Washington State Department of Transportation Aviation Division

Airport Land Use Compatibility Program Evaluation

Final Report

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Executive Summary

Airport land use compatibility is an issue that faces every airport in the State of Washington. The majority of airports today are no longer isolated in rural areas, but are increasingly being surrounded by residential, commercial, and other land uses that are not necessarily compatible with airport operations for reasons such as noise, land use, safety and height restrictions.

In 1991, in response to these issues, the Washington State Department of Transportation Aviation Division (WSDOT-A) created an Airport Land Use Compatibility Program (ALUCP), based on the intent of the 1990 Growth Management Act or GMA. The GMA requires that all Washington communities develop a comprehensive plan and consistent development regulations. In 1998, as a supplemental guide to this legislation, WSDOT-A developed its Guidebook, *Airports and Compatible Land Use - Volume I*.

Since the Guidebook was introduced, its content, process and implementation have been of concern for various aviation and municipal stakeholders. In response to these concerns, WSDOT-A hired a professional consultant to evaluate the program to determine if the program met the intent of the GMA and served as an effective guide for the implementation of the land use plans. A state-wide public opinion survey was conducted to address these issues; the survey included over 300 stakeholders. This independent evaluation also included interviews with WSDOT-A staff, local land use jurisdictions, airport sponsors, state agencies and other aviation interests. The Washington Airport Management Association (WAMA) document was also reviewed.

The on-line land use survey and follow-up phone interviews were also conducted with airport managers, elected officials, planners and other stakeholders which present a positive picture for the overall effectiveness of the ALUCP:

- **60 percent** of respondents reported that they are involved with multi-jurisdictional cooperation for airport planning and zoning,
- **61 percent** reported that their airports had been designated as Essential Public Facilities,
- **66 percent** reported that their local comprehensive planning goals included the protection of airports from incompatible land use,
- **48 percent** reported that they have local or county land use regulations to address land use compatibility,
- **58 percent** reported that their city or county had not adopted an airport land use compatibility program,
- **72 percent** reported that their local comprehensive plan was medium or highly effective in addressing land use compatibility,
- **61 percent** reported that the ALUCP was medium or highly effective,

- **84 percent** reported that the ALUCP was medium or highly effective in meeting the FAA's height directives,
- **72 percent** reported the ALUCP was medium or highly effective in meeting the FAA's safety directives,
- **65 percent** reported that the ALUCP was medium or highly effective in meeting the FAA's noise directives,
- **68 percent** reported that the WSDOT-A Airports and Compatible Land Use-Volume 1 is effective at a medium or high level,
- **79 percent** reported that the other WSDOT-A tools, besides the Guidebook, were effective at a medium or high level, and
- **70 percent** reported that the ALUCP was medium or highly effective in meeting the intent of the GMA.

Although these survey responses reveal that the majority of the stakeholders feel the ALUCP is meeting the intent of the GMA at a medium to high level, there is always room for improvement. After careful analysis of existing documents, survey responses, telephone interviews and staff interviews, the consultant team provided WSDOT-A with a set of recommendations that address the main issues associated with the existing program. The main recommendations include:

- **Enhance coordination** through committee formation, multi-jurisdictional liaisons, and increased FAA involvement,
- **Develop funding opportunities** as alternatives to Airport Improvement Funds,
- **Create flexible land use criteria** that recognizes customized overlays and customized guidelines for compatibility planning,
- **Modify existing aircraft accident safety zones** through the use of updated CALTRANS data, and allow flexibility based on topographical constraints and existing densities, and
- **Update the Guidebook** to address new issues and include techniques and tools for implementation.

WSDOT-A’s ALUCP is leading the way in state-wide airport compatibility planning. Its creation six years ago was pivotal in the greater national debate on land use compatibility. In an effort to stay at the forefront of this debate, WSDOT-A has taken a significant step to assess the program to continue to develop a more comprehensive plan which will foster the development of compatible land uses near public-use airports within the State of Washington. The outcome of this analysis proves that the program's Guidebook is a very important document in the aviation industry; however, updates are necessary to keep pace with the industry and the ever changing economic landscape.

Chapter 1 - The Background

The State of Washington is an attractive place to live, and resulting development and growth are impacting airports across the state from encroaching incompatible development activity. According to the U.S. Census Bureau, the population has increased by 156 percent over the past 53 years, from 2,378,963 residents in 1950 to 6,098,300 residents in 2003. The largest increases occurred between 1970 and 1980, when nearly 1 million people migrated to the state, and again between 1990 and 2000, when another 1 million additional people took up residence in the State.

In response to these population and growth trends, the State of Washington passed the Growth Management Act (GMA) in 1990. The legislation was established to address concerns with suburban sprawl, environmental protection and quality of life issues. Codified primarily in Chapter 36.70A RCW, the GMA requires most cities and counties to adopt comprehensive plans and consistent development regulations. The GMA has been amended several times and in a specific instance, the issue of compatible land uses around airports has been addressed. In support of the GMA, state legislation (RCW 35.63.250, 35A.63.270. 36.70.547, 36.70A.510, Substitute Senate Bill 6422, *General Aviation Facilities-Protection from Incompatible Land Uses*) was enacted in 1996 to encourage local jurisdictions to protect public use airports from incompatible land uses through comprehensive plan policies and appropriate regulations. This was an acknowledgement of the importance of the aviation industry of the State and its role in the National and State economy.

As required by the 1996 legislation, the Washington State Department of Transportation Aviation Division (WSDOT-A) created a Guidebook to address incompatible land uses in more detail. The resulting Guidebook, entitled *Airports and Compatible Land Use -Volume 1,* was developed to provide guidance to communities for compatibility planning. The Guidebook emphasizes the use of available research and best management practices in order to promote informed decision-making on the local level. The land use program also includes the following areas: general technical assistance, example policies and regulations, resource material and development, comprehensive planning and regulation review and outreach. The majority of these resources are available on the WSDOT-A website or by contacting the Division.

What has changed over the years is the demand for developable space which is often in proximity to airports. The days of a local airport being located away from town, in an unpopulated setting, is hard to find today. Instead, we have airports and other land uses, such as commercial, industrial and residential, all competing for the same physical spaces. It is this competition for space, both ground based and in the air, which is the catalyst for the development of incompatible land uses. As demand for developable open space continues to grow, it is increasingly important to protect areas adjacent to airports by using a variety of tools.

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Chapter 2 - The Issue

The issue of having compatible land uses around airports is not a new concept. States such as Oregon and California have been addressing this issue for over 30 years. Washington State first addressed airport land use compatibility in the State Aviation System Plan adopted in 1973. Height hazards were addressed early-on by the legislature in 1945 with the passage of RCW 14.12 *Airport Zoning*. The aviation system plan together with the land use program was updated in 1980, and again in 1991. During the 1970's and 1980's, the program initially dealt with noise and height hazards, although there is a mention of general incompatible land use encroachment concerns. The 1991 update reflected these same issues together with provisions of the Growth Management Act (GMA) to inventory airport facilities and to protect airports as Essential Public Facilities (EPFs) that was adopted in 1990.

In 1996, the Washington State legislature again addressed land use compatibility adjacent to airports with the passage of Substitute Senate Bill 6422, *General Aviation Facilities-Protection from Incompatible Land Uses*. Legislation required all towns, cities and counties to discourage incompatible land uses adjacent to public use general aviation airports through comprehensive plan policies and development regulations. The program also calls for a technical assistance program to be administered by the Washington State Department of Transportation Aviation (WSDOT-A) Division. Through this technical assistance program, WSDOT-Aviation developed guidelines that address three areas to be considered by local jurisdictions. These include height hazards, noise and safety. It was the first time that the land use program considered "safety zones" (the geographic location of historical aircraft accidents) to address land use compatibility. The guidelines tie safety zones to land use type and density.

Since the inception of the WSDOT-A Airport Land Use Compatibility Program (ALUCP) and its Guidebook, *Airports and Compatible Land Use -Volume 1,* concerns regarding the content and effectiveness of the program and Guidebook have been raised by various stakeholders. Aviation related stakeholders and local municipalities have voiced concerns about the impacts of the program on airports throughout the State. It is important to note than when asked if compatible land uses around an airport are important, you are hard pressed to find someone who responds negatively; the concept of having compatible land uses is a valid concern. What is more of a concern for many individuals is the method in which the areas of influence or impact are identified and regulated.

To address this issue, the Washington Airport Management Association (WAMA) spearheaded a Land Use Compatibility Committee in 2003 to provide WSDOT-A with recommendations on how to improve the ALUCP and the Guidebook. Among the Committee's primary findings was the need to develop new strategies for encouraging local jurisdictions to develop reasonable land use regulations. The need to develop an assessment of the use of accident data for the purposes of establishing areas of concern around airports was also questioned.

In response to these findings, WSDOT-A has hired a professional consultant to assess the ALUCP and the Guidebook and make recommendations on ways to improve, modify and strengthen the program as necessary to continue to support the preservation of compatible land uses around airports. The results presented and analyzed in this report offer a broad look at how airports and governments across the state are interpreting and meeting the intent of the program to discourage the threats of incompatible land uses near airports. The report also includes preliminary recommendations of methods to strengthen the existing program as well as identify strategies for additional study.

Chapter 3 - Data Sources

To better understand the effectiveness of the WSDOT-A program and its Guidebook, *Airports and Compatible Land Use -Volume 1,* private consulting firms, Reid Middleton and Mead & Hunt, Inc. were contracted to provide an independent review of the existing program and preliminary recommendations for methods to improve it. The primary areas of data collection were targeted to provide a comprehensive look at the existing program and included the following:

- The staff of WSDOT-A were interviewed about the program and their understanding of its intent, its success and its challenges.
- The existing documentation for the program was also reviewed to provide a basic understanding of the type of information available to local jurisdictions.
- The existing data and report provided by the Washington Airport Management (WAMA).
- In addition to these existing documents, the consultant team and the WSDOT-A felt it was important to collect information from the local jurisdictions, both airports and municipalities, related to the land use issues. Consequently, a survey was developed and distributed to over 300 agencies and organizations to collect state-wide thoughts on the program.

The results of these data sources are discussed in detail in this report.

3.1-The Growth Management Act and the Washington State Aviation Policy

The consultant team reviewed the intent and purposes of the Growth Management Act (GMA) and related amendments, and the Revised Code of Washington (RCW) 35.63.250, 35A.63.270, 36.70.547, 36.70A.510, and 36.70A.200. The Washington State Aviation Policy's *Matrix of State Interest and Authority* was also analyzed in an effort to better understand the State's role in Washington's aviation system.

3.2-WSDOT-A Staff Interviews and Resource Documents

The consultant team conducted interviews with key staff members of WSDOT-A involved with land use compatibility issues. Data collected from these interviews helped the consultants gain background information and identify significant compatibility issues. Existing resource documents were reviewed by the consultant team during this necessary data collection process.

The following documents were reviewed:

- *Airports and Compatible Land Use -Volume 1*, WSDOT-A, 1999,
- Airport Land Use Compatibility Program Folio, WSDOT-A, 2005,
- City of Yakima, Briefing Paper-Land Use Compatibility and Local Decision Making

- Model Policy Language and Regulations-Chelan County
- Washington State Aviation System Plan

3.3 - Washington Airport Management Association Land Use Committee Documents

The working papers of the Washington Airport Management Association (WAMA) Land Use Compatibility Committee were collected and reviewed by the consultant team. Reported discussions of the ALUCP and incompatibility issues were analyzed for appropriate inclusion in this report.

The following WAMA issues reviewed:

- Accident data should not be used for land use planning, and
- Local jurisdictions need clarification on how to interpret and use guidelines.

The following WAMA recommendations were reviewed:

- Eliminate or reduce emphasis on accident data and eliminate references to safety zones,
- Clarify for local jurisdictions the applicability and appropriate use of the guidelines,
- Form a joint study group with airport sponsors (WAMA and WPPA), the Federal Aviation Administration, and WSDOT-A to assist with implementing the changes recommended in this report.

3.4 - Land Use Survey

To further assess the program, the consultant team was asked to design, distribute and analyze a survey of over 300 stakeholders throughout the state of Washington, including planners, airport managers, municipal officials, and other significant individuals who are involved with the issue of compatible land uses near airports. The survey was developed in an electronic, on-line format which was distributed to interested parties by WSDOT-A via an email message. A copy of the survey is included in **Appendix A** of this document. The staff of WSDOT-A distributed the survey to a list of 330 individuals. To further assess the program, follow-up telephone interviews were conducted by Mead & Hunt staff members with over two dozen people to obtain further detail about the program. The survey results and the follow-up telephone interviews resulted in a comprehensive look at the public opinion surrounding WSDOT-A's 1999 *Airports and Compatible Land Use* guidebook.

3.5 – Summary of Data Collection Effort

Each of the three primary data sources provided the consultant team with a unique perspective on the program. Using three different data sources was done intentionally to provide a comprehensive set of data from which to conduct an unbiased and through assessment of the existing document, Guidebook and implementation of the program.

Chapter 4 - Analysis

This Chapter contains an analysis of existing legislation, reports, working papers, staff interviews and stakeholder interviews and provides the context that surrounds the WSDOT-A program. To better understand the current efficiency and intention of the program, in-depth analysis was completed of all related legislation and documents.

