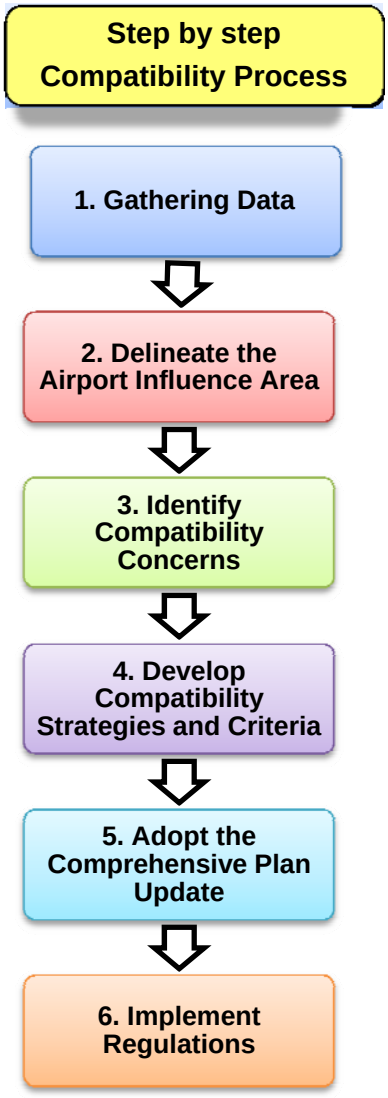
Chapter 2

Airport Land Use Compatibility Planning Step-by-Step

Introduction

This chapter will take you step by step through the process of identifying and evaluating airport land use compatibility issues that affect your community. Then, you will learn how to incorporate the results into the update of your comprehensive plan. You will also learn about:

- The types of airport and land use data important to your analysis.
- Where to find airport related data for your analysis.
- Specific types of airport land use compatibility concerns about which you should be aware.
- Land use strategies available for addressing these concerns as part of the comprehensive plan update process.
- The importance of coordination with WSDOT Aviation and the aviation stakeholders in your community.



What is the purpose of the compatibility planning checklist?

WSDOT Aviation has provided a step-by-step checklist to make airport land use compatibility resources easier to use and understand. The checklist communicates state guidelines and best management practices, and directs users to more detailed reference materials.

How should you use this checklist?

This chapter outlines a six step process for airport land use compatibility planning, and provides a checklist that takes you through each step. The steps take you through research and analysis that will help your jurisdiction make informed decisions about airport land use compatibility. The products you develop as you move through the checklist provide background materials that will help the jurisdiction "show their work" by demonstrating how they arrived at their decisions. This type of transparency supports public outreach programs and is useful for supporting local decision-making if challenged before the Growth Management Hearings Boards. This checklist will help you craft defensible, objective policies and zoning regulations.

Table 2-1: Six Steps to Airport Land Use Compatibility

	Step 1: Getting Started and Gathering Data	Step 2: Delineate the Airport Influence Area	Step 3: Identify Compatibility Concerns	Step 4: Develop Compatibility Strategies and Criteria	Step 5: Adopt the Comprehensive Plan Update	Step 6: Implement Regulations
Description:	Conduct preliminary work needed to initiate the compatibility planning process.	Define the area you need to consider for land use planning.	Examine the level of compatibility in your community	Examine the various policy and regulatory strategies available to pursue airport land use compatibility	Incorporate criteria into the Comprehensive Plan	Put the plan to use
You Know You've Been Successful When:	You have identified applicable state laws A process is in place to help stakeholders work together You can describe the airport's role, features, and activity You know what land uses exist around the airport and what land use plans are in place	You can define the noise, airport influence area, airspace protection, and safety impacts of the airport and know what areas in the airport environs are affected You have designated an airport influence area	You have determined the compatibility status of existing land uses in airport influence area You have identified the particular compatibility concerns that will require further review in the next step	You have weighed the comparative advantages and disadvantages of available planning strategies You have identified preferred planning strategies You have drafted specific compatibility criteria You have fully considered airport land use compatibility measures in your comprehensive planning process and incorporated compatibility policies into draft comprehensive plan where appropriate You are ready to circulate proposed comprehensive plan for review and adoption	Airport stakeholders feel that their concerns regarding compatibility matters have been understood and appropriately considered in the comprehensive plan update You have gained public acceptance of the importance of airport land use compatibility planning WSDOT Aviation provides comments supporting the compatibility measures you propose to take in your comprehensive plan update Your community's decision-makers have adopted a comprehensive plan update that contains appropriate measures to protect the airport from encroachment by incompatible land use	You have proposed revised development regulations to implement the policies You have begun to put the policies to use
Products:	Creation of a compatibility planning working group Findings that outline your airport land use compatibility planning responsibilities under state law Understanding of the airport's context within the community, state, and nation Inventory of airport facilities, activities, and services for use in subsequent land use compatibility planning steps and in transportation element of the comprehensive plan Summary of data regarding land uses around the airport	If applicable, noise contours, both current and 20-year projection Map of areas affected by overflight of approaching and departing aircraft Airport airspace map showing FAR Part 77 imaginary surfaces and elevations Map of compatibility zones applicable to each runway end Overall boundary of the airport influence area	List of current community policies affecting land use development airport influence area Evaluation of current compatibility status Identification of potential future compatibility conflicts List of specific compatibility issues to be addressed by new policies	List of current policies affecting airport land use compatibility in your community whether positively or negatively Assessment of adequacy of current policies Evaluation of alternative compatibility strategies Draft of specific compatibility criteria Adjustment of airport influence area boundary if necessary Draft comprehensive plan policies Draft comprehensive plan land use map	A strategy to gain public and decision-maker support of the compatibility measures Information materials describing the importance of the airport and airport land use compatibility An adopted comprehensive plan incorporating airport land use compatibility measures	Draft and adopted implementing regulations such as an airport overlay zoning ordinance that contains the specific compatibility criteria to be met Identification of continuing actions and specific points in the development review process where airport land use compatibility concerns will be addressed

This guidebook is not just for beginners! The step-by-step method described in the following pages is a cyclical process that can be used to review and update goals, policies and regulations as needed. Such review is appropriate during comprehensive plan updates as well following completion of significant airport planning efforts, such as the master plan or airport layout plan.

How will WSDOT use this checklist?

