

In This Chapter
<ul style="list-style-type: none"> • Why is effective airport planning important? • What are the different types and levels of airport planning? • Why is planning important for the state-managed airports? • What are the design standards for the state-managed airports? • How do we communicate effectively about airport planning?

As the state-managed airports’ sponsor, the Washington State Department of Transportation (WSDOT) Aviation Division (WSDOT Aviation) has a key role in advocating for:

- The preservation and long-term development of appropriate aviation facilities.
- Safe air transportation.
- Airport capacity to meet demand.
- Mitigation of environmental impacts.

As such, WSDOT Aviation actively provides the technical resources required to support these goals. WSDOT Aviation employs a strategic approach of working cooperatively with airports, communities, and planning organizations to set the policy direction for the state-managed airport system.

WSDOT Aviation recognizes that it is critical that appropriate airport planning practices be established and maintained for the state-managed airport system in order to sustain its relevance and long-term viability. This chapter discusses the specific planning standards and processes that WSDOT should use to ensure that the system is reaching its full potential. These efforts must be conducted proactively, efficiently, and professionally in order for the system to be maintained as a viable and adequate mode of transportation for the state and its citizens.

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Make Sure

- Check that the sections are current!
- Do they need to be updated?

Key Section Dates

Out-of-date information is not good information. Therefore, it is important that the information contained within this chapter be updated on a regular basis. The following table presents the dates that each section was formally adopted by WSDOT Aviation, as well as the scheduled date for the next internal review of each section to ensure its currency.

Section	Current Date	Scheduled Review Date
6.1 What is the Importance of Airport Planning Studies	7/1/10	6/1/11
6.2 What Are the Airport Design Standards	7/1/10	6/1/11
6.3 What About Environmental Planning	7/1/10	6/1/11
6.4 What Are the Vegetation Management Procedures	7/1/10	6/1/11
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6.1 What is the Importance of Airport Planning Studies

Airport planning ensures the long-term viability of individual facilities and the system as a whole. Airport planning can include a wide variety of studies and efforts, including airport facility planning, air capacity and system planning, obstruction analyses, financial planning, traffic and markets, economic studies, environmental studies, etc. It is generally recognized that there are three primary levels at which airport planning can be performed:

Airport Planning Levels	Description
Strategic-Level	Examines long-term structures and determines how well various structures fit with identified goals and objectives. A strategic plan sets out procedures to follow which will lead to an optimal long-term structure. The primary example of this level of airport planning is that of an aviation system plan.
Tactical-Level	Determines short- and medium-term courses of action that best fit into overall strategic plans and goals. Additionally, tactical plans identify the best manner of carrying out these courses of actions. The primary example of this level of airport planning is an airport master plan.
Project-Level	Identifies a defined aspect of a tactical plan and determines the optimum manner of executing this aspect in project form. An example of this level of airport planning is a vegetation management plan.

Airport planning can be an extremely complex process since an airport encompasses a wide range of activities that often have inherently different and, sometimes, conflicting requirements. Additionally, there are multiple industry,

federal and international regulations and best management practices that are commonly employed. As such, while this section contains current WSDOT Aviation airport planning guidelines, additional industry resources should be considered as required by WSDOT Aviation.

System Planning

An airport system plan is a representation of the aviation facilities required to meet the immediate and future needs of a metropolitan area, region, state or country. The overall purpose of a system plan is to determine the extent, type, nature, location, and timing of airport development needed to establish a viable, balanced, and integrated system of airports. It also provides the basis for definitive and detailed airport planning such as that contained in an airport master plan. Specifically, a system plan:

- Identifies the aviation role of existing and future airports and facilities.
- Recommends the general location and characteristics of new airports and the nature of expansion for existing ones to meet forecasts of aggregate demand.
- Includes the timing and estimated costs of development.
- Relates the planning effort to the policy and objectives of the state, region, or relevant jurisdiction.