4.1- An Analysis of the Growth Management Act and Growth Management Hearing Board

The Growth Management Act (GMA) of 1990 sets the stage for state-wide coordinated and planned growth. The elements of the GMA address quality of life issues, including environmental protection, economic growth, and the health and safety of Washington's residents. As an amendment to the GMA, Senate Bill 6422 introduced legislation that recognized the inherent social and economic benefits of aviation. Now known as the Revised Code of Washington (RCW) 35.63.250, 35A.63.270, 36.70.547, and 36.70A.510, it provides legislation that *requires all* local and county governments, including GMA and non-GMA planning counties to discourage the siting of incompatible land uses near their respective airports. The basis for requiring communities to protect their airports is primarily found in 36.70.547. While it is a State law to protect local airports from incompatible land use, it is a local decision on how the implementation is carried out. The intent of the WSDOT-A Guidebook and supporting documents are to provide guidance to communities on how to develop the appropriate policy to meet the intent of the law while accommodating local situations.

In addition to specific protection of airports as individual entities, the GMA requires that all cities and counties planning under the GMA to provide for the siting of *Essential Public Facilities (EPF),* which may include airports. Under RCW 36.70A.200, a course of action must be adopted in local or county comprehensive plans that addresses the siting of EPFs and any necessary expansions of said EPFs. This can be interpreted as including the development of airport zoning that protects against incompatible land uses. Currently, counties that are mandated to plan include Chelan, Clallam, Clark, Grant, Island, Jefferson, King, Kitsap, Lewis, Mason, Pierce, San Juan, Skagit, Snohomish, Spokane, Thurston, Whatcom and Yakima. Counties that are opting to plan include Benton, Columbia, Douglas, Ferry, Franklin, Garfield, Kittitas, Pacific, Pend Oreille, Stevens and Walla Walla. Counties that are not planning under GMA provisions include Adams, Asotin, Cowlitz, Grays Harbor, Okanogan, Klickitat, Lincoln, Wahkiakum and Whitman. The Washington State Department of Community, Trade and Economic Development has provided a color-coded map of the planning status of these counties. **Appendix B** includes a copy of this map.

As a supporting body for the GMA, three quasi-judicial Growth Management Hearing Boards were developed in 1991 to quickly resolve land use disputes stemming from the GMA. According to the State of Washington Department of Community, Trade and Economic Development

(DCTED), the purpose of the Boards is to "hear and determine" allegations that a city, county or state agency has not complied with the goals and requirements of the GMA. Allegations typically involve interpreting and clarifying provisions within the GMA. The Boards do not approve or certify locally adopted plans or development regulations, but the DCTED must review and comment on every proposed plan or regulation at least 60 days before local adoption. In addition, the DCTED does not have the authority to approve a plan or regulation, but it must provide comments to the local government. Only in the event that a plan or regulation would substantially interfere with fulfillment of GMA goals could a board invalidate or strike-down all or part of a local plan.

4.1.1 Results of the GMA and GMA Hearing Board Analysis

After review of the GMA and related amendments, it becomes clear that these pieces of legislation were intended to support a local course of action for protecting the state's airports. The GMA provides local enabling legislation for local and county governments to determine their own course of action in discouraging land use incompatibility. By leaving land use decision-making in the hands of local governments, this "bottom-up" approach empowers local governments to establish comprehensive planning and zoning, and outlines a supportive role for state agencies in the planning process.

The purpose of the GMA Hearing Boards is to provide a body which is charged with the task of resolving local land use disputes involving interpretation of the GMA. These Boards may support or invalidate an airport zoning or planning regulation only if it is determined to "substantially interfere" with the provisions of the GMA.

While the GMA provides the enabling legislation and the GMA Hearing Boards provide the body for possible mediation of land use plans, the local communities provide the specific policies to implement and meet the intent of the GMA. As will be discussed in a following section, there is a disconnect between these three roles. Many communities do not realize that they have the authority to implement specific land use regulations to meet their needs. Many believe the guidelines outlined in the WSDOT-A Guidebook must be implemented verbatim to the Guidebook. Some of these communities also believe the GMA Hearing Boards will not approve their plan if they deviate from the Guidebook. Both of these situations appear to be creating misconceptions about the ALUCP which are detrimental to the success of the GMA.

4.2- An Analysis of the Washington State Aviation Policy and Airports and Compatible Land Use -Volume 1

The GMA provides state-level guidance for quality of life issues for many areas. The specific emphasis on aviation is relegated to WSDOT-A. As a response to the role aviation plays in the state, the Washington State Aviation Policy was updated in 1998 under Resolution 567 based on the recommendations of the Aviation Policy Advisory Committee.

4.2.1 State Interest and Authority in Aviation

The Committee's recommendations identified four key issues to be addressed at the State level, reflected in the State Aviation Policy's *Matrix of State Interest and Authority in Aviation.* These four issues, while independent in their individual area of interest, are all tied together by a common potential impact of incompatible land use. Incompatible land use has the ability to threaten each of these four key issues which the State Aviation Policy is focused on maintaining.

Exhibit 1
Matrix of State Interest and Authority In Aviation

State Interest	Primary Responsibility	Supporting Responsibility
Preservation of a system of airports	Airport Owners	FAA, WSDOT-A, Local Governments with zoning authority
Safe Air Travel	FAA, Airport Owners and Airlines	WSDOT-A
Adequate Airport Capacity	Airport Owners	FAA, WSDOT-A
Minimizing the negative impacts of airport operations	Airport Owners	State and Federal environmental protection agencies

Source: Airports and Compatible Land Use-Volume 1, WSDOT-A, 1999

Preservation of a System of Airports. The primary responsibility for preserving the State's airport system rests with airport owners, but WSDOT-A, the FAA and local zoning authorities must play a supporting role in protecting airports. This protection comes in many forms, including protection from encroachment, preservation of funding, and promotion of the economic need for airports. Incompatible land uses can tax the local entities' ability to preserve their individual airports in the state system.

Safe Air Travel. The primary responsibility for aircraft safety rests with the FAA, airport owners, airline companies and individual pilots. Supporting responsibility rests with WSDOT-A and includes issues such as safety improvements at airports and aviation emergency response efforts. Keeping tall structures and incompatible land uses located away from airports is also an important element in this area.

Adequate Airport Capacity. It is the primary responsibility of airport owners to maintain adequate airport capacity to meet the needs of the local communities. The FAA and WSDOT-A must provide supporting responsibility to coordinate statewide transportation systems that meet required capacities. Preserving adequate physical areas around airports to allow for capacity demands is also tied to the idea of compatible land use.

Minimizing the Negative Impacts of Airport Operations. Here again, the primary responsibility falls on airport owners, with State and Federal environmental protection agencies playing a

supportive role to ensure that any airport improvement or development is in compliance with the Washington State Environmental Policy Act (SEPA), the National Environmental Policy Act (NEPA), and the federal Airport Noise and Capacity Act of 1990. This is also tied to the concept of compatible land uses.

Focusing on these four key issues guides the State Aviation Policy which, in turn, is a guiding force in the overall aviation system of the State. It provides a concise set of goals which local communities can reference when citing the need for compatible land use plans.

4.2.2 Discouraging Incompatible Land Uses Adjacent to Airports

Primary responsibility for aircraft safety, system preservation, capacity and the minimization of impacts, rests significantly with airport owners. However, the GMA and its amendments clearly provide local jurisdictions with enabling legislation in the siting and protection of airports through comprehensive plan policies and development regulations. Under RCW 35.63.250, 35A.63.270, 36.70.547 and 36.70A.510, land use adjacent to airports is specifically addressed. Comprehensive plan policies and development regulations are required to be adopted during the normal course of land use proceedings, except GMA planning counties, who are subject to continuing review and evaluation as outlined in RCW 36.70A.130.

4.2.3 Airports and Compatible Land Use-Volume 1

In addition to the previously noted four issues, the WSDOT-A Airports and Land Use Compatibility Program (ALUCP) specifically identifies three critical compatibility areas which embody critical quality of life and safety issues relevant to airport operations and community health and welfare. These three concerns surround height hazards, safety and noise. *Airports and Compatible Land Use-Volume 1*, referred to as the Guidebook, provides discussion of the reasons these three areas of concern are important to the safety and preservation of airports, as well as the safety and welfare of persons on the ground in proximity to airports. A specific chapter in the Guidebook is dedicated to providing the reader with an explanation of the risk and liability associated with these land use concerns. The appendices of the Guidebook contain the Aircraft Accident Safety Zone Diagram, the Accident Safety Zones and Capture Rates for Aircraft Accidents and the Airport Compatible Land Use Matrix.

While the Guidebook provides a sound discussion of the State's interest in aviation and the challenges associated with incompatible land use, as well as the three types of concerns and the risks and liability of these concerns, the document falls short in providing tools and techniques to implement the land use plans which are required. Additionally, the Guidebook does not clearly explain the flexibility afforded to the local communities in the development of their individual plans. Many communities believe the accident safety zone diagram and the compatible land use matrix, as illustrated in the Guidebook, must be applied to their airport exactly as shown. There is no discussion explaining these two items should be used as reference to help guide the development of a plan which better reflects the community's existing situation and specific needs.

The Guidebook should contain explanation of how a plan can be made flexible as well as provide a selection of tools and techniques for implementation.

4.2.4 Results of the Washington State Aviation Policy and *Airports and Compatible Land Use-Volume 1* Analysis

Review of the Washington State Aviation Policy and *Airports and Compatible Land Use-Volume* 1 reiterates the *supportive* role that WSDOT-A and other state and federal agencies play in airport protection and preservation. WSDOT-A's Guidebook addresses the main aviation issues listed above with an *Aircraft Accident Safety Zone Diagram* and *Airport Compatible Land Use Matrix*.

As noted previously, the State Aviation Policy and WSDOT-A Guidebook, while providing a solid foundation for the concept of compatible land use around airports, fall short in assisting local communities with implementation techniques and in providing an explanation of the relationship between the Policy, Guidebook and implementation.

4.3-WSDOT-A Staff Interviews and Resource Documents

Interviews with WSDOT-A staff and a review of resource documents produced by WSDOT-A resulted in a better understanding of the intent of the ALUCP and Guidebook, as well as the agency philosophy behind land use compatibility issues. As evidenced by conversations with WSDOT-A staff, there is a firm commitment to protect the aviation system of Washington from incompatible land uses. This commitment is specifically outlined in the Guidebook - the primary areas of WSDOT-A interests are airport preservation, safety, capacity and environmental preservation, as listed in the previous section, and the results of WSDOT-A Staff interviews, were indicative of the importance of these four issues.

The WSDOT-A is not alone in acknowledging preservation, safety, capacity and environmental protection as the main areas of interest. Many other states have identified goals similar to these for the development and preservation of their individual aviation systems. What is unique is the effort that the State of Washington has put into establishing a program which addresses these issues from a compatible land use standpoint. Only the State of California is typically recognized as having a more, or at least, comparable state-wide program with regards to the degree of regulations used for land use issues.

4.3.1 Analysis of Related Resource Documents

An analysis of other related documents included the Airport Safety Overlay Regulations as developed by the City of Yakima, WA; and the Comprehensive Plan and Ordinance Regulations of Chelan County WA.

4.3.1.A The City of Yakima

The authors of the *Airport Safety Overlay for Yakima Air Terminal (YAT)* analyzed the compatibility options available for the protection of land that was outside of YAT property, yet still remained within the airport's area of influence. The findings of the Airport Master Plan update included an overview of the funding mechanism, an airfield capacity summary, discussion of GMA requirements, a risk analysis for aircraft incidences, and an analysis of Yakima Air Terminal as it relates to federal and state incompatibility guidelines. The authors recommended the identification of the following:

- Noise-sensitive lands,
- Land that should be acquired,
- Land that requires a disclosure notice before subdivision activity occurs, and
- Parcels that should be zoned at a restricted density,

This example of compatible airport master planning is comprehensive in its approach to safety and noise issues, yet the context for which it was developed is specifically for YAT. Each airport throughout the State of Washington would benefit from a master plan or master plan update similar in nature to YAT's study, yet the details should be modified to approach each airport as a separate entity with its own unique set of challenges and opportunities. As noted in Section 4.2.2 of this report, this adaptation of airport specific analysis and implementation is exactly what needs to be encouraged at other airports.

4.3.1.B Chelan County Comprehensive Plan and Ordinance Language

The *Comprehensive Plan for Chelan County, WA*, is comprised of a brief overview of airport facilities and aircraft operations and forecasts for four airports throughout the County. The related zoning ordinance language consists of an airport overlay district for each of these four airports based on FAA Part 77 Surfaces requirements and WSDOT-A recommendations for Aircraft Accident Safety Zones. The development standards set forth in this ordinance language describe restrictions placed on structure heights and other hazards to aircraft within each of the Accident Safety Zones. Other incompatible uses such as standing water and high densities of people are also addressed in the zoning language.

The *Chelan County Comprehensive Plan and Airport Overlay Language* is a systematic overview of county-wide policy and implementation options for the protection of the airports and their surrounding communities. The detailed verbage is a useful example for other municipalities trying to meet the GMA provisions of implementing airport planning and zoning.

4.3.2 Results of the WSDOT-A Staff Interviews and Resource Documents Analysis

The common theme throughout the staff interviews and review of documents was the desire to provide a safe operating environment for not only aircraft and their passengers, but also to preserve the safety and welfare of persons and land uses on the ground near the airports within the State. The focus of the interviews and the planning and zoning documents maintains that

incompatibility is an issue which must be addressed at a local level to be entirely effective. WSDOT-A encourages partnerships with airport managers and affected adjacent communities. Additionally, each airport and community are different and airport compatibility planning must examine airport characteristics, flight patterns, existing development patterns and community goals together with the guidelines and supporting materials to be effective.