WSDOT's interest is to preserve the airport as part of the state transportation system. Our role is to provide technical assistance recognizing the uniqueness of every individual community and airport. We will focus on reviewing the community's airport land use compatibility goals, policies, and regulations proposed for adoption. We use our technical expertise to assist communities in making fully informed decisions. If WSDOT identifies deficiencies or inconsistencies within preferred policies or development regulations, we will address them in our official comment letter. WSDOT's comments to a local jurisdiction may:

- Express support for strong elements in the community's goals, policies and regulations.
- Point out advantages and disadvantages of the community's preferred approach.
- Clarify technical elements that have been misinterpreted.
- Raise issues that might not have been addressed.
- Suggest that additional information be provided to explain and support decision-making. Airport Features Existing Land Uses.
- Recommend alternatives.

Step 1: Getting Started and Gathering Data

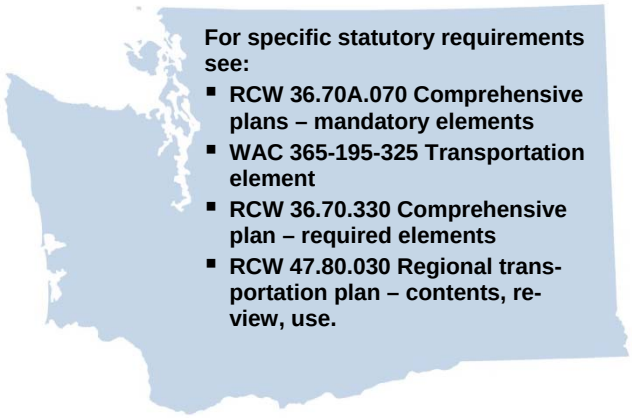
In this step you will begin your work on airport land use compatibility planning by laying a foundation for your process. Answering the questions listed here will enable you to define and understand the objectives of the process and who should be involved. Your other major task in this step will be to gather the airport and land use data that will enable you to address airport land use compatibility issues.

☑ *You will know you've been successful when:*

- *You have identified applicable state laws*
- *A process is in place to help stakeholders work together*
- *You can describe the airport's role, features, and activities*
- *You know what land uses exist around the airport and what land use plans are in place*

What are your jurisdiction's responsibilities?

Washington state law (RCW 36.70.547) requires all towns, cities, and counties in the state to discourage development of incompatible land uses near general aviation airports through adoption of comprehensive plan policies and development regulations. The lead role in compatibility planning for any particular airport thus belongs to the town, city, or unincorporated county jurisdictions that control the land uses around the airport. A primary purpose of this *Guidebook* is to help the entities satisfy the statutory requirement. However, the manner in which compatibility planning objectives are achieved will not be the same from one jurisdiction to another. Characteristics of the community and its natural environment, as well as those of the airport, will dictate different approaches.

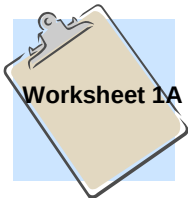


For specific statutory requirements see:

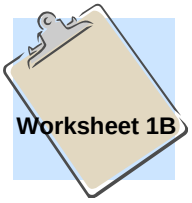
- **RCW 36.70A.070 Comprehensive plans – mandatory elements**
- **WAC 365-195-325 Transportation element**
- **RCW 36.70.330 Comprehensive plan – required elements**
- **RCW 47.80.030 Regional transportation plan – contents, review, use.**

To begin the planning process, local planners should answer these questions:

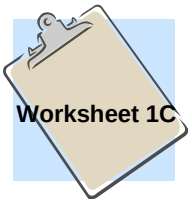
- **Which particular state laws affect your jurisdiction's planning responsibilities related to airports?** Many of the laws apply to all jurisdictions, while others are relevant only to certain types. Appendix A briefly describes the most significant statutes and provides links to the full text. Use Worksheet 1A to note your observations and questions as to how the state laws apply to your jurisdiction.



- **Beyond the basic requirements of state law, what are the primary purposes and objectives to be achieved in compatibility planning for the airports in your jurisdiction?** Are there specific issues to be addressed that are arising either because of changes at the airport or development pressures nearby? List the top three objectives in Worksheet 1B.



- **What particular challenges do you expect to face during the compatibility planning effort?** Has the airport been controversial and generated community opposition? Is data about the airport readily available or will special effort be needed to get information? In Worksheet 1C, identify three top challenges.



- **How do you intend to accomplish the compatibility planning study?** The outcome of the study ultimately must be reflected in the comprehensive plan and development regulations, but will the study be done as part of the comprehensive plan update or is a separate effort needed? In most cases, the analysis of compatibility issues can be done as a task within the overall comprehensive plan update process. However, if the compatibility planning issues involved are complex, a separate study may be warranted. Any such separate study would need to be completed, or largely so, in advance of the comprehensive plan update so that its recommendations can be incorporated.

- **Can the work be done by the jurisdiction's staff or comprehensive planning consultant or is a specialized consultant needed?** With the help of this *Guidebook* and WSDOT Aviation's Technical Assistance Program, planning staff should be able to address compatibility planning matters themselves. Some jurisdictions with highly complex airports may use a consultant that specializes in airport land use compatibility planning.

Who should be involved in airport land use compatibility planning?

State law requires that comprehensive planning be early, continuous and collaborative. In addition, RCW 36.70.547 explicitly requires "formal consultation" with aviation interests prior to adoption of a comprehensive plan or development regulations dealing with airport land use compatibility. Several stakeholders—airport owners and managers, private airport operators, general aviation pilots, ports and the aviation division of the department of transportation—are specifically identified in state law. Other interests whose input may be helpful include the airport's aviation service providers (fixed base operators), airline and air taxi operators, public and private emergency response providers, local business owners, regional agencies (RTPO and/or MPO), the State Department of Commerce, the FAA, and community representatives.
An aviation working group or advisory committee can be a helpful tool for jurisdictions planning for airport land use compatibility. Not only does this type of group provide a method for meeting public involvement and consultation requirements, it is also a way to form long-lasting relationships that extend beyond airport land use compatibility planning. The group can be used to give input on relative advantages and disadvantages of various approaches and communicate with stakeholder groups about progress of work.

Department of Commerce
Innovation is in our nature.

Other resources on citizen participation in the planning process are provided by Department of Commerce Growth Management Services at: www.commerce.wa.gov/site/420/default.aspx

What do I need to know about the airport?