The following table describes the principle objectives of an airport system plan.

Principal Objectives of Airport System Planning	
1	The orderly and timely development of a system of airports adequate to meet present and future aviation needs and to promote the desired pattern of regional growth relative to industrial, employment, social, environmental, and recreational goals.
2	The development of aviation to meet its role in a balanced and multimodal transportation system and to foster the overall goals of the area as reflected in the transportation system plan and comprehensive development plan.
3	The protection and enhancement of the environment through the location and expansion of aviation facilities in a manner which avoids ecological and environmental impairment.
4	The provision of the framework within which specific airport programs may be developed consistent with the short- and long-range airport system requirements.
5	The implementation of land-use and airspace plans which optimize these resources in an often constrained environment.
6	The development of long-range fiscal plans and the establishment of priorities for airport financing within the government budgeting process.
7	The establishment of the mechanism for the implementation of the system plan through the normal political framework, including the necessary coordination between governmental agencies, involvement of both public and private aviation and non-aviation interests, and compatibility with the content, standards, and criteria of existing legislation.

Washington State Long-Term Air Transportation Study (LATS)

The most recent update of the Washington Aviation System Plan (WASP) was completed in 2009 as part of the Washington State Long-Term Air Transportation Study (LATS). This was the first comprehensive aviation system planning effort in Washington State in over 20 years. Initiated in 2005 through Engrossed Senate Substitute Bill (ESSB) 5121, the LATS legislation authorized WSDOT Aviation to conduct a long-term air transportation planning study of general aviation and commercial aviation airports. The purpose of LATS was to understand what capacity currently exists for commercial and general aviation facilities and what would be needed to meet future demand for air transportation in the state. In addition to the standard elements of an airport system plan, this study focused on four special emphasis regions identified in the legislation: Tri-cities, Spokane, Puget Sound, and Southwest Washington.

The completed LATS effort includes an analysis of existing capacity, aviation trends, system performance, market demand, and system needs within the Washington State public airport system. The study also includes an assessment of air cargo and a review and evaluation of high speed passenger rail transportation.

LATS study recommendations and findings will be integrated into the Washington Transportation Plan (WTP), the Federal Aviation Administration (FAA) National Plan of Integrated Airport Systems (NPIAS), and regional and local transportation plans. The study will also assist in aligning federal, state, and regional priorities and help to clarify airport sponsor objectives. Ultimately, recommendations from the study will assist the state in managing the Washington public airports as an integrated system, in order to strategically invest the public resources necessary to preserve aviation capacity and provide facilities that effectively accommodate future demand.

A complete copy of LATS can be found in the WSDOT Aviation administrative offices or online on the WSDOT Aviation public website at www.wsdot.wa.gov/aviation/lats/default.htm.

WSDOT-Managed Airports: System Evaluation and Strategic Plan

During the LATS effort, it became apparent that there was a need for more detail regarding the purpose and role of the 17 state-managed airports within Washington State. Specifically, due to growing uncertainty in traditional airport funding sources, it had become necessary for WSDOT Aviation to examine why it maintained these airports and what role they served in the statewide aviation system. As such, WSDOT Aviation requested that an additional planning study be conducted to evaluate, analyze and develop a strategic plan for those 17 state-managed airports. Completed in 2008, the WSDOT-Managed Airports: System Evaluation and Strategic Plan was integrated into LATS and final recommendations of the Washington Aviation System Plan and Aviation Planning Council recommendations.

A complete copy of the *WSDOT-Managed Airports: System Evaluation and Strategic Plan* can be found in the WSDOT Aviation administrative offices or online on the WSDOT Aviation public website at www.wsdot.wa.gov/aviation.

Airport Master Planning

An airport master plan is a conceptual plan that reflects the ultimate development goal of a specific airport over a given period of time (typically 20 years). According to the FAA, the goal of an airport master plan is to provide guidelines for future airport development that will satisfy aviation demand in a financially feasible manner, while at the same time resolving the aviation, environmental, and socioeconomic issues existing in the community. The following table describes the principle objectives of an airport master plan.