4.4 - Washington Airport Management Association documents

The Washington Airport Management Association (WAMA) has taken an active role in providing feedback to the WSDOT-A on the Guidebook. WAMA has acknowledged that there is a need to protect airports from incompatible land use by noting that the member airports view the guidelines as important and necessary. Having formed a Land Use Committee to address this issue, they have authored a document which has been provided to the WSDOT-A, highlighting their concerns with the ALUCP and the Guidebook. The consultant team has reviewed this documentation. As noted in the documents, their primary concerns focus on:

- use of only general aviation accident data as a measurable standard for land use decisions, and
- confusion over the applicability of the Guidebook to airports other than rural general aviation airports.

As taken from the letter from Jeff Robb, President of WAMA, dated December 18, 2003, and the report attached to this letter, the WAMA board recommended three action items to WSDOT-A as a result of their Committee actions:

- eliminate or reduce emphasis on accident data and eliminate references to safety zones,
- clarify for local jurisdictions the applicability and appropriate use of the guidelines, and
- form a joint study group with airport sponsors (WAMA and WPPA), the Federal Aviation Administration (FAA), and the WSDOT-A to assist with implementing the changes recommended in this report.

4.4.1. Results of WAMA Document Analysis

These recommendations from the WAMA correspondence illustrate support for compatible land use programs. This support for land use programs supports the GMA goals and WSDOT-A policies. The deviation in support for the WSDOT-A program comes from the inclusion of geographic areas which are larger than any of those regulated by the FAA under any of the existing FAA programs. The common theme from the WAMA document and interviews indicate a definite concern on the part of the WAMA membership regarding the regulation of areas larger than those identified by the FAA.

While the WAMA membership appears to acknowledge that accidents can occur outside of the areas defined by the FAA, they question the use of a statistically small sample size of accidents to establish the Accident Safety Zones. The quandary in addressing this concern is that there are a limited number of accidents from which to draw conclusions because aviation is a fairly safe mode of transportation, thus there is a very small sample size. This statement then leads to a

question of the probability of an accident in a specific location. Without doing a specific mathematical calculation for every airport with multiple variables, it would be very difficult to calculate specific probabilities of accident potentials, thus the use of existing data is applied in a general format. As previously noted, each community has the authority to implement their own preferred form, size and type of protection methods so long as a plan of some sort is established to meet the intent of the GMA.

As noted in section 4.3.1.1 and 4.3.1.2, some airports within the state are modifying the guidelines, while others elect to implements the accident safety zones as published in the Guidebook. The intent of the Guidebook and ALUCP is to provide additional options to further protect the aviation community beyond the FAA criteria. This stricter regulation is attributed to the fact that in terms of land use, state law is more restrictive than federal law due to the ability of state and local jurisdictions to regulate land use. FAA regulations do not generally address aircraft operations, noise and airspace issues, with some exceptions. RCW 36.70.547 fills the gap where federal authority begins to diminish.

4.5 -Airport Land Use Compatibility Survey Results

As previously noted, a survey was conducted to poll stakeholder opinion of the ALUCP and the Guidebook, as well as land use compatibility issues in general. Of the 330 survey recipients, 109 replied, totaling a response rate of 33 percent. This response rate represents 103 airports across the State of Washington. The respondents represented a wide array of interests from airport owners and managers to community planners from rural and urban airports and communities throughout the state, providing a comprehensive base of information.

To better understand the implications of land use incompatibility and its threat to airport viability, the survey asked respondents to report the number of based aircraft, annual operations, annual commercial operations, and enplanements at their respective airports. The 109 respondents represent a total of 6,565 based aircraft, 797,623 annual operations, 40,846 annual commercial operations, and 237,778 annual passenger enplanements. These numbers illustrate that the existing aviation system of the State of Washington experiences a significant amount of use, and contributes to the national aviation system. Adverse impacts, including incompatible land uses, would pose a threat to the viability of Washington's public use airports and would be detrimental to the local and state economies and to the safety of hundreds of thousands of people.

As the first step in understanding the complexity of the issues facing the ALUCP, respondents were asked to report the types of land uses that surround their airport. The results showed that 54 of the respondents have mixed land uses near their airports; 30 respondents have rural land use near their airport; 25 respondents have agricultural land near their airport; 13 respondents have urban land uses, and finally, 4 respondents have forest areas near their airport.

The following diagrams illustrate the responses to the survey questions. Additional summaries of the key findings are discussed after the graphics.

4.5.1 - Analysis of Survey Results

The intent of the survey was to solicit input from interested parties regarding the effectiveness of the existing ALUCP and to collect suggestions and comments regarding existing strengths and possible improvements to the program. The following summaries present the findings of the survey.

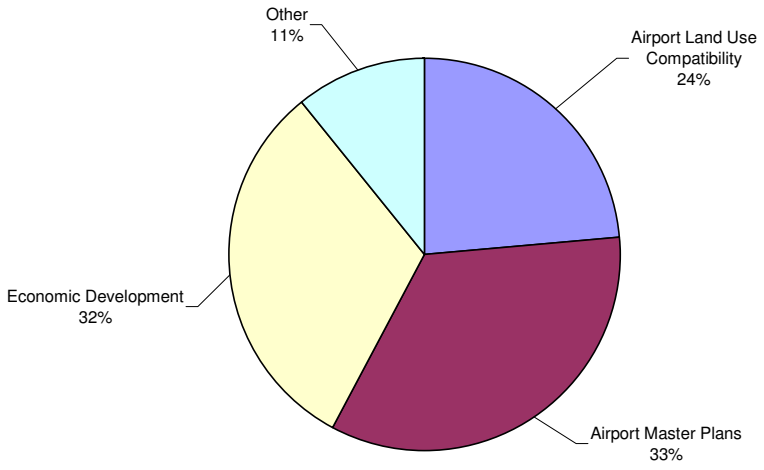
4.5.1.A Surrounding Land Uses

The results showed that 43 percent of respondents have mixed land uses near their airports; 24 percent have rural land use near their airports; 20 percent have agricultural land near their airports; 10 percent have urban land uses, and finally, 3 percent have forest areas near their airports. This indicates that at least 53% have mixed or urban land uses which may be creating incompatible land uses near airports within the state.

4.5.1.B Multi-jurisdictional Cooperation & Documentation

Results showed 65 percent of respondents reporting that other political jurisdictions that were affected by the operation of their respective airports; 60 percent of respondents reported that they are involved with multi-jurisdictional cooperation. Of those respondents who had cooperated with neighboring jurisdictions, 33 percent worked on airport master plans; 32 percent prepared economic development studies; 24 percent prepared land use compatibility plans, and 11 percent were jointly involved with other types of issues. This illustrates a significant need for coordination between jurisdictions, however, with only one-third of respondents working together, there is a long way to go to foster better relations and joint planning issues.

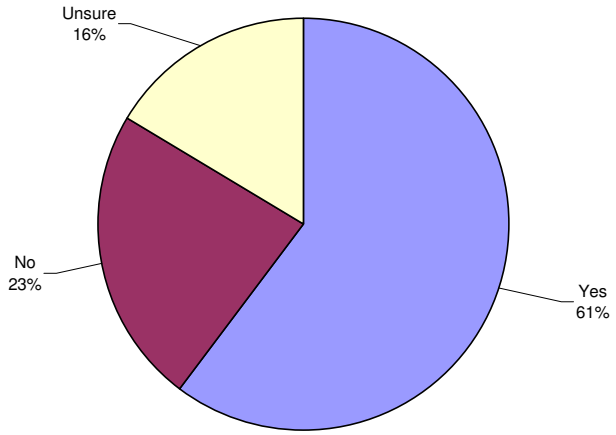
Exhibit 2
What documents have you been involved with or jointly prepared with other jurisdictions?



4.5.1.C Designation as an Essential Public Facility

Sixty-one percent of respondents reported that their airports had been designated as an Essential Public Facility (EPF) as required by RCW 36.70A. The Puget Sound Regional Growth Hearings Board and Western Washington Hearings Board have ruled that the EPF applies to all airports in their respective region. The remaining regions have not specifically ruled on EPF requirements according to WSDOT-A. The remaining one-third of respondents need to be educated regarding the benefits of acknowledging their airport's as EPFs, and should take advantage of the protection that designation offers.

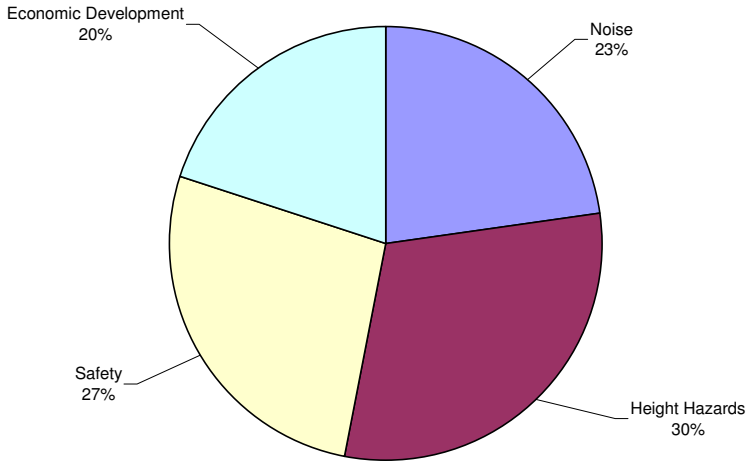
Exhibit 3
Have airports in your community been designated as Essential Public Facilities in your county or city comprehensive plan?



4.5.1.D Existing Comprehensive Plans That Address Land Use Compatibility

Sixty-six percent of survey respondents reported that their local comprehensive planning goals included the protection of airports from incompatible land use; 30 percent of respondents reported that height hazards were addressed by their local or county comprehensive plan; 27 percent reported that safety issues were addressed; 23 percent reported noise concerns, and 20 percent reported economic development as an airport land use compatibility issue that was addressed in their comprehensive plan. While two-thirds of respondents acknowledged using comprehensive planning to protect their airports, less than one-third of the respondents were using individual tools available to them for airport preservation efforts.

Exhibit 4
What issues does your local or county comprehensive plan address?



4.5.1.E Local Land Use Regulations

Forty-eight percent of respondents reported having local or county land use regulations. 31 percent addressed height hazards; 29 percent addressed noise; 28 percent addressed safety and 12 percent addressed economic development issues. These results reflect a very limited use of the various local land use regulations in addressing various land use issues.

Exhibit 6
Has your county or city adopted land use regulations, such as an Airport Overlay Zone, that address compatible land uses?

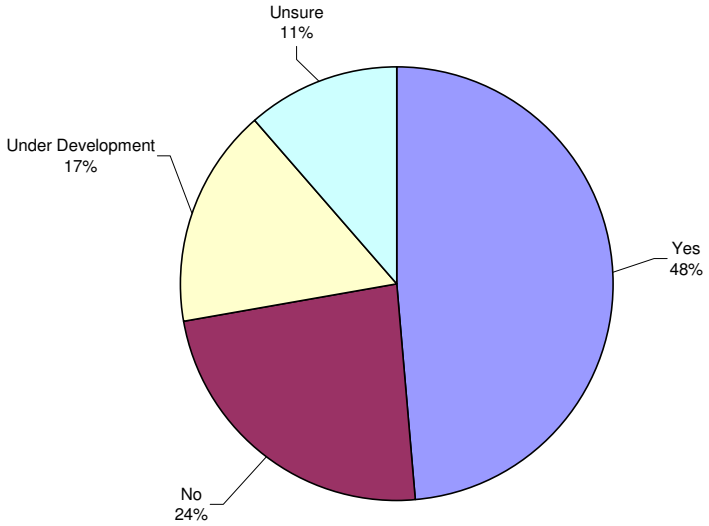
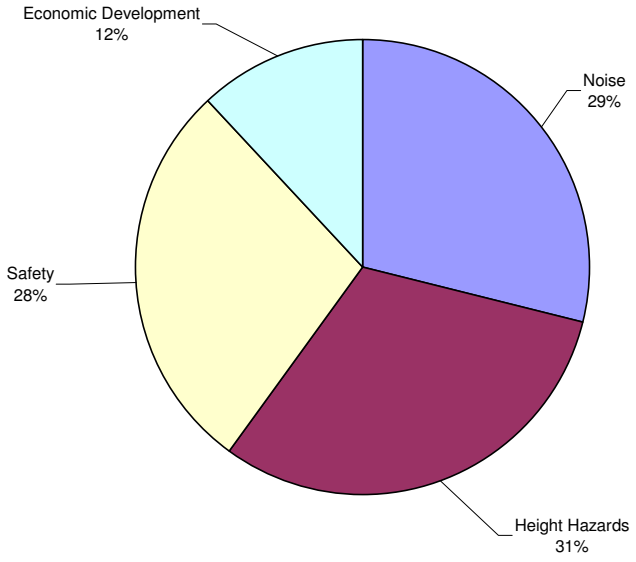


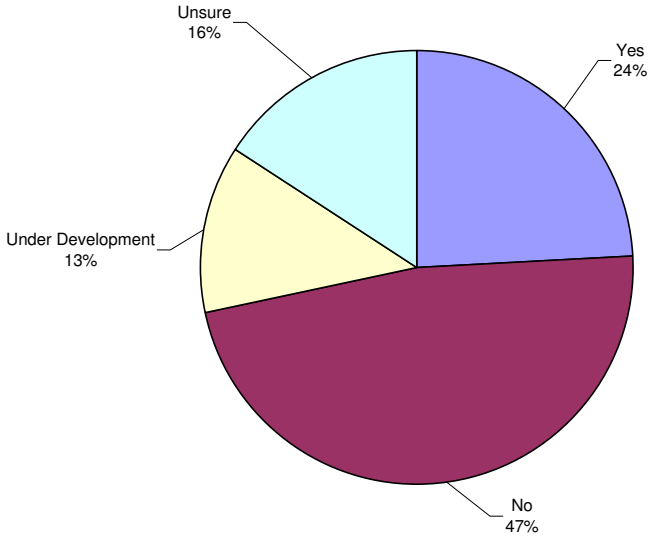
Exhibit 7
What issues do the land use regulations address?