Once you have determined what needs to be accomplished and who should be involved in the compatibility planning process, you next need to collect essential data about the airport. This data falls into three general categories:

Context. Who owns the airport? What roles does it play within the state and national aviation systems and within the local community? Who uses it?

Activity. What types of aircraft use the airport and what is the level of activity? Where do aircraft normally fly as they approach and depart the airport?

Features. What physical components of the airport are significant to land use compatibility? What are the locations and sizes of these facilities? What is future airport configuration?

Planners need this information in order to develop compatibility criteria for the airport. Also, decision makers need this information to understand the role of the airport in the community for transportation and economic development. Collecting and communicating these airport facts is an essential part of the compatibility planning process.

Another use for the data you gather about the airport is in completing the transportation inventory element of the community comprehensive plan and the regional transportation plan. The transportation inventory should catalog air transportation facilities and describe their role as part of the multi-modal transportation system. Future plans for the facilities should also be identified.

Identification of future airport improvement needs is particularly necessary for towns, cities, and counties that own or operate an airport. State law requires that these entities include a list of planned airport improvements within their capital facilities plan.

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Airport Context

The first thing you should learn about the airport is how it relates in a functional sense to other airports and to the ily help you in developing compatibility policies, at least not in a direct sense. However, what the answers will tell you overall fabric and economy of your community. This information, in turn, will aid in obtaining public support for

1. Who owns or "sponsors" the airport? Who runs it?

This is an indicator of your primary partner in airport land use compatibility planning. Even before starting work on your study, you should contact the airport manager to get input on the work scope and issues that should be addressed.

Click here for a list of airport contact information

2. What previous planning studies have been done for the airport?

Gathering this information at the outset of your work is essential. Earlier studies will help you answer many of these airport inventory questions. An airport master plan, airport layout plan drawings, FAR Part 150 study, environmental studies for a master plan or individual projects, and other planning studies, to the extent that they have been done, should contain valuable information needed for compatibility planning around the airport. Any economic studies concerning the airport also may be useful. Obtain copies of each of these.

3. What is the state classification of the airport?

WSDOT Aviation categorized airports into state classifications in the Long-Term Air Transportation Study (LATS). This classification is an indicator of the role the airport plays in the state system and the types of facilities and services needed to serve that role. It also includes facility, service, and operational performance objectives that were developed for each airport classification level as basis for prioritizing state funding to airports

7. What is the airport's economic contribution to the community?

Only the busiest airports typically pay their own way solely from industrial parks on parts of their property not needed for aviation uses. This revenue can be significant to the airport and to the community. Equally, if not more significant than these direct revenues are the indirect economic benefits that airports contribute to the local economy. As with the contributions of other modes of transportation, most airports provide services that are essential to the economic vitality of their communities. If an economic study has been done of your airport, review its findings and use the data in support of the need for protecting the airport from encroachment

Corporate Aircraft at Arlington Municipal Airport

community where it resides—in other words, what is its context? Some of the questions listed here will not necessar- is something about the importance of the airport both within the state and national airport systems and within the the compatibility policies as discussed in Step 5.

4. Who uses the airport?

Obtain information about the users of the airport. Many communities are surprised by the number of businesses located on the airport or that require proximity to it to support their activity. The airport's importance to emergency response services such as police, fire, aeromedical, and search-and-rescue also may not be widely recognized. Airport users and businesses have a vested interest in having compatible land uses around the airport. They will be supporters of strong land use compatibility measures.

5. What is the airport's role in the community?

How does the airport fit into the goals of the community and the region? Has your community adopted specific policies regarding the role of the airport? How is the airport perceived by the general public? Have compatibility problems or other issues become major controversies? Knowing this status will help you understand the challenges you may face in establishing compatibility policies for the airport. Information can be obtained from airport staff, community groups, newspaper articles, meeting minutes, and other such sources.

6. Does the airport connect with other transportation modes?

As with the airport role, this question again examines a facet of the airport's relationship to the community and region. Is the airport an integral part of a multi-modal transportation system within your community and region or is it disassociated with the transportation network? What links does the airport have with public transportation and freight movement systems? What are the opportunities for better inter-modal connections?

7 cont.

If this data is not available, other means of showing the airport's contribution to the local economy include:

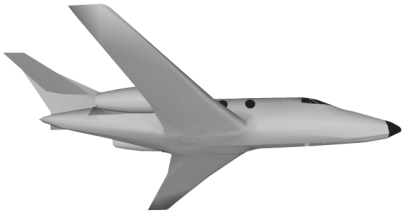
- Document the number of public and private employees on the airport through interviews with agencies and businesses based there. If you can ensure confidentially, it may also be possible to document the gross payroll of those employed on the airport.
- If your community has a branch of a regional or national business, staff from the main office may be flown to your community on a regular basis in company or chartered aircraft. This is particularly likely if your community does not have scheduled passenger service.
- If there are local manufacturers or distributors that ship their products via one of the small-package shippers at the airport (e.g., UPS), you should be able to document this through interviews with the shipper or manufacturer.
- Outside of metropolitan areas, medical specialists are sometimes flown in on a regular basis. Discussions with the commercial aviation-service providers (fixed base operators) at the airport or staff at the local hospital can help you determine whether this exists in your community.

Airport Activity:

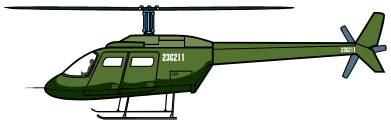
For the most part, an airport's effects on surrounding land uses are created not by the airport itself, but by the activity that
the following section for suggestions on where to find this information:

1. What is the composition of aircraft operations?

Is the airport used strictly by general aviation aircraft or are there also scheduled airline flights or operations by military aircraft?



