated with a military air installation.<sup>24</sup> According to this document, “Areas immediately beyond the ends of runways and along primary flight paths...should remain undeveloped, or if developed should be only sparsely developed in order to limit, as much as possible, the adverse effects of a possible aircraft accident.”<sup>25</sup> The area located immediately adjacent to the end of the runway, the Clear Zone, “has traditionally been acquired by the Government in fee and kept clear of obstructions to flight.”<sup>26</sup> Land use acquisition policy prioritizes Clear Zone fee simple acquisition or the acquisition of easements when a fee simple conveyance cannot be achieved.<sup>27</sup> Acquisition of properties in Accident Potential Zone I (APZ I) and Accident Potential Zone II (APZ II), both of which are larger than the Clear Zone and have lower accident risk, is deemed less important, and military policy requires exhausting “all possibilities of achieving compatible use zoning, or similar protection” before land use acquisition can occur.<sup>28</sup>

DODI 4165.57 also identifies appropriate land uses for safety zone areas. The extensive list of land use guidelines is based on a series of principles defined by the need for unobstructed flight paths and realities associated with military technologies.<sup>29</sup> These principles include:

- ❖ Flying over safety zone property and generating aircraft noise.
- ❖ Limiting light emissions or the release of substances into the air that have the potential to affect aircraft operations.
- ❖ Prohibiting electrical emissions that could interfere with aircraft equipment.
- ❖ Prohibiting land uses that attract birds or waterfowl.
- ❖ Prohibiting and removing buildings and structures.
- ❖ Limiting vegetation growth.
- ❖ Limiting land uses to those that are compatible with a base’s mission, such as agricultural, utilities, and open space uses.<sup>30</sup>

Federal policies that impact land use compatibility planning extend beyond Department of Defense administrative regulations. The Department of Housing and Urban Development (HUD) has adopted a policy of “discourag[ing] the provision of any assistance, subsidy, or insurance” for projects and actions within military safety zones.<sup>31</sup> This policy is designed “to prevent incompatible development around...

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<sup>24</sup> It should be noted that the three military “safety zones” are typically larger than the “safety zones” at civilian airports. For example, one of the Clear Zones at Joint Base Andrews Naval Air Facility Washington covers over 344 acres. In contrast, a civilian airport’s “object free” Runway Protection Zone area may cover up to approximately 58 acres. Federal Aviation Administration Advisory Circular 150/5300-13 (2007), p. 19.

<sup>25</sup> DODI 4165.57, Section 3.3.1.1 (1977).

<sup>26</sup> *Ibid*, Section 3.3.2.1.

<sup>27</sup> *Ibid*, Section 4.2.2.2.1.

<sup>28</sup> *Ibid*, Section 4.2.2.2.2.

<sup>29</sup> The full list of compatible and incompatible uses can be found in DODI 4165.57, Enclosure 4.

<sup>30</sup> Additional principles can be found in DODI 4165.57, Section 6.

<sup>31</sup> 24 CFR Subtitle A, § 51.303 (2008).

military airfields.”<sup>32</sup> Additionally, the National Environmental Policy Act of 1969 (NEPA) requires that all military branches assess the impact of their operations on the environment, including specific impacts on local communities. This results in an Environmental Impact Statement (EIS) or Environmental Assessment (EA) that is available for public review and comment and which may limit military actions.

## Federal Policy for Noise Zones

General federal policy relating to noise associated with military air bases involves taking “all reasonable, economical, and practical measures to “reduce and/or control the generation of noise from flying and flying related activities.”<sup>33</sup> More specific policies also apply to land use compatibility issues in noise zones around military air installations. DODI 4165.57, Section 3.4.2.1 requires the military to identify areas falling within the DNL 65 dB, 70 dB, 75 dB, and 80 dB noise contours and make associated maps available to local governments for appropriate land use planning. Federal acquisition of property in the noise zones is discouraged (unless it also lies in a Clear Zone): land use acquisition based on noise incompatibility is of a lower priority than safety zone land acquisition, and acquisition is authorized only if “all possibilities of achieving compatible use zoning” have been exhausted.<sup>34</sup> This position results from the military’s recognition that shifts in noise contours may occur due to increased/decreased flight operations and new technologies, making land acquisition for compatibility in the noise zones a more uncertain proposition than acquisition for compatibility in established safety zones.<sup>35</sup>

## Federal Assistance

Unlike the case of civilian airports, no broad federal funding program is available to assist the military and local governments with property acquisition or noise attenuation around military bases. Instead, the emphasis is on local land use planning, and the military offers three programs designed to provide limited financial and technical planning assistance to local governments working in partnership with their military installations.