4.5.1.F Use of Avigation Easements or Notice of Acknowledgement

Forty-seven percent of respondents reported that their city or county does not require development adjacent to airports to convey avigation easements or Notice and Acknowledgement to Purchasers. This lack of use is a serious concern because these tools are two of the most basic methods of land use control through simple disclosure.

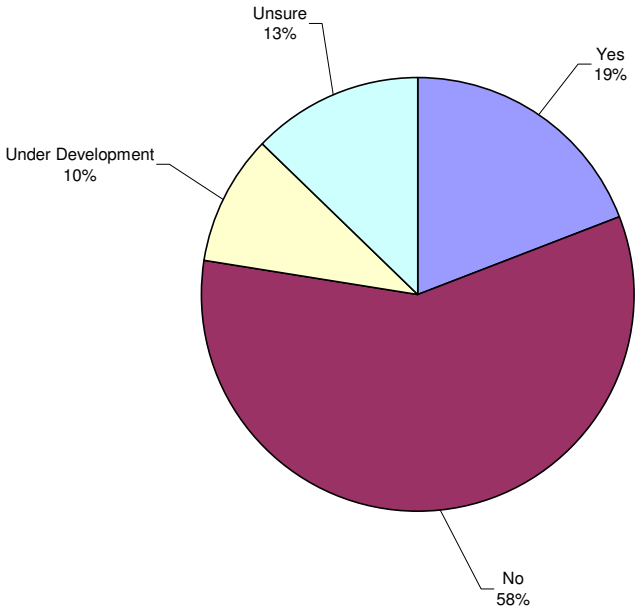
Exhibit 8
Does your county or city require development adjacent to airports to convey avigation easements and/or require Notice and Acknowledgement to Purchasers?



4.5.1.G Specific Airport Compatibility Programs

Fifty-eight percent of respondents reported that their city or county had not adopted an airport land use compatibility program. This leaves a significant number of respondents, and even more municipalities as a whole, without specific airport land use programs.

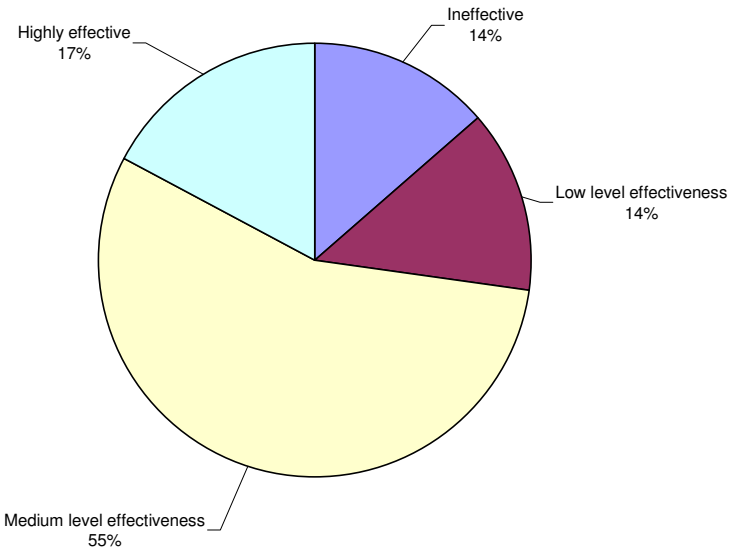
Exhibit 9
Has your county or city adopted and implemented a specific Airport Compatibility Program for one or more airports?



4.5.1.H Effectiveness of Comprehensive Plans

When asked how effective their local comprehensive plans, policies and regulations are at accomplishing the goals of providing for compatible land uses around the airport, 55 percent of respondents reported medium-level effectiveness; 17 percent reported that their plans and regulations were highly effective; and 14 percent both reported that they were low or completely ineffective. This is a significant statistic in that 72 percent of respondents reported a medium or high rating which indicates that once developed, the majority of comprehensive plans appear to be effective.

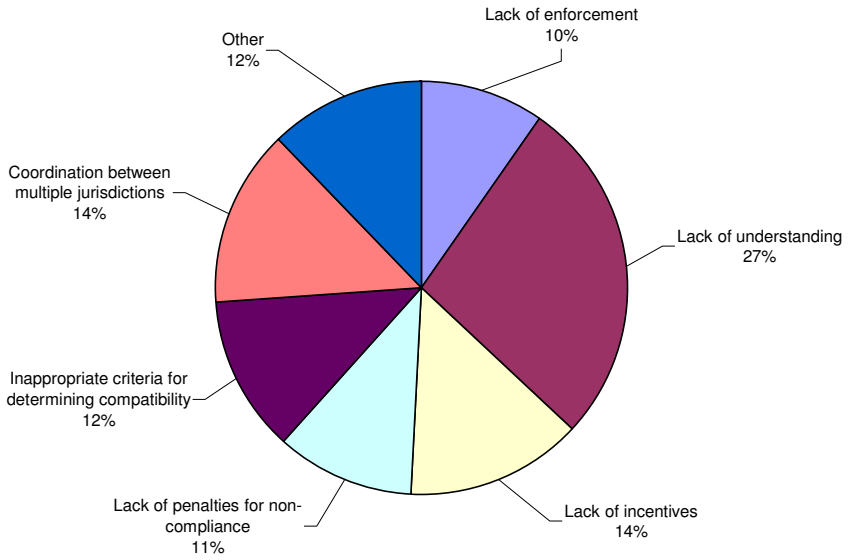
Exhibit 10
How effective do you believe your compatibility plan/policies/land use regulations are at accomplishing the goals of providing for compatible land uses around the airport?



4.5.1.I Reasons for Low or Ineffectiveness of Comprehensive Planning

Reasons for the low or ineffectiveness of comprehensive planning ranged from "lack of understanding," (27 percent); "'lack of incentives" and "coordination between multiple jurisdictions," (both 14 percent); "inappropriate criteria for determining compatibility," (12 percent); "lack of penalties for non-compliance," (11 percent); and "lack of enforcement," (10 percent). Many of these reasons mirror comments found in other states with similar land use regulations, as well as with FAA regulations such as FAA Form 7460-1, *Notice of Proposed Construction or Alteration*. This ineffectiveness is largely based on the lack of understanding of the intent of the program and the planning process, as well as a lack of coordination between affected or impacted jurisdictions.

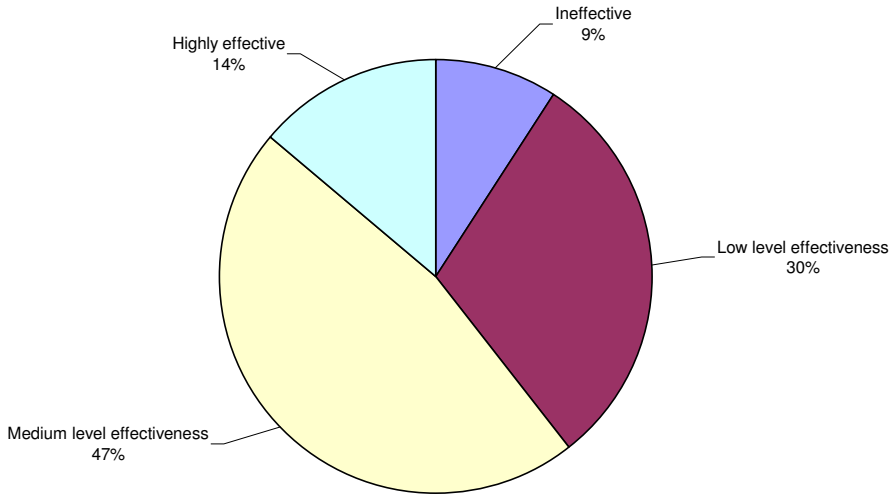
Exhibit 11
If you feel your compatibility plan/policy/land use regulations are ineffective, why?



4.5.1.J Effectiveness of the Airport Land Use Compatibility Program (ALUCP)

The ALUCP was noted to be of medium-level effectiveness (47 percent) according to the survey respondents. Nearly a third of the respondents, 30 percent, reported that the ALUCP had a low-level of effectiveness; 14 percent reported that the ALUCP was highly effective, and 9 percent reported that the program was ineffective. As these numbers indicate, the degree of effectiveness of the ALUCP varies significantly. This suggests that improvements to the ALUCP may be in order.

Exhibit 12
Has the WSDOT Aviation land use program been effective in creating compatible land use around airports in order to preserve airports in the State of Washington?



4.5.1.K Reasons for Ineffectiveness of the ALUCP

Similar to the reasons for the ineffectiveness of local regulations, respondents gave reasons such as "lack of understanding," (23 percent); "coordination between multiple jurisdictions," (16 percent); "lack of enforcement," (15 percent); "inappropriate criteria for determining compatibility," (14 percent); "lack of penalties for non-compliance," (10 percent) and "lack of incentives," (9 percent) for the level of ineffectiveness. As noted above, improvements to the ALUCP, its intent, use, and implementation should be evaluated.

Exhibit 13
If you feel the WSDOT-A land use program has been ineffective or at a low level of effectiveness, why?

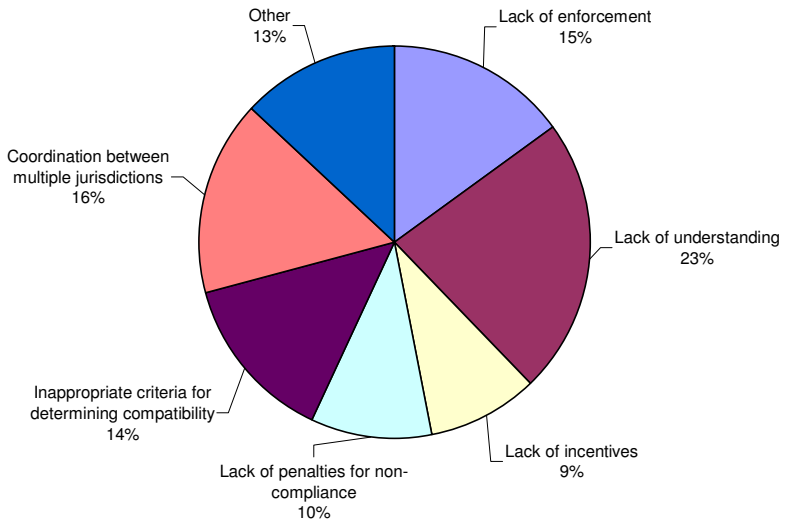
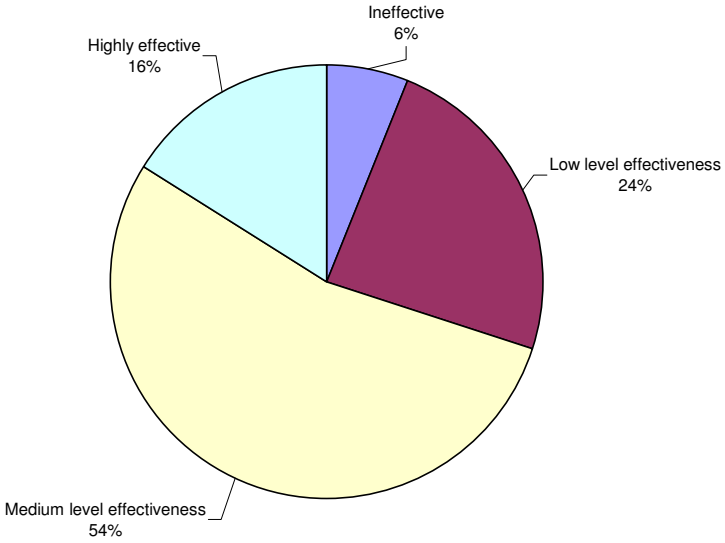


Exhibit 14
How effective do you believe the ALUCP has been at meeting the intent of the Growth Management Act?



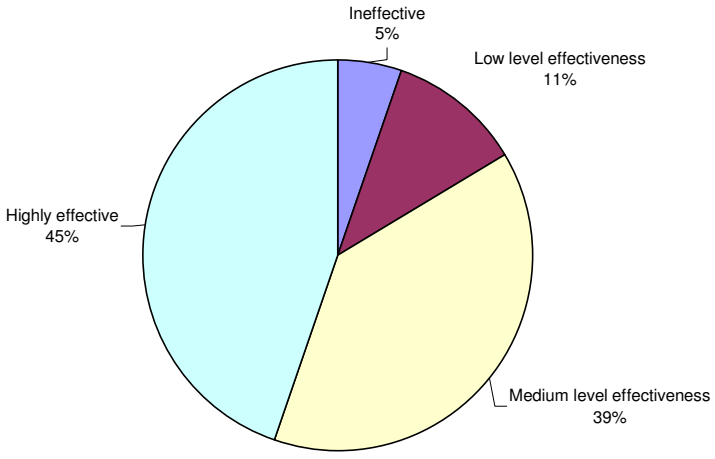
4.5.1.L Effectiveness of the ALUCP in Meeting FAA Directives

Questions were also asked regarding the effectiveness of the ALUCP in meeting the height, noise and safety directives of the Federal Aviation Administration (FAA) as part of FAA grant assurances.