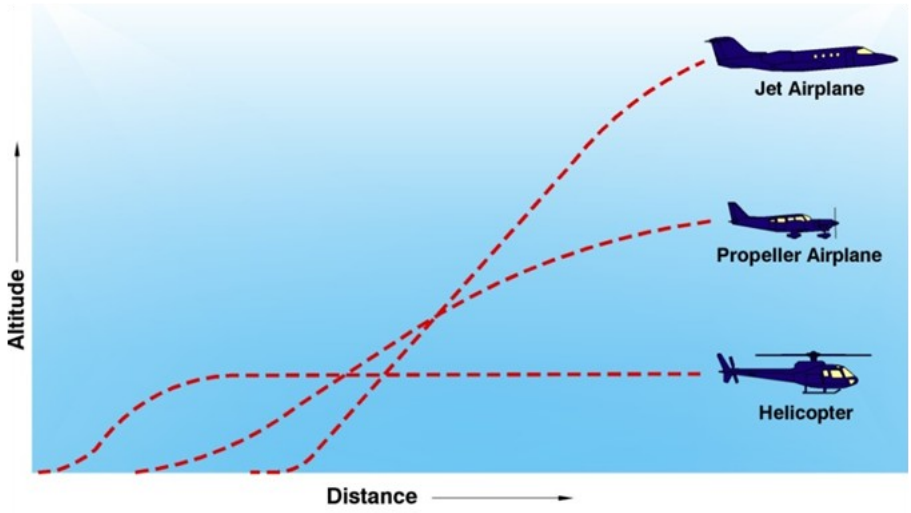
Commercial Operations



Military Operations

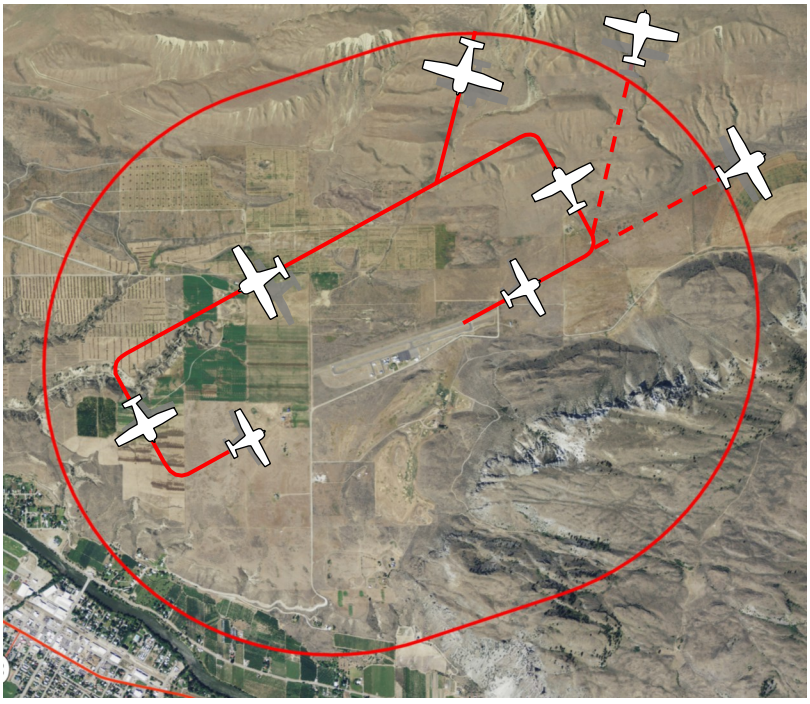
2. What types of aircraft use the airport and how often?

Obtain information on the mix of aircraft types that are based at the airport as well as those that regularly visit (transient aircraft). As discussed in Step 2, different aircraft types (business jets, propeller airplanes, helicopters) have different flight characteristics and create different noise and safety issues for surrounding lands. Gather information on the number of takeoffs and landings made by each type. For the critical aircraft, identify the specific models (e.g., which specific business jets use the airport). Also consider what types of aircraft are expected to use the airport in the future. Does the airport support flight school activity, medical services or parachute activity?



6. What routes do aircraft fly as they approach and depart the airport?

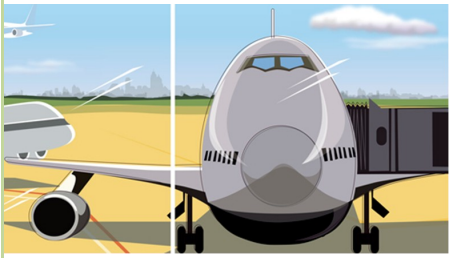
Federal regulations define the basic shape of the traffic patterns used by general aviation aircraft as they approach and depart most airports, but the specific size, altitude, and other characteristics may vary to meet local needs. Map the typical routes aircraft fly and consider that different aircraft (especially helicopters) may follow different routes. Seek information from the airport manager and pilot community on how often each route is followed.



takes place there. The questions below will serve as a checklist for the types of airport activity data you will need. See

3. How many passengers does the airport serve?

If the airport has airline service, get data on the number of passengers who board there (passenger enplanements). If applicable, also obtain data on cargo tonnage shipped.



4. What is the distribution of aircraft operations by time and runway?

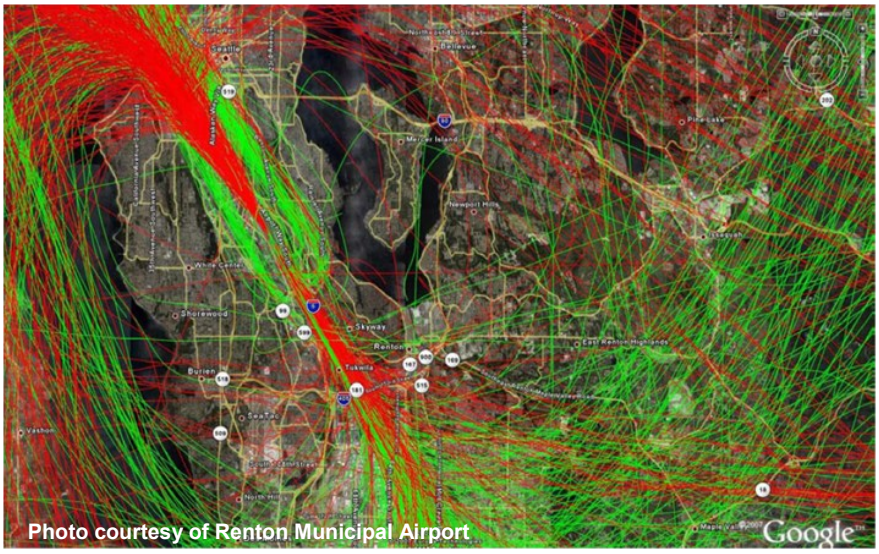
Get data or estimates of how much each runway is used at night (defined as 10:00 p.m. to 7:00 a.m.) versus during the day (7:00 a.m. to 10:00 p.m.). Find out how often each runway is used and in which direction. Determine if there are significant seasonal variations in these numbers. Ask if anything is expected to cause these percentages to change in the future.