### *Air Installation Compatible Use Zone (AICUZ) Program*

Established in 1973 by the Department of Defense in response to growing concern over encroachment pressures around the nation’s military bases, the Air Installation Compatible Use Zone (AICUZ) Program studies noise levels, existing community land uses, and building heights near air bases, collecting data on existing and potential incompatibilities and distributing this data to local governments. Data required under DODI 4165.57 are incorporated into AICUZ reports, including maps of base-area noise contours and safety zones. Furthermore, AICUZ studies incorporate the compatible/incompatible land use table found in DODI 4165.57 for local governments to use as guidance for land use, zoning, and development decisions in safety zones and noise zones around air installations.

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<sup>32</sup> *Ibid.*

<sup>33</sup> DODI 4165.57, Section 4.1.

<sup>34</sup> *Ibid.*, Section 4.2.2.2.2.

<sup>35</sup> Additionally, DODI 4165.57, Section 4.2.2.2.2.1 cautions that “Costs of establishing and maintaining compatible use zones must be weighed against other available options, such as changing the installation’s mission and relocating the flying activities, closing the installation, or such other courses of actions as may be available.”

### ***Joint Land Use Study (JLUS) Program***

The Department of Defense's Office of Economic Adjustment (OEA) administers another technical assistance program designed to promote cooperative planning between local governments and military installations. Created in 1985, this program aims to "reduce the operational impacts of the military bases on adjacent land" and reduce the potential for future encroachment conflicts.<sup>36</sup> Under the JLUS program, the OEA may provide local governments with limited financial assistance to conduct specialized studies that focus on land use, height, and noise zone compatibility issues. Recommendations made through a JLUS help local governments implement regulations and policies that reduce compatibility conflicts while respecting the growth needs of the local community and the military base's mission.

### ***Readiness and Environmental Protection Initiative (REPI)***

Another method by which the federal government can offer assistance to promote land use compatibility is through joint partnerships with other federal agencies, a state or local government, or a conservation group under the National Defense Authorization Act for Fiscal Year 2003. This legislation, known as the Readiness and Environmental Protection Initiative (REPI), allows the Department of Defense to work with these groups to acquire an interest in land around military bases to protect important environmental resources and prevent local development from impacting the military base mission. The REPI program does not, however, permit the military to acquire property under this program. The land interest acquired by the partner is a less than fee simple interest, typically a conservation easement. This conservation partnering initiative has resulted in habitat protection for endangered species and land conservation (as protected open space), which helps form a buffer between a military installation and the nearby community. In FY 2009, the REPI program received over \$56.5 million in Department of Defense funds; however, this figure has been reduced to just over \$39 million for FY 2010 in order to reduce overall department costs.<sup>37</sup>

## Conclusion

Although the public safety need to acquire properties in a military air installation's Clear Zone is similar to that of a civilian airport owner's need to acquire properties in the Runway Protection Zone, little funding exists for fee simple acquisition or avigation easements around military air bases. Any federal funds for this purpose must be authorized through a special Congressional appropriation. Other compatibility issues within air installation safety zones or noise zones must be addressed through rezonings and cooperative land use planning.