Height

The majority of respondents (45 percent) thought that the ALUCP was highly effective in meeting FAA standards for height hazards near airports; 39 percent reported that they believed the ALUCP was of medium effectiveness; 11 percent reported that the program was effective at a low level and 5 percent reported that the program was entirely ineffective at meeting the FAA's height directives. With 84 percent of respondents reporting medium or greater effectiveness, it is evident that height issues are being addressed at acceptable levels.

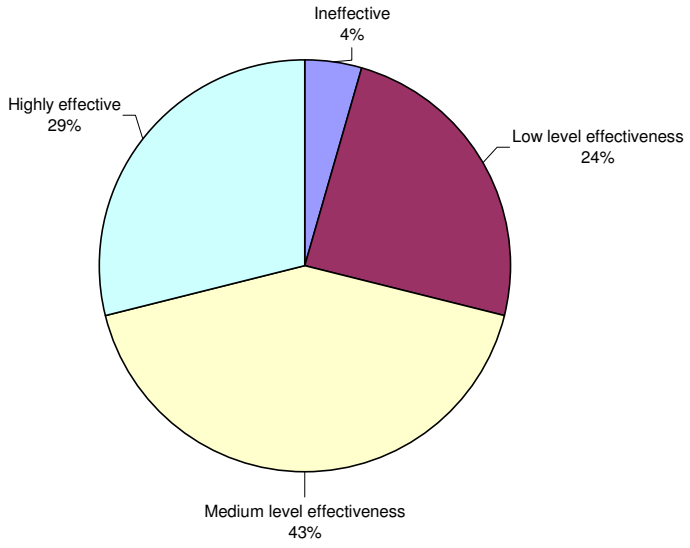
Exhibit 15
How effective do you believe the ALUCP is at meeting the FAA directives for land use compatibility issues related to height hazards, as outlined in specific grant assurance language?



Safety

In meeting the FAA's safety directives, 72 percent of respondents reported that the ALUCP is effective at a medium to high level (43 percent and 29 percent, respectively); Twenty-four percent reported that the program was effective only at a low level, and 4 percent believed that the program was entirely ineffective at meeting the FAA's safety directives. While this overall effectiveness level is lower than reported for the height directives, it appears to meet the majority of the respondents level of effectiveness.

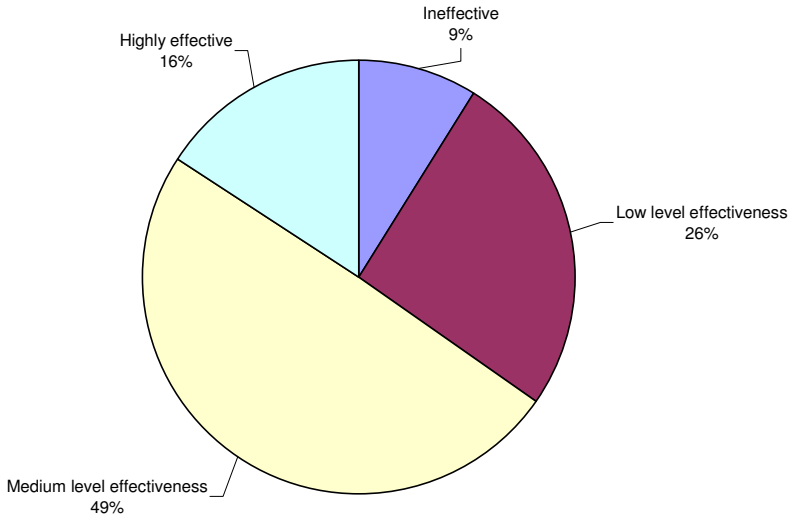
Exhibit 16
How effective do you believe the ALUCP is at meeting the FAA directives for land use compatibility issues related to safety, as outlined in specific grant assurance language?



Noise

Nearly half of the respondents (49 percent) feel that the ALUCP is of a medium effectiveness in meeting the FAA's noise directives; 26 percent reported that the program was effective only at a low level; 16 percent feel that it is highly effective, and 9 percent feel that the program is ineffective at meeting the FAA's noise directives. A general theme from the respondents was that noise contours are good identifiers of existing areas of incompatible land use, but are poor tools for reducing incompatible land uses.

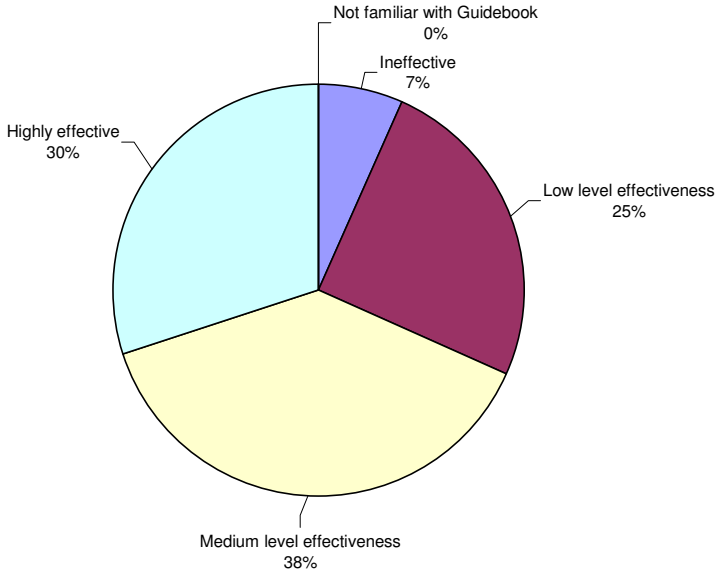
Exhibit 17
How effective do you believe the ALUCP is at meeting the FAA directives for land use compatibility issues related to noise, as outlined in specific grant assurance language?



4.5.1.M Effectiveness of the Guidebook

Sixty-eight percent of respondents reported that the WSDOT-A *Airports and Compatible Land Use-Volume 1* is effective at a medium and high level. The remaining respondents reported that the Guidebook was effective at a low level (25%), and 7 percent were of the opinion that the Guidebook is ineffective.

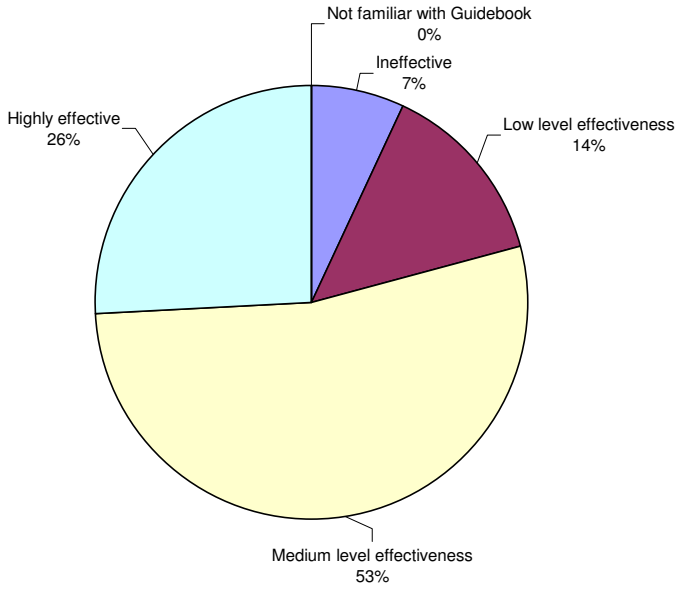
Exhibit 18
Has the WSDOT Aviation Airports and Compatible Land Use Guidebook been an effective resource for you in implementing/understanding the intent and implementation of the program?



4.5.1.N The Effectiveness of Other WSDOT-A Tools

The majority of respondents, 79 percent, reported that the other WSDOT-A tools, besides the Guidebook, were effective at a medium or high level (53 percent and 26 percent, respectively). The remaining respondents represented 21 percent with 14 percent reporting a low-level of effectiveness, and 7 percent reporting that other WSDOT-A tools were ineffective.

Exhibit 19
If WSDOT has provided any other tools and assistance to you, how effective have these tools been in implementing or understanding the intent of the program?



4.5.1 O Meeting the Goals of the Growth Management Act

In meeting the intent of the Growth Management Act (GMA), 54 percent of respondents reported that the ALUCP was at a medium level of effectiveness, while 24 percent reported that it was at a low level of effectiveness. Additionally, 16 percent of respondents reported that the program was highly effective, and 6 percent reported that they believe the program was ineffective in meeting the intent of the GMA.

4.5.1.P General Comments from Respondents

Several open-ended questions were asked of the respondents which provided them with an opportunity to provide general comments on six topics. Many respondents chose not to answer these questions so no statistical analysis was completed on these questions; instead, a summary of the primary themes are noted below for each question.

Criteria for Determining Compatibility

Some respondents reported that the criteria, as they exist today, were good or sufficient, while others offered the following insights:

- Economic development criteria should be included,

- Commercial airport safety criteria should be used for commercial airports, the Guidebook only provides GA criteria,
- WSDOT should be cautious that their criteria conflicts with FAA on-airport regulations, and
- Wildlife attractants, smoke and light factors should be criteria.

Additional Tools and Assistance Provided by WSDOT-A

Many respondents reported that WSDOT-A had been very helpful to them concerning land use compatibility issues. Some examples included:

- Being helpful in answering questions,
- Giving technical advice and testimony at public hearings,
- Providing input during master plan development,
- Facilitating cooperation among jurisdictions,
- Providing first-class professionalism and good advice,
- Providing training through consultation,
- Coordination and educational support, and
- Helpful website and FAR Part 77 video.

Benefits Observed from the Guidebook

Responses concerning the specific benefits of the program's intent, process and implementation ranged from dismissive to enthusiastically supportive. The following responses provide an overview of the types of comments received:

Negative comments:

- The intent is fine, but the process doesn't effectively garner comments from non-aviation agencies and the public,
- The intent is admirable, but lack of time and understanding diminish its value,
- The intent is honorable, but it should be tailored to each airport, and
- It is too late for my airport.

Positive comments included:

- There is clearer coordination of agency plans,
- It has helped in preventing incompatible land uses,
- It has increased awareness at all jurisdictional levels,
- If has started a slow recognition of the airport by the local government,
- It has raised the awareness of planners, and elected officials,
- It’s a solid base for local zoning, and
- It has protected public health and safety.

Concerns about the process, intent and implementation of the ALUCP and Guidebook

Specific issues or concerns that the respondents have for the program's intent, process and implementation, encompass criteria issues such as the GMA Hearing Boards, and funding.

The following comments provide a sample of the responses received:

- Otherwise normal development projects now have an additional obstacle,
- We need funding to make the program work,
- We need a commercial airport program,
- None of the recommendations apply to seaplane bases,
- It doesn't address land uses on nearby tribal lands,
- There is concern that the WSDOT-A overlay can be considered a taking,
- Eliminate emphasis on safety data,
- The safety zones are not the same at the FAA Part 77 Surfaces, and
- The program is not adequately marketed.

Rationale for the Accident Safety Zones

Concerns over the rationale for the accident safety zones ranged from supportive to dismissive, as shown in the following comments;

- The rationale is fine,
- The zones are reasonable,
- We did our own best-fit model,
- The rationale appears arbitrary,
- Not convinced the CALTRANs data are accurate,
- The idea of using crash sites to determine accident safety zones is inappropriate,
- They should be coordinated with FAA guidelines,
- There need to be more examples for differing jurisdictions,
- They were designed based on accident data without further qualification, and
- WAMA and WSDOT-A should work together to find better safety data.

Other Tools/Solutions to Improve Land Use Compatibility

When asked to share additional tools or solutions, respondents provided the following ideas:

- Multi-agency review meetings on an annual or bi-annual basis,
- A local planning process,
- Take every opportunity to buy adjacent land,
- An inter-jurisdictional committee,
- Alert prospective homebuyers that there is a nearby airport,
- Acquire development rights,
- Airport sponsors should receive timely notice for development applications,

- Pilots should be made aware of noise abatement policies,
- A Governor-appointed standards board should be developed to review appeals between airports and WSDOT-A,
- County agencies should be provided with airport information to better apply current and future regulations,
- Building code amendments that attenuate noise, and
- A liaison for WSDOT-A and counties should be established.

4.5.2 - Results of Survey Analysis

The stakeholder survey provided the consultant team with a better understanding of how the existing policy and program are being used and perceived by the potential users. It was interesting to note that the most prevalent responses to the survey questions resulted with rating available land use regulations, plans and policies at medium effectiveness in addressing the issues. The second most prevalent rating for these land use tools and techniques was "low-level" effectiveness, and the third highest response was for a "high-level" of effectiveness. This suggests that the basic intent and implementation of the ALUCP and its Guidebook appear to be sound; however, improvements could be made, along with an enhanced education effort to address the low-effectiveness concerns.

Many of the communities who responded indicated that they were doing something to protect their own airport from incompatible land uses, however, they may not be using the most effective tools, nor the most efficient methods to implement them. The common theme throughout the survey responses appears to be the need for coordination and communication regarding the intent of the ALUCP and its implementation.

4.6 - Summary of Analyses

Assessing the results of the data collection and quantifying it into manageable pieces which can be further analyzed proved to be a challenge. The data and documents collected raised a significant number of questions regarding the effectiveness and appropriateness of some of the basic principles that the program is based upon. To address each of those, the consultant team conducted follow-up calls with a number of individuals to obtain further insight into the questions raised. These calls were very beneficial to the assessment of the ALUCP.