5. Are there frequent aircraft maintenance operations at the airport?

Maintenance testing of aircraft requires use of high power settings with an accompanying increase of noise levels.

7. What deviations from the normal traffic pattern are typical at the airport?

While certain primary traffic corridors are defined, deviations occur. Some of these variations are permanent ones dictated by the airport's proximity to other airports, high terrain, or noise-sensitive land uses. These usually are indicated in pilots' guides or are posted at the airport. Others are individual instances resulting from pilot techniques, other aircraft in the pattern, wind conditions, and other such factors.



Radar tracks: This diagram shows aircraft flight tracks captured by radar. The image illustrates the variability of typical flight routes.

8. Does the airport receive noise complaints?

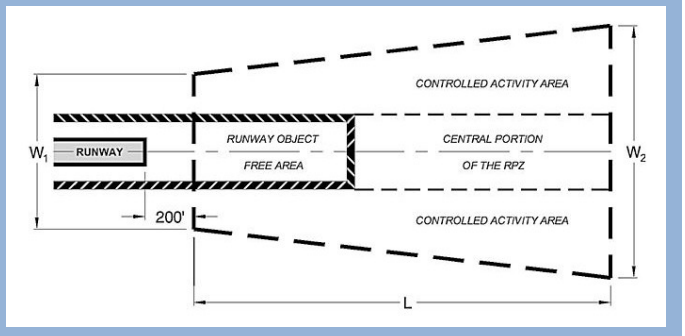
Most airports probably get at least a few complaints. Busy airports may get enough that they record and map them in a formal manner. Knowing the geographic source of complaints can be useful when drafting compatibility policies for the airport. Most airports receive the majority of noise complaints not from locations overflown on a regular basis, but from places where overflights are more random events.

1. What are the characteristics of the landing surface?

Indicate the length, width, and surface type for each runway at the airport and whether the runway is lighted for nighttime use. These features determine what types of aircraft can operate at the airport. For paved runways, data on the pavement strength also can be useful to know in that pavement strength limits the aircraft that can use the airport. Ascertain the length of any displacement of the landing thresholds from the runway ends. Find the official latitude and longitude coordinates of the runway ends and displaced thresholds. This data is essential to mapping of runways and associated airport impacts relative to surrounding geographic features. Entering the data into a GIS database is desirable.

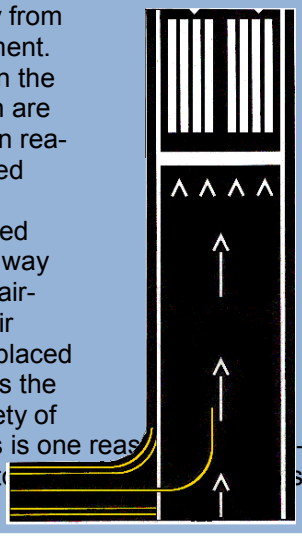
Tips

The runway protection zones (RPZs) and object free areas (OFAs) are probably most important. Also look for building restriction lines (BRLs) shown on the airport layout plan as they indicate how close buildings can be to a runway. These areas generally should be on airport property. However, if they aren't, then your compatibility policies and regulations should limit development to ensure that it is consistent with the Airport Master Plan and FAA guidelines.



Tips

A displaced threshold moves the spot at which aircraft land down the runway from the end of pavement. Tall objects within the runway approach are the most common reason for a displaced threshold. Even though the affected portion of the runway is still usable for aircraft to begin their takeoff roll, a displaced threshold reduces the usability and safety of the runway. This is one reas ing obstructions t important.



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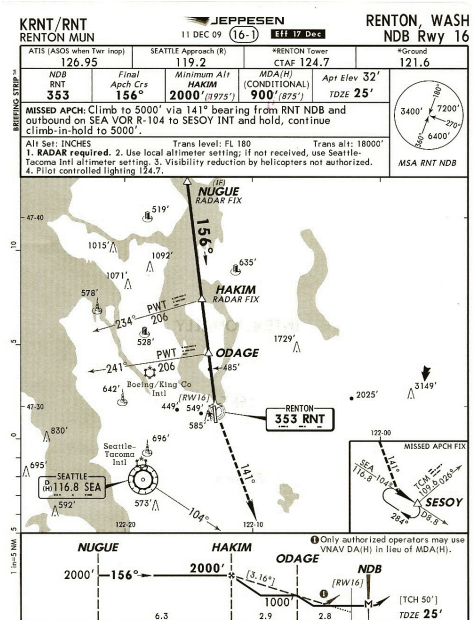
2. What types of approach capabilities does each runway end have?

Runway approaches are either visual or instrument. Visual approaches require good visibility conditions. When visibility is poor or cloud ceilings low, use of an instrument approach procedure is necessary. These procedures are established by the FAA and often require special facilities (navigational aids) at the airport. Also, aircraft must be properly equipped and pilots must be certified for instrument flight. Different types of instrument approach procedures provide varying capabilities in terms of the minimum weather conditions in which the procedures are usable. Instrument approach capabilities are particularly important to scheduled airline service and corporate aircraft operators. These users depend upon being able to land even when clouds lie over the airport.

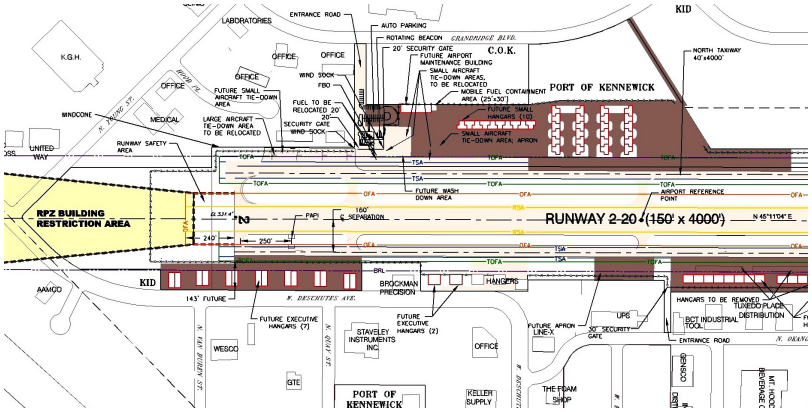


the airport's physical configuration.

Tips
Also check the airport master plan or airport layout plan for any new or upgraded instrument approach capabilities planned for the airport.