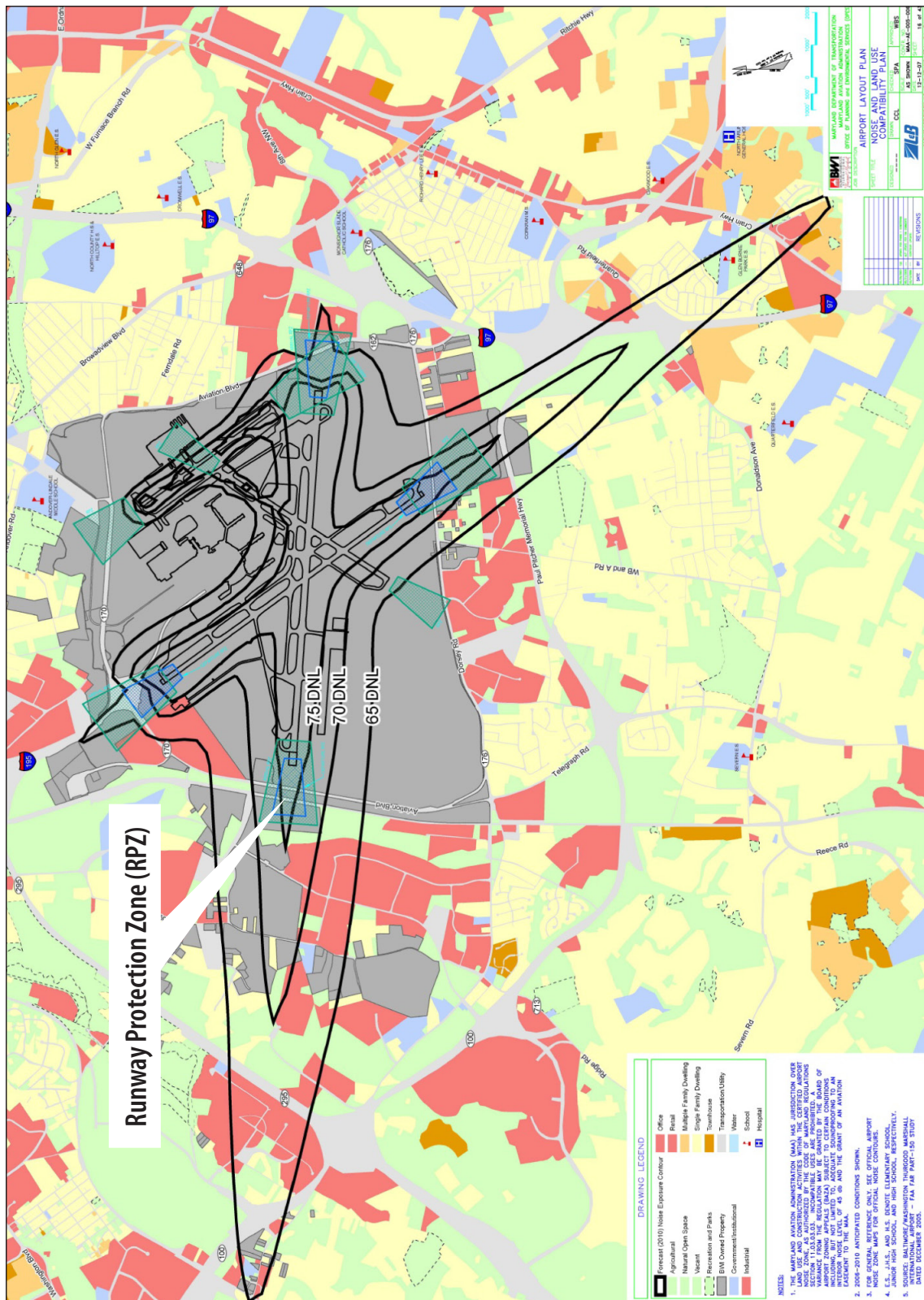
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<sup>36</sup> Office of Economic Adjustment (OEA). *Joint Land Use Study Program Guidance Manual* (November 2006), p. 2.

<sup>37</sup> Office of the Secretary of Defense, *Fiscal Year 2010 Budget Estimates* (May 2009), p. OSD 610.



## Appendix Map 2: Baltimore-Washington International Airport Runway Protection Zones and Noise Contours



**Table 1. Comparison of Safety Zone Acreages at BWI and JBA**

Safety Zone	Acreage
<b>Baltimore-Washington International Airport</b>	
Runway Protection Zone (RPZ)	
Runway 15 R	78.914
Runway 15 L	78.914
Runway 33 R	78.914
Runway 33 L	78.914
Runway 28	78.914
Runway 10	78.914
Runway 4	29.465
Runway 22	29.465
TOTAL	532.414
<b>Joint Base Andrews Naval Air Facility Washington</b>	
Northern Clear Zone (CZ)	344 (136 off base)
Southern Clear Zone (CZ)	344 (all on base)
Northern Accident Potential Zone I (APZ I)	564
Southern Accident Potential Zone I (APZ I)	574 (349 off base)
Northern Accident Potential Zone II (APZ II)	804
Southern Accident Potential Zone II (APZ II)	804
TOTAL	3,434 (2,657 off base)

**Source:** M-NCPPC GIS data and BWI Division of Airport Facilities Planning

# Acknowledgments

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