Principal Objectives of Airport Master Planning	
1	Developing or modifying physical facilities on an airport to meet existing and projected demand.
2	Developing or modifying land on and/or adjacent to an airport, including establishing land use/zoning controls on lands adjacent to an airport.
3	Determining the environmental effects of airport development and operations.
4	Supporting the plan technically and procedurally through a thorough investigation of concepts and options of a technical, economic, or environmental nature.
5	Establishing airport access requirements.
6	Establishing a realistic schedule for the implementation of the development plan proposed in the plan, particularly for the short-term capital improvement program (CIP).
7	Proposing an achievable financial plan to support the implementation schedule.
8	Establishing a mechanism for formal communications with key airport stakeholders.
9	Presenting for public consideration, in a convincing and candid manner, a plan that adequately addresses the issues and satisfies local, state, and federal regulations.
10	Documenting policies and future aeronautical demand for reference in municipal deliberations on spending, debt incurrence, and land use controls.
11	Providing an effective graphic presentation of the future development of the airport and future land uses in the vicinity of the airport.

The content of an airport master plan varies in both level of detail and specific requirements, depending upon the type of planning effort undertaken. However, the master plan should include at least the following elements:

Primary Airport Master Planning Elements	
1	An inventory of existing airport facilities, current conditions, and issues related to the airport, and an identification of other planning studies that may impact the airport plan.
2	The demand forecast including aircraft operations, number of passengers, volume of cargo and mail, and vehicular traffic. The forecast should be made not only on an annual basis but also for the busiest hours of the day. Typically, the forecast is for a period of 20 years.
3	An analysis of the interaction between the various demand parameters and the capacity of the relevant airport facilities, including those that affect airfield, terminal, and ground access system operations.
4	The development of alternative concepts and solutions to reasonably satisfy forecasted demand by taking into account such factors as the functional role of the airport under study and the impact on the environment, safety, economy, and fiscal resources of the area. An examination of alternative sites, including land-use and ground access plans and development concepts, is essential for the proper consideration and identification of viable alternatives.
5	The determination of the cost-effectiveness of alternative concepts and recommended solutions, including both tangible and intangible benefits and costs. Many important benefits are significant in the decision-making process but which are also difficult to quantify.
6	A financial feasibility analysis which differs from economic feasibility, for there is no guarantee that if a proposed development is economically feasible, it is also feasible to finance that development. Investment priorities must be established among the various individual airport improvements. Frequently airport planning is separated from financial and management planning. The latter may be undertaken only after a physical plan is adopted. Because of financial constraints, financial planning should be undertaken concurrently with planning of the physical facilities.
7	The environmental impact of alternative concepts and recommended solutions must be considered and incorporated into the cost-effectiveness analysis. Although aircraft noise is the principal environmental problem faced by airport authorities, other factors must be considered.
8	The preparation of implementation schedules and costs and sources of revenue for the various phases of proposed development.
9	The preparation of an associated airport layout plan (ALP) that graphically represents the key existing and proposed elements of the airport in terms of facilities, properties, land use/zoning, airspace, etc.