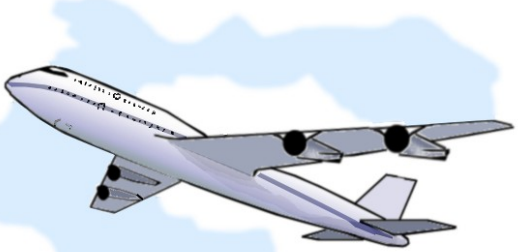
4. What is the plan for future development at the airport?

Airports that receive funding from WSDOT Aviation and the FAA must complete 20-year plans that forecast future activity and catalog future development needs. If an airport master plan has been adopted for the airport, descriptions of the planned improvements and a detailed capital improvement program listing each project typically would be included. Also in an airport master plan should be an airport layout plan and other drawings showing where the improvements are proposed. Planned changes to runways or instrument approaches can have implications that should be considered in land use compatibility planning.



3. Which design standards apply to the airport and does the airport meet these standards?

The FAA defines design standards for runways in accordance with the "airport reference code" (ARC) applicable to that facility. The ARC reflects characteristics (size and approach speed) of the critical aircraft expected to use the facility and the type of approach capability available. The design standards determine not only the runway dimensions, but also the sizes of critical clear areas surrounding the runway. These areas are important for the safety of aircraft occupants in case the aircraft lands short of the runway, overruns the far end, or deviates off to the side. It is equally important that these areas be kept clear of people and buildings because of the risks involved. Other FAA standards determine the heights that structures, trees, and other objects near the airport can reach without becoming obstructions to the airport airspace. Design deficiencies and existing airspace obstructions should be identified during this inventory process.



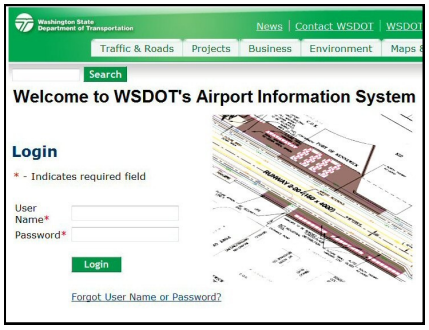
One of the performance objectives specified in LATS is that airports classified as Commercial, Regional, or Community should have instrument approach capabilities.

Airport Information

Where can I find this information about airports?

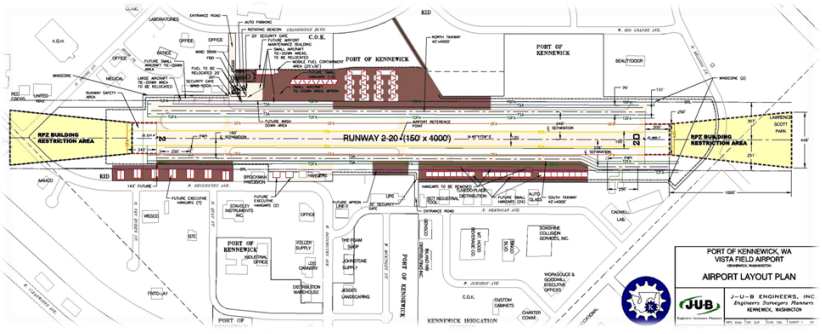
The sources outlined here should provide the bulk of the airport information you will need for airport land use compatibili information. Documents and databases are the first places to turn, but interviews with airport management and other peop majority of information required to enguage in their compatibility planning efforts.

WSDOT Airport Information System.
This is a comprehensive database of descriptive information about airports in the state. Data included in the Airport Information System is provided by airports and updated on an annual basis. The database contains a wide range of information on each airport in the Washington Aviation System including airport runway, facility, and service data, number and type of based aircraft, and capital development projects.

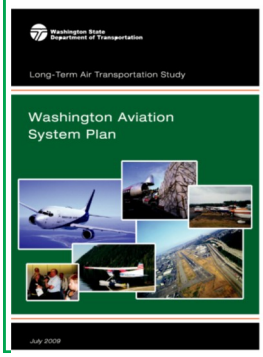


Airport Master Plan.
An airport master plan (AMP) is a comprehensive document intended to guide development on an airport. The planning period is normally 20 years. A typical airport master plan will contain most of the aviation-related information needed to prepare a land use compatibility plan. Normally, an AMP is formally adopted by the airport sponsor—the entity that owns or operates the airport. It also may be adopted by reference in the comprehensive plan.

Airport Layout Plan.
An airport layout plan (ALP) is a set of drawings showing the existing and planned configuration of airport facilities and the airspace around the airport. An ALP set is often accompanied by a short narrative report describing key features of the plan set. Airport layout plans are typically updated more regularly than airport master plans and even airports that do not have a current airport master plan may have a current ALP.
A current ALP is prerequisite to obtaining airport improvement funding from the FAA or WSDOT.



ty planning. However, don't expect to find all the data in a single place. Be prepared to spend some time seeking out the ble familiar with the airport and its operations are usually also necessary. Remember jurisdiction should already have the

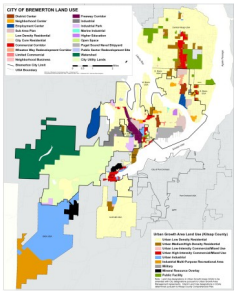


Statewide Aviation System Plan

Long-Term Air Transportation Study. The purpose of LATS is to understand what capacity currently exists in aviation facilities and what will be needed to meet future demand for air transportation. There are 138 public use airports within the system. Approximately 65 of these airports are also recognized in the national air transportation system. The Aviation Planning Council report, Aviation System Plan, and supporting technical documents includes an existing airport capacity/facility assessment, 25-year demand/market analysis, airport forecasts to 2030, statewide aviation policies and implementation recommendations.

National Plan of Integrated Airport Systems

The National Plan of Integrated Airport Systems (NPIAS) identifies more than 3,300 airports that are significant to national air transportation and thus eligible to receive Federal grants under the Airport Improvement Program (AIP). It also includes estimates of the amount of AIP money needed to fund infrastructure development projects that will bring these airports up to current design standards and add capacity to congested airports. FAA is required to provide Congress with a 5-year estimate of AIP eligible development every 2 years.



Comprehensive Plan

The comprehensive plan is the starting point for any planning process and the centerpiece of local planning. Development regulations (zoning, subdivision, and other controls) must be consistent with comprehensive plans. State agencies are required to comply with comprehensive plans and development regulations of jurisdictions planning under the GMA.