The general findings from these calls, the survey results and the review of existing documents, are noted below. Please keep in mind these are the summary of comments from the survey and the telephone interviews, not the recommendations of the consultant team. Recommendations from the consultant team are presented in the next Chapter of this document.

4.6.1 - Compatible land uses are essential near airports

It was made very clear by all who responded to the survey, and from the WSDOT-A and WAMA, that establishing guidelines and subsequent implementation of the guidelines to protect airports from incompatible land uses was paramount in the effort to preserve and protect airport

operations, as well as the safety and welfare of persons in proximity to said airports. It was the manner in which this protection takes place that was questioned.

4.6.2 - One size does not fit all

It was noted repeatedly that the existing land use matrix does not differentiate between general aviation facilities in rural, suburban and urban settings, nor does it provide guidance for airports with commercial air service or those with military operations. This was a significant issue for many of the respondents who felt it was inappropriate to suggest that the same sort of criteria could be applied to a small general aviation facility as well as large facilities in more urban areas. The lack of different standards appeared to be a significant obstacle for many of the stakeholders.

4.6.3 - Funding for implementation is a critical concern

A significant concern of many of the respondents to the survey was the fact the ALUCP requirements were viewed as an "unfunded mandate". By adopting ALUCP requirements, such as an airport overlay zoning plan, communities felt they were committing themselves to a program where there are no Federal or State funds available to pay for implementation of the plan. For example, it was noted repeatedly that it was felt to be counter productive to identify areas which may have incompatible land uses which should be removed, but not provide FAA or state funding to assist communities with this purchase process. Several respondents commented that FAA will not fund any land acquisition projects for airport protection outside of the federally defined safety areas. This then lead to the idea of the State of Washington developing a state sponsored funding program would be beneficial for plan implementation.

4.6.4 - Coordination is essential

The issue of coordination was a common theme for many respondents to the survey, as well as a common topic during the follow-up conversations and the WAMA documentation.

Advisory Committee

It was suggested that an Advisory Committee be formed that would include airport owners, airport managers, local government, WSDOT-A, the FAA, and the general public to facilitate additional discussion and development of the program and its implementation throughout the State of Washington.

WSDOT-A Education Effort

A specific emphasis was placed on the participation of WSDOT-A in presenting the ALUCP and the Guidebook to raise awareness and understanding. The education effort was suggested to focus on local governments and the benefits of the ALUCP on their individual communities, as well as the benefit to the individual airports.

Multi-jurisdiction coordination

Multi-jurisdictional coordination is an essential element for the implementation of any plan to address compatible land uses. Seeing that communities and airports alike are prepared with the appropriate tools and information to work with their surrounding jurisdictions to create a comprehensive plan, is a fundamental issue being missed by many communities. The mentality that "it's not in my jurisdiction so I don't have to deal with it" is prevalent in many communities which erodes the cooperative spirit to protect the health and welfare of the general public. This lack of interest further diminishes the significance of the issue.

Increased FAA Involvement

Increased FAA involvement was also noted as being critical to the success of the program. Creating a program which FAA can support is essential to the development of a truly successful program. Having a Federal agency such as the FAA questioning the rationale for a state-based program can erode the validity of a program; consequently, receiving FAA support and buy-in to the program is essential to its success.

4.6.5 - Aircraft accident safety zones and their rationale

The predominate issue which both survey respondents and the follow-up callers wanted to discuss was the use of the accident safety zones as part of the land use program and plans. There were many criticisms of these zones and the impact they have on local communities, as well as the justification for their use and the methods in which they were developed.

Out-dated and incomplete data

Many of the respondents believe that the data used to develop the accident safety zones is out of date, as well as being irrelevant to the specific type of aircraft operations taking place at a particular facility type.

Accident potential needs to be specific to the type of facility

It was repeatedly noted that the Guidebook should identify the accident potential for each type of facility (rural general aviation, urban general aviation, commercial, military, etc.) based on critical aircraft. As noted previously, this issue is one that may be very difficult to address due to the limited amount of accident data and the various types of airports and their specific fleet mixes.

Accident safety zones should be more focused on noise contours

Accident Safety Zones were perceived to be too restrictive and should be revised to be based on the 50-55 DNL noise contours. This was also noted by FAA staff as well as by many survey respondents.

Variances were not made for specific topographic features

It was noted by WAMA and survey respondents that the development of Accident Safety Zones did not take into account specific landscape constraints such as mountains. Comments suggested that specific data should be used for facilities with unique topography.

Accident Safety Zones are too restrictive in urban areas and create liability issues

It was noted by many respondents that the implementation of existing Accident Safety Zones creates a significant amount of non-conforming land uses for airports in developed or urban areas. As a result, they questioned the airport's liability if an incident were to occur. It was commented that neither the ALUCP nor the Guidebook clarifies the legal ramifications of creating non-conforming land uses and who is liable if an accident were to occur. The question was raised that if the development and use of a disclosure notice to property owners, notifying them of their vicinity to the airport and potential risks, would be beneficial to the legal protection of airports.

Accident Safety Zones are not defined in layman terms

Many respondents commented that the Guidebook does not define the Accident Safety Zones in layman's terminology and raises citizen concerns unnecessarily. It was suggested that it may be beneficial to rename the zones with a less threatening title and present the data in percent format rather than a total number. Additional education of the public on the probability and risk was also suggested.

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Chapter 5 - Summary & Recommendations

The consultant team took a methodical approach to the analysis of WSDOT-A's Airport Land Use Compatibility Program (ALUCP) and its associated document *Airports and Compatible Land Use Volume 1* (the Guidebook). After review of the various data sources, the consultant team offers recommendations regarding the existing ALUCP and the Guidebook based on the findings from the analysis of data. The consultant team acknowledges that each of these issues must be addressed to either clarify possible misconceptions or to suggest potential improvements to the existing program. Additional studies may be necessary to further address the specific areas of concern.

A common theme for all respondents was maintaining and implementing guidelines to protect airports from incompatible land uses. This was noted as paramount in the effort to preserve and protect airport operations, as well as preserve the safety and welfare of persons in proximity to said airports. The consultant team believes that this common goal of protecting airports should be used as the base for the continued evolution of the effort to establish compatible land uses near each airport in the State of Washington. Capitalizing on this common goal should be used to galvanize the stakeholders; however, to accomplish this, it is necessary to address the issues which they have identified as barriers to the successful implementation of the existing program.

The following recommendations are listed in an order to represent how each subsequent issue can be used to strengthen or support the previous issues. For example, none of the recommendations can be successful without a solid foundation of communication being established between the various stakeholders. Additionally, revisions or enhancements to the Guidebook can't be made without first addressing the issues of Accident Safety Zones. These recommendations are based on the experience of the consultant team working with other state land use programs, and are meant to serve as an outline for further analysis by the WSDOT-A staff, the FAA and various stakeholders.

5.1 - Enhance Coordination

As previously mentioned, the issue of coordination was a common theme for many respondents to the survey, as well as a common topic during the follow-up conversations and the WAMA documentation. The consultant team suggests that enhanced coordination efforts be considered which would include four primary components based upon the analysis of the existing program. Each of these recommendations is addressed below.

5.1.1 - Advisory Committee

It is recommended that an Advisory Committee be formed that would include airport owners, airport managers, local government, WSDOT-A, the FAA, and the general public to facilitate additional discussion and refinement of the ALUCP program and its implementation throughout the State of Washington. This is very important if the WSDOT-A is going to consider revisions or

updates to the existing ALUCP program and the Guidebook. Since there are communities who have successfully implemented the program and those who have not, it would be an excellent learning opportunity to bring these various groups together to discuss what has been helpful, what has been a challenge, and what could be improved to assist with the common goal of compatible land use.

5.1.2 - WSDOT-A Education Effort

It was mentioned repeatedly that the staff of WSDOT-A provides quality service when a local airport or community requests assistance. The commitment and support of the WSDOT-A staff was noted as a very positive component of the overall program. A recommendation from the consultant team is to take this involvement to an even more proactive level. It wasn't noted that the WSDOT-A was doing any sort of proactive efforts to take the Guidebook and ALUCP and promote it prior to a community requesting assistance.

The consultant team believes that a specific emphasis must be placed on the participation of WSDOT-A in presenting the Guidebook to the general public and local municipalities to raise awareness and understanding of the intent of the program. This education effort could take many forms at many different levels. A specific recommendation would be to take advantage of existing opportunities for exposure. For example, a presentation by WSDOT-A to groups such as the Washington Chapter of the American Planning Association, the Washington State Association of Counties or the Washington Public Ports Authority may be a very beneficial. It was noted by WSDOT-A staff that these sorts of presentations have been made, however, with the continual turn-over of airport managers and community planners, the consultant team believes that annual participation in presentations would be effective and beneficial. Each of these organizations have annual conferences where the WSDOT-A staff could make an educational presentation to present and promote the Guidebook. This proactive interaction with the target markets of the program would offer a cooperative environment for each entity to learn about the intent and implementation aspects of the program.

5.1.3 - Multi-jurisdiction coordination

A concerted effort must be made to explain that airport preservation and zoning are an extra-territorial process. It must be made absolutely clear that the flight paths of aircraft and the resulting areas of interest do not recognize political boundaries. The consultant team suggests that a component of the enhanced coordination focus on further education of the public about the need for multi-jurisdictional coordination. Unless this issue is addressed, the implementation of any plan to address compatible land uses will have limited effectiveness. Insuring that communities and airports alike are armed with the appropriate tools and information to create a comprehensive plan is a fundamental issue being missed by many communities. The mentality that "it's not in my jurisdiction so I don't have to deal with it" is prevalent in many communities, which erodes the cooperative spirit to protect the health and welfare of the general public. This lack of interest further diminishes the significance of the issue. Addressing this issue as part of the overall education effort, as well as a component of the Advisory Committee, is recommended.

5.1.4 - Increased FAA Involvement

Presenting a united front in the implementation of a state-wide land use plan is essential. Increased involvement and support from the FAA is an integral part of this united effort. The current lack of support exhibited by the FAA erodes the credibility of the program as well as the importance of the program. Two specific areas for increased involvement have been identified.

Having FAA staff participate in the proposed advisory committee is the first recommendation. The consultant team believes that bringing FAA staff to the table to hear, first hand, the dialog that takes place between various stakeholders would be very beneficial. It is believed that this would reduce the opportunities for miscommunication and misunderstandings between the various stakeholders.

The second recommendation is focused on better educating the FAA staff on the positive results the program has seen on the safety and welfare of airports and the people near them. The consultant team believes that the FAA should be more supportive of an effort to provide enhanced safety for the airports within the State of Washington, through the use of the program. The current FAA mentality seems to question the State of Washington's efforts to create safety areas that go beyond the current FAA standards. Since the FAA has no authority to regulate compatible land uses beyond the intent of the grant assurances, the consultant team believes that the FAA should be supportive of any effort that further protects airports from incompatible land uses. The consultant team believes that the FAA standards for safety areas and environmental considerations (noise contours, height limitations, FAR Part 77 surfaces, etc) should be used as minimums for land use compatibility issues and that anything above and beyond should be encouraged. In many instances, the federal level of review, or level of requirements for specific issues are set as minimums or even guidelines. Many states take these federal levels of regulation and develop more specific and more restrictive regulations than those at the federal level. These kinds of programs have been tested in various court cases and upheld. For example, many states have more restrictive wetland regulation and mitigation laws than those established by the federal government. This is typically recognized as a positive action, with the state and local governments taking a greater interest in the areas which have a more significant impact on their individual communities and residents.

A common theme for the increased FAA involvement is better educating the staff on the intent of the program and the impact their support, or lack of, has on the success of the implementation of the program. As previously mentioned, having their participation on an advisory committee is highly recommended.

5.2 Funding should be considered for implementation

As previously noted, a significant concern of many of the respondents was the fact that the ALUCP was viewed as an "unfunded mandate." Any time a federal, state or local program is established, which requires the expenditure of funds without a specific method of funding the activities or programs required by the program, there are often questions and concerns raised by

those who are left to implement the program. The program is no different in that the common question from survey respondents was "who will assist us financially to buy property or purchase easements?"

This is a significant question and primary concern for many of the survey respondents. Many respondents agree that developing compatible land uses was an admirable goal, however, in the current economy, many communities note that they do not have funds available to purchase property for land use compatibility issues. Additionally, it can be assumed that these same communities also have limited funds to fight lawsuits initiated by developers who may feel they have been "wronged" by the imposition of Accident Safety Zones over their property which has, in their mind, reduced the value of the property. An Attorney General opinion on takings is recommended to further understand this issue, as is the development of guidance material for municipalities to avoid a takings issue.

The consultant team believes that a funding mechanism should be investigated which can assist local communities in the implementation of the Guidebook. Airport Improvement Program (AIP) funds and General Aviation entitlement dollars could be used to address land use and obstruction issues within the FAA safety areas. However, this new funding mechanism should be focused on the areas beyond the Runway Protection Zones. Obviously, an enormous amount of money would be required to address all of the land uses issues already identified in existing plans, let alone future plans which haven't yet been implemented; consequently, this mechanism should be treated just like any other source of funding. Requests would have to be made, priorities and justification would have to be demonstrated and more importantly, a phased approach would have to be taken to address requests. For example, billions of dollars worth of projects are requested annually from the AIP funds, however, a minimal number are actually successful in achieving funding. This same sort of process would likely have to be implemented to address the land use compatibility issue.