Interviews

Sometimes the best way to collect information is to reach out to people who have personal knowledge about the airport. This is particularly true with respect to some of the airport activity data—even though this data may not be recorded, these people may be able to provide usable estimates.

Airport Manager.

The airport manager is usually the best overall source of data on airport activity and for supplemental information on airport facilities.

Other Airport Staff.

At larger airports, other staff are likely to have more detailed knowledge of particular information such as activity data or noise issues.

Fixed Base Operators.

Particularly at smaller airports, the day-to-day operation of the airport may be delegated to a fixed base operator (FBO) who has a business at the airport.

Air Traffic Control Personnel.

If the airport has a control tower, interviewing the personnel will often yield excellent information on aircraft operations, runway usage, and traffic patterns. Tower personnel sometimes will even have recorded data on aspects of airport activity that are not included among the compiled data available on the FAA or state website.

Flight Instructors and Other Pilots.

Pilots, and particularly flight instructors, who regularly fly at the airport often have the best sense of where traffic patterns are located, the types of aircraft that use the airport, the distribution of activity among runways, and other operational characteristics of the airport.

Passenger Airline and Air Cargo Operators.

If the airport manager does not have data on passenger and cargo activity, direct contact with these users may be necessary at airports where this use is present.

Specialized Users.

Where special functions such as aerial firefighting, search and rescue, disaster management, aeromedical transport, or crop dusting take place at the airport, contact with the users will provide information on their activities and possibly additional insight into airport operations as a whole. Talking to military personnel also may be warranted if military activity is a significant component of the airport use.

Tim Brooks, Kenmore Air's Vice president of Flight Operations, explains the operational characteristic's of Kenmore Air Harbor's established airspace corridor to city staff and onlookers.

Airport staff can be an asset in evaluating the current operational characteristics of an airport.

Tips: Documents and Databases

These printed documents and on-line databases contain extensive amounts of data, not all of which will be directly relevant to the compatibility planning task. Nevertheless, it is important to check out each source to glean important information about the airport in your community

What do I need to know about land uses around the airport?

The other side of the airport land use compatibility planning coin is the land use side. To be able to identify where compatibility conflicts already exist and to develop policies to avoid new problems, you need to gather information about existing and planned land uses in the airport influence area. If you are working through the compatibility planning process in this *Guidebook* as part of a comprehensive plan update, you presumably have the necessary information readily at hand.

With the copious amounts of land use documents, policies, databases, maps, and other information available for most communities, the challenge is to focus on the information that is most pertinent to airport land use compatibility issues. Here are some of the items you should assemble. The information will be used when you get to Step 4.

- Map showing individual parcels
- Topography map
- Map of existing land uses
- Adopted comprehensive plan policies
- Map showing comprehensive plan land use designations
- Environmental sensitive area maps
- Zoning ordinance and map, including any airport overlay zone

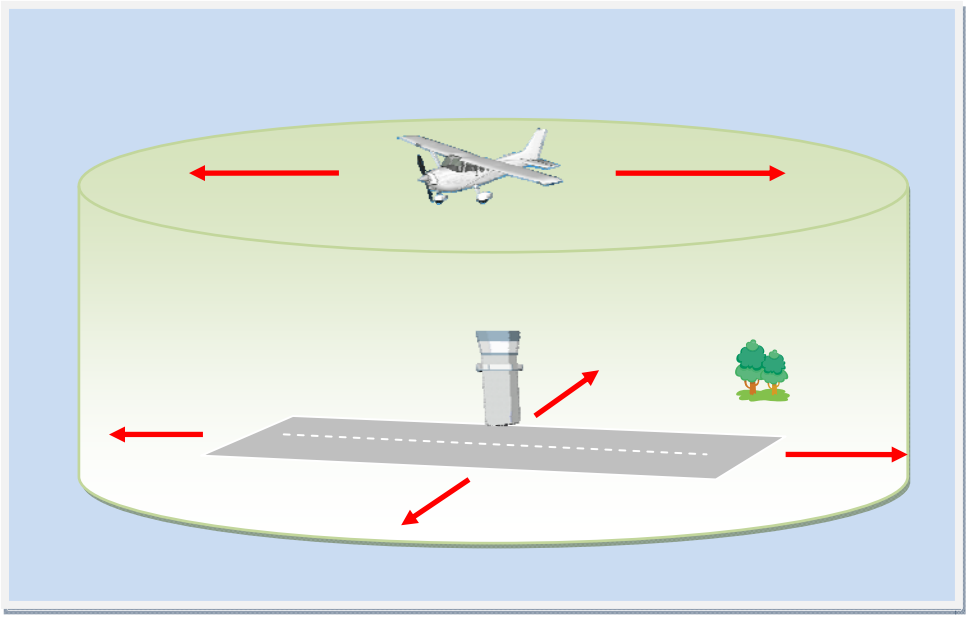
✈*Step 1 Products:*

- *Creation of a compatibility planning working group*
- *Findings that outline your airport land use compatibility planning responsibilities under state law*
- *Understanding of the airport's context within the community, state, and nation*
- *Inventory of airport facilities, activities, and services for use in subsequent land use compatibility planning steps and in the transportation element of the comprehensive plan as well as the capital facilities element, when applicable*
- *Summary of data regarding compatible and incompatible land uses around the airport*

Step 2: Delineate the Airport Influence Area

For tips on how to identify and assess the airport influence area see appendix section C

Now that you've learned about the airport and its setting and have created a framework for your planning process, the next step is to define the area you need to consider for land use compatibility planning. This is the airport influence area. How do you determine the size of the influence area? The boundaries differ for each airport based on its unique characteristics. The key is to think about all areas where existing or future aircraft operations at the airport may interfere with the development and use of the land, as well as where land uses can impair the development and use of the airport. The most significant effects are direct physical impacts such as those brought about by noise or tall structures. However, it is also important to recognize certain indirect effects, particularly those that result when incompatible land uses produce demands by the airport's neighbors to limit aircraft operations, change flight patterns, or prevent expansion of facilities.