Certain grants are currently provided by the Washington State CTED. Specific Airport Compatibility Grants have been issued to three cities in the past four years, and other communities may have used general grant funds when amending comprehensive plans and development regulations. Most communities are unaware that these opportunities exist and increased education is needed in this area. Identification of an actual format and funding sources, including WSDOT-A grants, for such a program are beyond the scope of this document; however, it is recommended that this be an issue that is addressed by the proposed advisory committee.

5.3 - Land use criteria should be flexible to address airport type and community setting

It was noted repeatedly that the existing land use matrix does not differentiate between general aviation facilities in rural and urban settings, nor does it provide guidance for airports with commercial air service or seaplane bases. The consultant team suggests that the existing

guidelines be enhanced to address the inherent differences between types of airports and the various geographic settings in which they reside.

For example, applying reduced density or clustering criteria, within a safety zone in a rural setting at a small general aviation airport is presumed to be easier since the areas around the airport are likely to be undeveloped or at least lower density developments. Applying infill criteria to a general aviation airport is appropriate in a more urban setting and more language addressing urban issues is needed in the Guidebook. The recommendation to address this issue is not intended to reduce or remove density restrictions; it is more intended to identify methods to manage the exiting densities to achieve more compatible land uses. The 1992 California Airport Land Use Planning Handbook had the same shortcomings as those mentioned here. The 2002 edition addressed many of these issues with updated data.

The consultant team recommends that the existing matrix be enhanced to address other types of airports and operations including air carrier and seaplane aircraft in a manner similar to the 2002 California document. The team also recommends that the Guidebook be enhanced to provide mitigation measures for areas where recommended densities and land uses are already in non-conformance. For example, it was noted by many respondents from urban areas that the existing Accident Safety Zones encompass densely populated areas. WSDOT-A recommends in this instance that communities insert the Accident Safety Zone data into the comprehensive plan and develop regulations that could include an airport zoning overlay, performance criteria, conditional use permits and other similar tools. Another effective method of addressing this issue in the urban setting would be to address reuse of property in the area, as well as proper disclosure. Additionally, guidelines should indicate the most significant areas to protect. For example, CALTRANS does not recommend restrictions to Zone 6 except for special uses such as schools. This is an area that should be studied in more detail.

The consultant team also realizes that a legal "takings" argument is a threat that faces many communities. When applying restrictive zoning requirements to any land use district, this argument is often raised and it is no different for airport compatibility zoning. Serving as the basis for a takings argument against a municipality, the Fifth Amendment of the U.S. Constitution provides that "private property shall not be taken for public use without just compensation". Based on a legal review, municipalities must be sure to allow property owners some sort of economical use of their land in order to avoid a takings claim. Courts can deny takings claims if the ordinance in question is a comprehensive attempt to zone for the town or city, but if the ordinance is too restrictive and leaves no viable use for the current owner, a court could find that a taking has occurred on behalf of the property owner. The consultant team recommends that municipalities use due care in the development of their airport compatible land use plans to reduce the threat of a taking. As with any form of governmental regulation, there is always some balance that must be reached between private property owner rights and the safety and welfare of the public. Further review of any existing "takings" challenges should be reviewed by a local land use attorney as part of additional analysis of this issue.

5.4 - Aircraft accident safety zones

As previously noted, the predominate issue that both survey respondents and the follow-up callers wanted to discuss was the use of the Accident Safety Zones as part of the land use program and plans. There were many criticisms of these zones and the impact they have on local communities, as well as the justification for their use and the methods in which they were developed. The consultant team supports the use of the data for the creation of the Accident Safety Zones; however, the team also believes that improvements to the data and the delineation of the zones would be beneficial to the overall success of the program. Upon review of the primary issues survey respondents noted as concerns with regard to Accident Safety Zones, the consultant team noted that some of the issues had limited opportunities for resolution. Some of these issues limited potential for providing justification to the program. The recommendations for issues related to the Accident Safety Zones are separated into two categories, those with potential for resolution and those with limited opportunity for resolution. The issues with limited resolution options should be reviewed with stakeholders as part of the recommended advisory committee to further educate the stakeholders on the feasibility of various land use criteria.

As mentioned, the consultant team believes the accident data and its use to define Accident Safety Zones is a very valid part of the implementation of a land use program. Without the use of accident data, there would be little left to base any type of land use program on, aside from FAR Part 77 surfaces. What becomes an issue is the implementation and definition of these zones. The consultant team concurs with some of the issues raised by the survey respondents with regard to some issues, and in some instances, recommends further clarification of other issues raised. Recommendations that address these issues are summarized below in two categories: potential resolution opportunities and limited resolution opportunities.

5.4.1 - Potential Resolution Opportunities

The following issues and recommendations for further analysis are based upon the consultant team's belief that addressing these issues will further enhance and advance the implementation of compatible land use planning within the State of Washington. These recommendations should provide additional support and clarification to the existing documentation.

Update accident data

The use of accident data to develop the Accident Safety Zones was questioned by survey respondents. Since the inception of the Guidebook, additional accident data has been collected and further analyzed. A comprehensive look at this accident data can be found in the 2002 *California Airport Land Use Planning Handbook*, by Shutt Moen Associates for the Division of Aeronautics, Department of Transportation for the State of California. This revised handbook updated the information which was originally found in the 1993 version of the Hodges and Shutt document*, Airport Land Use Planning Handbook*. The updated findings on general aviation accident trends provide a stronger base from which to make land use recommendations (Over 800 entries, versus 400 in the previous

edition). The statistics found in the 2002 document mirror the findings from the 1993 study but are based on over twice the number of accidents, further supporting the need for compatible land uses in proximity to airports. The consultant team suggests the new statistics found in the 2002 *California Airport Land Use Planning Handbook* be used to update the statistics found in the Guidebook to provide a fresh set of data from which to make land use decisions, as well as including data on commercial and military operations, flight patterns and aircraft operations.

Develop flexibility

Some respondents noted that the existing program did not make allowances for specific land use constraints which may impact their ability to implement the required Accident Safety Zones. The consultant team discussed this issue with WSDOT-A staff and both parties believe the intent of the Guidebook was to be flexible enough to address these types of concerns. It appears that the problem is more with the interpretation of the Guidebook than the actual requirements. The Guidebook is meant to provide communities with a guide from which to develop their own land use compatibility program that fits their specific land use needs. It appears that the guidelines are being interpreted in a much more rigid manner, which is not fostering the necessary flexibility. This is an issue which the consultant team believes should be addressed under the issue of enhanced communication and the multi-jurisdictional coordination.

Define Accident Safety Zones in layman's terms

Many respondents commented that the Guidebook does not define the Accident Safety Zones in layman's terminology and raises citizen concerns unnecessarily. The consultant team concurs that a more detailed description of the intent and methodology used to establish the Accident Safety Zones is required. This enhanced description can be used to further strengthen the justification of the program by outlining the logical development of the Zones.

In addition, the consultant team believes that WSDOT-A may want to consider renaming the Accident Safety Zones with a less inflammatory title. There is some credibility to the respondent comments that the term “Accident Safety Zones” provides a negative connotation which often puts the public on the offensive regarding these Zones. A suggestion might be “approach protection areas” or simply “land use zones” coupled with the use of the existing numbering system.

5.4.2 - Limited Resolution Opportunities

The issues addressed in the following paragraphs are concerns raised by survey respondents which, while acknowledged by the consultant team as being important issues to the respondents, have limited opportunities to improve the content to the Guidebook. Further explanation of each issue is noted below.

Accident potential by specific type of facility

The survey respondents suggested that the Guidebook should identify the accident potential for each facility type (rural general aviation, urban general aviation, commercial, military, etc.) based on critical aircraft. While this may be possible, it is anticipated to be a costly process for each airport to implement. Another suggestion from respondents was to create Accident Safety Zones for each Airport Reference Code (ARC). While the consultant team understands the rationale behind this suggestion, it would be very complicated to implement. The California data examined various runways and types of approaches, however, it did not result in significant differences. Many of the survey respondents wanted Accident Safety Zones based on actual accidents at their individual airports. Since the accidents inventoried by the National Transportation Safety Board (NTSB) and used for the 2002 California document update, total less than 1000 accidents nationally during a ten year period, it can be concluded that many airports would have no accident data. A statistically significant sample would not be available. This does not mean the potential does not exist for an accident to occur at this airport, it merely demonstrates that as a whole, aviation is a relatively safe mode of transportation. Consequently, the existing template for safety zones should be used which can then be modified to fit the individual airport needs as it relates to existing land use patterns as discussed in the land use portion of this Chapter, but no modifications should be made to address accident potential for specific airports.

Accident Safety Zones should be more focused on noise contours

As previously noted, the existing ALUCP is based upon three primary principles of airport protection: noise issues, height hazards and safety. The suggestion from many of the respondents is to base the dimensions of the Accident Safety Zones on noise contours. Currently, the noise component has a complementary role in the definition of existing Accident Safety Zones, not a primary role. The current FAA criteria for land acquisition and mitigation measures are generally limited to the areas within the 65 DNL noise contour. In many instances, these contours do not leave the airport property. The suggestion from the survey respondents was to use the area within the 50-55 DNL as the limit of the safety zones versus the existing limits which are based upon the accident criteria. While this may be effective for larger air carrier facilities which have a much larger noise contour due to larger aircraft and more operations, the smaller general aviation aircraft would typically have a minimal difference between the 65 DNL an the 55 DNL contour. There is no direct correlation with risks. The only relationship is that more operations means larger noise contours and more chance of an accident. . The risk focus, though, should be on consequences. The "it takes only one" concept should be noted.

Accident Safety Zones create liability issues

It was noted by many respondents that the existing Accident Safety Zones create a significant amount of non-conforming land uses for airports in developed or urban areas. It is argued that these non-conforming uses could raise liability issues for the local

community if they are identified as non-conforming uses and no attempt is made to address the issue.

The consultant team believes that the issue of liability can be reduced if the terms for the Accident Safety Zones are revised, as previously mentioned. Additional educational efforts need to be put forth to explain the probability of aircraft accidents, within the various Accident Safety Zones, as well as further explanations of the consequences of not addressing land use compatibility issues. As noted on page 9-21 of the 2002 *California Airport Land Use Planning Handbook*, “nationwide, the annual risk of an aircraft accident causing fatal injury to an individual on the ground, but not on an airport, was found to be 1:1,700,000 (6×10^{-8}) for the period 1975-1985." As this suggests, the arguments which may result from the issue of liability would be based on a very minimal probability. This low probability of an accident off airport property, which would cause an injury to someone on the ground, would likely beg the question of “Then why do we need to plan at all?” The simple answer to that question is “It only takes one.”

Risk and liability are not limited to the potential for an aircraft incident, but also includes the risk of a comprehensive plan being appealed to a Growth Management Hearing Board, or brought before a court of law. The issue of risk and liability affects every decision that a jurisdiction makes. If a jurisdiction does not take action to address incompatible land use, the liability may even be at an even higher degree than if action is taken. Additional legal research is recommended to better understand the risk and liability as it pertains to this issue. Research to identify the "best management practices" to address incompatibility is also recommended.

5.5 Updating the Guidebook

The consultant team suggests that WSDOT-A consider adding additional tools to the Guidebook to address issues discussed above. As previously mentioned, the existing matrix and the Accident Safety Zones, while useful, are limited in the effectiveness due to the extent of existing development around many airports. A full complement of additional planning tools and techniques should be summarized in the Guidebook to illustrate other implementation options for communities. As one survey respondent commented: “one size does not fit all”, consequently, there needs to be various tools and techniques available to fit a variety of development situations. The State of Wisconsin and the State of Oregon have recognized that developing a program and guidebook that effectively address the issue of land use compatibility around airports needs to have sound data which supports the reasons for land use compatibility, as well as a variety of tools to create the compatible land uses. The consultant team believes that the existing Guidebook contains the necessary data to support the need for land use compatibility guidelines; however, it needs additional depth to address the methods to achieve the compatible land uses desired.

5.6 – Summary of Recommendations

After careful analysis of existing documents, survey responses, telephone interviews and staff interviews, the consultant team is providing WSDOT-A with a set of recommendations that address what were identified as the main issues associated with the existing ALUCP. Significant recommendations include enhancing coordination, developing funding opportunities, creating flexible land use criteria and modifying the existing Accident Safety Zones. The following bullet points present the next steps associated with these recommendations.

- Enhanced coordination efforts are recommended, including the creation of a Stakeholder Advisory Committee.
- An on-going, proactive public education effort by WSDOT-A staff is suggested.
- An emphasis on multi-jurisdiction coordination for effective plan implementation is recommended.
- Increasing the involvement of the FAA in the process of land use compatibility was also recommended.
- Funding recommendations include finding alternative funding sources to support land use planning efforts such as from CTED for the use of Airport Improvement Funds.
- On-going legal case study research is recommended to better understand the issue of "takings" and compatible land use planning.
- Flexibility in applying land use requirements for individual airports is also recommended. This flexibility is aimed at creating more personalized plans which work with the local community and specific airport needs, while taking primary information and format from WSDOT-A's Guidebook.
- Recommendations for WSDOT-A's Accident Safety Zones include the following:

    (1)Update the supporting data with the newest *California Airport Land Use Planning Handbook* data, and

    (2)Create "flexibility" for airport compatibility zone overlays based on the Accident Safety Zones. This includes zoning district reclassifications or other implementation tools at airports based on the individual airport and community.