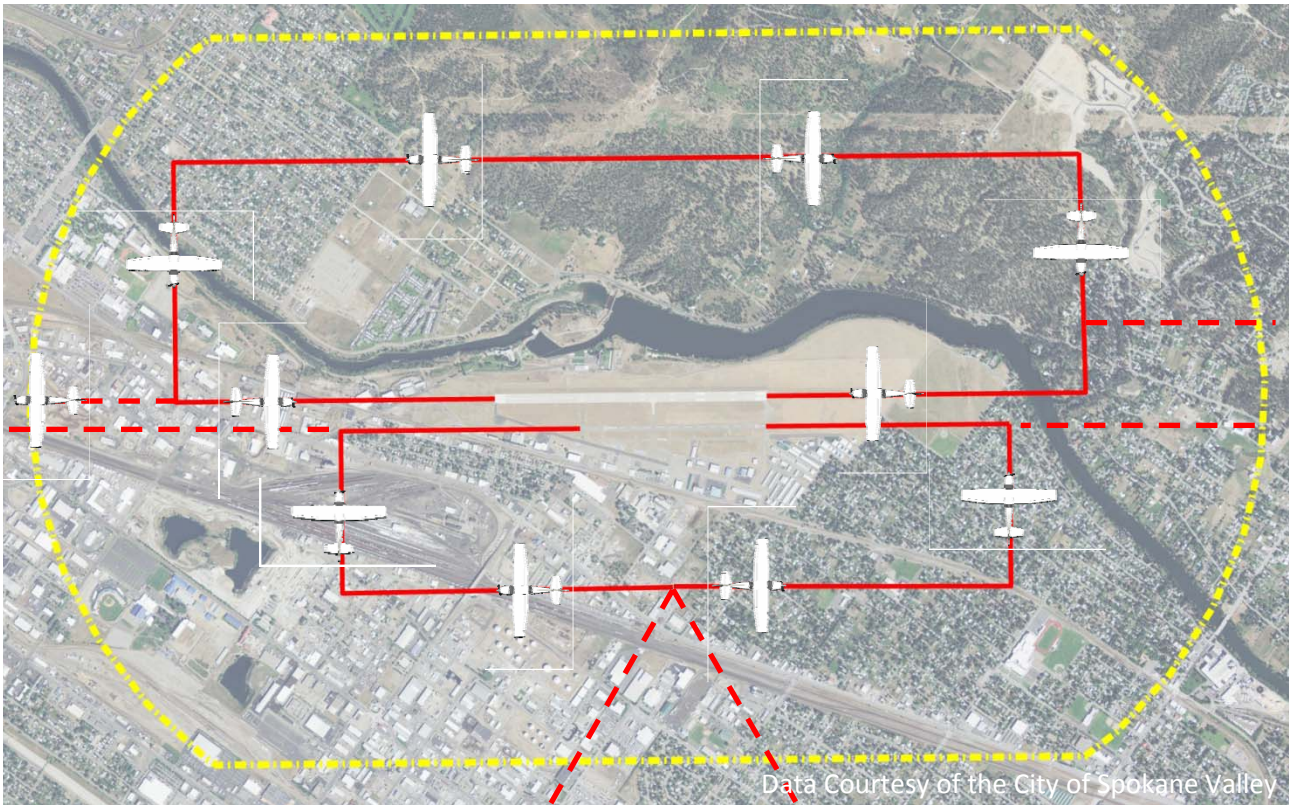
☑ *You will know you've been successful when:*

You can define the noise, the airport influence area, airspace protection, and safety impacts of the airport and know what areas in the airport environs are affected.
You have designated an airport influence area.

What is the airport influence area?

An airport's influence area is the area within which the airport's impacts may adversely affect the use of land or the land uses may adversely affect development and use of the airport. To avoid airport land use compatibility conflicts, various degrees of restriction on land use development are necessary within the airport influence area. Also, to the extent that airport expansion or changes in the character of its use cause new impacts on surrounding land uses, then the airport may need to take steps to mitigate these impacts.

Felts Field's Airport Influence Area



Although airports and surrounding land uses each have effects on the other, the delineation of an airport influence area is driven by aeronautical factors, not by land uses. That is, except sometimes at the margins, an airport influence area should not be drawn to deliberately include or exclude a particular land use. It should be drawn based on where the airport's impacts occur.

As indicated in Chapter 1, four types of impacts are of concern in airport land use compatibility planning: noise, airspace protection, safety and aviation affects within the airport influence area. To determine the size and shape of the airport influence area, the geographic extent of each of these impacts must first be determined. A typical influence area for a general aviation airport will extend approximately two miles in all directions from the airport runways, but can be larger or smaller.

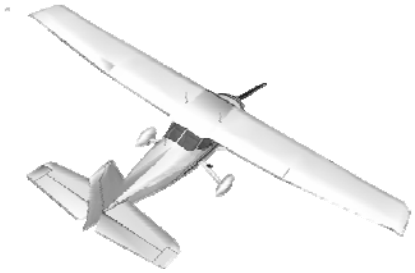
Busy airports and ones that have instrument approach capabilities will usually have a larger airport influence area.

What are the airport's impacts on surrounding land uses?

Noise Impacts

When we talk about airport noise impacts, we are referring to noise levels that range from noise that cause environmental impacts, to noise levels that are an irritant. Noise can disrupt the normal activities of people and sometimes animals as well. As indicated in Chapter 1, for some airport land use compatibility planning purposes, we often measure these impacts in terms of DNL contours. DNL is a cumulative measure of noise that takes into account both the loudness of noise events and how often they occur. The lowest DNL at which impacts to noise-sensitive land uses, particularly residential uses, become significant depends upon airport characteristics, ambient noise levels in the surrounding community, and other factors. As a general rule, it is up the communities to set thresholds for determining compatibility criteria by using the framework of Washington State law and both state and federal guidance.

Remember 65 DNL is a threshold used to identify levels of noise that represent health concerns. In Washington State, it is not a threshold used to determine suburban compatibility. Noise below 50 DNL and single noise events have been show to be significant compatibility factor.



Some significance thresholds to consider when establishing noise compatibility criteria for new development near your airport may include:

- 50, 55, or 60 dB. For most general aviation airports, including ones with limited airline activity.

In each of these scenarios, there may be instances in which the respective noise barely reach beyond the airport boundaries. These circumstances should not be taken as a sign that the airport has no noise-related impacts. Single-event noise and nuisance noise impacts—which are an important component of the airport influence area will still occur and be disruptive over a wider area. Especially in quiet communities, nuisance noise impacts should be given substantial weight in land use planning around airports.