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Appendices

Appendix A

Sample WSDOT-A Airport Land Use Compatibility Program Survey

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Appendix B

Washington State Department of Community, Trade and Economic Development Map of GMA Mandated Counties

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WSDOT Aviation Division
Airport Land Use Compatibility Study (ALUCS) Program
Questionnaire

In 1990 the Washington State Legislature adopted the Growth Management Act (GMA) to address the potential adverse effects of unplanned growth within the state resulting from the lack of common land use goals. GMA is designed to help local governments assess land use goals, develop comprehensive plans, and create development regulations. The primary reason for this process is to address growth in Washington State without sacrificing our:

- Environment
- Sustainable economic development
- Health, safety and quality of life

GMA also designates airports as Essential Public Facilities (EPFs). This means that local jurisdictions may not preclude the siting, expansion, or operation of an EPF.

In the mid-1990s the Washington State Transportation Committee recognized a disregard among jurisdictions for airport needs. This led to the enactment in 1996 of Washington Senate Bill 6422, which is codified into law as **RCW 36.70.547** and **RCW 36.70A.510**. Through this legislation, **local jurisdictions, counties, cities, and towns are required** to protect public use airports, whether publicly or privately owned, within their jurisdiction from incompatible development. Further, it states that comprehensive planning and land use ordinances (development regulations) must be used to accomplish this mission. The law also requires WSDOT Aviation to offer a technical assistance program and review comprehensive plans and development regulations.

In February 1999, WSDOT Aviation developed the Airport Land Use Compatibility Program Guidelines as part of its technical assistance program. The guidelines include studies and other supporting documentation to assist local governments and airports with making informed decisions about land use issues and protecting airports as EPFs. Three specific areas are addressed within the guidelines: height hazards (air space obstructions), safety (historical aircraft accidents), and noise.

WSDOT Aviation is sending the following questionnaire to airports and local governments to assess the effectiveness of the Airport Land Use Compatibility Program in meeting the intent of GMA. You are asked to help determine if the guidelines meet the intent of the law for growth management.

It is important to both protect airports in the state from incompatible land uses, as well as protect the general public from excessive aircraft noise and risk. Your responses and evaluation of the program's strengths and weaknesses will help us work together to advance our efforts to protect aviation and pubic interests. We appreciate your time in completing this questionnaire.

Please respond to this survey by January 25, 2005

Respondent Contact Information

Name:

Title:

Organization:

Address:

City:

State:

Zip Code:

Phone:

Fax:

E-mail:

1.) Airport(s), agency, or jurisdiction you are responding for (if more than one, please list *all*:

2.) What is the predominant type of land use that surrounds this airport?

- ☐ Agriculture
- ☐ Forest
- ☐ Rural
- ☐ Urban
- ☐ Mixed (residential, commercial or industrial lane use)

To be Completed by Airport Owners/Managers:

3a.) _____ Number of Based Aircraft

3b.) _____ Number of Annual Operations

3c.) Number of Annual Commercial Operations

3d.) Number of Passenger Enplanements

4.) Has your airport, agency or jurisdiction worked with other adjacent jurisdictions to address short and long-term airport and community land use plans and regulations?

- ○ Yes
- ○ No
- ○ Plan to

○ Unsure

If Yes, which issues have you jointly prepared or been involved with? Select all that apply.

☐ Airport Land Use Compatibility
☐ Airport Master Plans
☐ Economic Development
☐ Other (please specify)

Local Land Use Comprehensive Plan and Land Use Regulations

5.) Have airports in your community been designated as Essential Public Facilities in your County or City Comprehensive Plan?

○ Yes
○ No
○ Unsure

6.) Does your County or City Comprehensive Plan contain goals and policies that address protecting airports from incompatible land uses?

○ Yes
○ No
○ Under Development
○ Unsure

If so, do the goals and policies address (select all that apply):

☐ Noise
☐ Height Hazards
☐ Safety (type of land use, density or intensity of use)
☐ Economic development

7.) Has your County or City adopted land use regulations, such as an Airport Overlay Zone, that address compatible land uses adjacent to airports

○ Yes
○ No
○ Under Development
○ Unsure

If so, do land use regulations address (select all that apply):

☐ Noise
☐ Height Hazards
☐ Safety (type of land use, density or intensity of use)
☐ Economic development

8.) Does your County or City require development adjacent to airports to convey Avigation Easements and/or require Notice and Acknowledgment to Purchasers (Airport, Aircraft Operations and Noise Disclosure)?

- ○ Yes
- ○ No
- ○ Under Development
- ○ Unsure

9.) Has your County or City adopted and implemented a specific Airport Compatibility Program for one or more airports?

- ○ Yes (If so, what criteria are used to determine compatibility?)
- ○ No
- ○ Under Development
- ○ Unsure

10.) Are there other political jurisdictions affected by the operation of the airport?

- ○ Yes (If so, how did you coordinate with these jurisdictions?)
- ○ No
- ○ Unsure

Adopted Compatibility Plan/Policies

For the following questions, please rate your plans and policies as (1) through (4) based on their effectiveness according to the following:
(1) Ineffective,
(2) Low level of effectiveness,
(3) Medium level of effectiveness, and
(4) Highly effective.

11.) How effective do you believe your compatibility plan/policies/land use regulations are at accomplishing the goals of providing for compatible land uses around the airport?

- ○ (1) ineffective
- ○ (2) low level effectiveness
- ○ (3) medium level effectiveness
- ○ (4) highly effective

12.) If you feel it is ineffective or at a low-level of effectiveness, why? Select all that apply.

- ☐ Lack of enforcement
- ☐ Lack of understanding
- ☐ Lack of incentives

- ☐ Lack of penalties for Non-compliance
- ☐ Inappropriate criteria for determining compatibility
- ☐ Coordination between multiple jurisdictions
- ☐ Other (please explain)

WSDOT Aviation Land Use Compatibility Program

13.) Has the WSDOT Aviation land use program been effective in creating compatible land use around airports in order to preserve airports in the State of Washington?

- ○ (1) ineffective
- ○ (2) low level effectiveness
- ○ (3) medium level effectiveness
- ○ (4) highly effective

14.) If you feel it has been ineffective, or at a low level of effectiveness, why? Select all that apply.

- ☐ Lack of enforcement
- ☐ Lack of understanding
- ☐ Lack of incentives
- ☐ Lack of penalties for Non-compliance
- ☐ Inappropriate criteria for determining compatibility
- ☐ Coordination between multiple jurisdictions
- ☐ Other (please explain)

15.) How effective do you believe the Airport Land Use Compatibility Program is at meeting the intent of the Growth Management Act?

- ○ (1) ineffective
- ○ (2) low level effectiveness
- ○ (3) medium level effectiveness
- ○ (4) highly effective

16.) How effective do you believe the Airport Land Use Compatibility Program is at meeting the FAA directives for land use compatibility issues, as outlined in specific grant assurance language?

- ○ (1) ineffective
- ○ (2) low level effectiveness
- ○ (3) medium level effectiveness
- ○ (4) highly effective
- ○ (Not familiar with directives)

17.) How effective do you believe the following factors are in determining land use compatibility adjacent to your airport?

Height hazards	Safety	Noise
○ (1) ineffective	○ (1) ineffective	○ (1) ineffective
○ (2) low level effectiveness	○ (2) low level effectiveness	○ (2) low level effectiveness
○ (3) medium level effectiveness	○ (3) medium level effectiveness	○ (3) medium level effectiveness
○ (4) highly effective	○ (4) highly effective	○ (4) highly effective

18.) Has The WSDOT Aviation Airports and Compatible Land Use Guidebook been an effective resource for you in implementing/understanding the intent and implementation of the program?

- ○ (1) ineffective
- ○ (2) low level effectiveness
- ○ (3) medium level effectiveness
- ○ (4) highly effective
- ○ (Not Familiar with Guidebook)

19.) If WSDOT has provided any other tools & assistance to you, how effective have these tools been in implementing or understanding the intent of the program?

- ○ (1) ineffective
- ○ (2) low level effectiveness
- ○ (3) medium level effectiveness
- ○ (4) highly effective
- ○ (Not familiar with program)

Please complete the following questions with general comments regarding your thoughts on each issue:

20.) If you disagree with the criteria of the land use compatibility program (height hazards, safety and Noise), what criteria do you believe are appropriate in determining compatibility?

21.) What additional tools and assistance were provided to you by WSDOT Aviation?

22.) What, if any, specific benefits have you observed about the airport compatible land use plan intent, process and implementation?

23.) What specific issues or concerns do you have about the Airport Compatible Land Use Program intent, process, and implementation?

24.) What concerns, if any, do you have regarding the rationale for WSDOT Aviation safety zones presented in the Guidelines?

25.) What other solutions/tools should be considered to improve land use compatibility which you would like to share?

Submit Reset

If you have any questions about this survey, please contact John Shambaugh from WSDOT (360) 651-6306 or Stephanie Ward from Mead & Hunt (517) 321-8334.

MEAD & HUNT

washington state department of community, trade and economic development

Growth Management Services

Counties Mandated to Plan

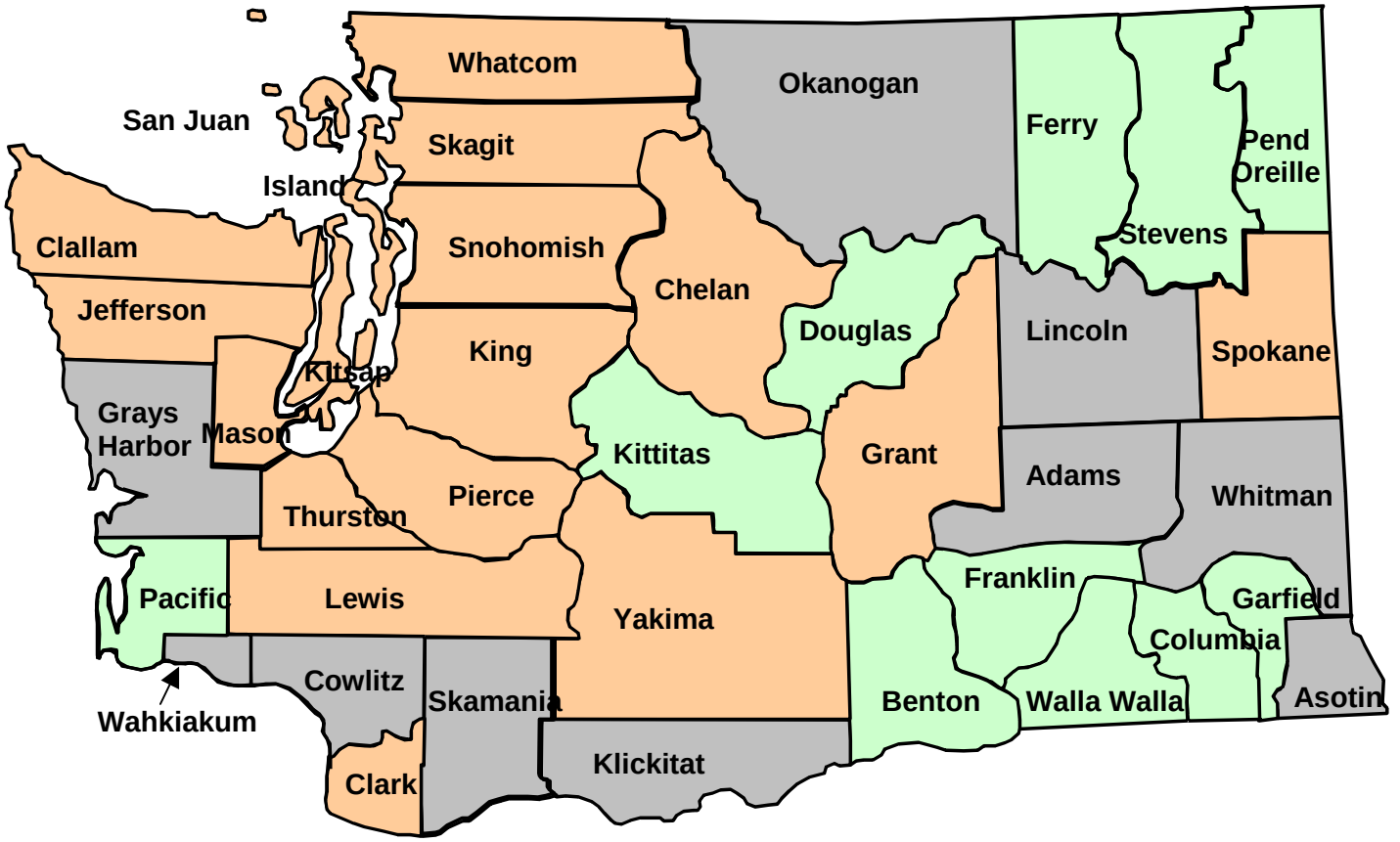
Chelan (1990)
Clark (1990)
Island (1990)
King (1990)
Lewis (1994)
Pierce (1990)
Skagit (1990)
Spokane (1993)
Whatcom (1990)
Clallam (1990)
Grant (1992)
**Jefferson (1990)
Kitsap (1990)
**Mason (1990)
**San Juan (1990)
Snohomish (1990)
Thurston (1990)
Yakima (1990)

Counties Opting to Plan

Benton (1990)
Douglas (1990)
Franklin (1990)
Kittitas (1990)
Pend Oreille (1990)
Walla Walla (1990)
Columbia (1991)
Ferry (1990)
Garfield (1991)
Pacific (1990)
Stevens (1993)

Counties not planning under all of GMA provisions

Adams
Cowlitz
Klickitat
Okanogan
Wahkiakum
Asotin
Grays Harbor
Lincoln
Skamania
Whitman



**** Did not exercise ability to opt-out of full GMA planning**
Exercised ability to opt-out of full GMA planning

Please see the next page.