Make Sure

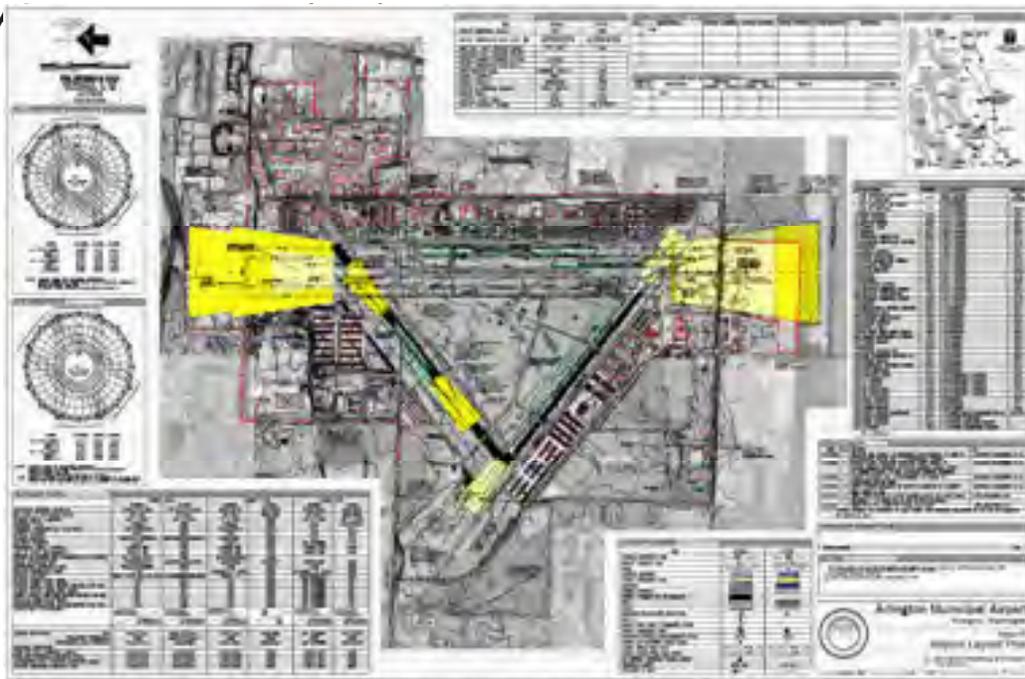
- Check the current FAA Advisory Circulars.

For the state-managed airport system, WSDOT Aviation will establish formal airport master plans that comply with all related FAA regulations for all airports listed within the NPIAS. For non-NPIAS Airport, WSDOT Aviation will utilize airport design standards that are similar to those used by other states. These standards generally follow the FAA’s framework, but recognize that the State-Managed Airports are relatively small unimproved airports located in rural and

or mountainous regions of the state, and are operated under Visual Flight Rules (VFR). These master plans should be reviewed by WSDOT every five years, and updated as needed to reflect the management objectives set forth in Chapter I of this document. The specific federal regulations that should be reviewed and considered include the following:

- [FAA AC 150/5070-6](#), *Airport Master Plans*
- [FAA AC 150/5300-13](#), *Airport Design*
- [FAA Order 5100.38](#), *Airport Improvement Program Handbook*

During the development of the master planning documents, WSDOT Aviation will develop a public outreach and communication plan to ensure that all stakeholders and the public can participate in the planning effort.



An Airport Layout Plan (ALP) drawing set depicts existing airport facilities and proposed developments as determined from the planners' review of the aviation activity forecasts, facility requirements, and alternatives analysis. It is typically prepared as part of a complete airport master plan effort; however, it can also be prepared as part of a stand-alone planning effort that may include supporting documentation and narrative.

Airport Layout Plans are prepared either as first time ALPs, formal revisions based on changes to the airport, or informal revisions based on minor improvements to the airport. Informal revisions, often referred to as pen-and-ink revisions, can be made to individual sheets of the ALP drawing set, although the responsibility for review and approval must still be coordinated with the state and if a NPIAS Airport, the FAA. These and other requirements are discussed in [FAA Order 5100.38](#), *Airport Improvement Program Handbook* and *WSDOT Airport Aid Grant Procedures Manual*.

The preparer of the ALP must work closely with the WSDOT Airport Manager, airport owner, and if appropriate, the responsible FAA office, to define the requirements, standards, and criteria to be employed. To ensure that the ALP is comprehensive, all parties must agree to its content and standards.

Principal Functions of an Airport Layout Plan	
1	An ALP depicts existing airside and landside facilities, traffic pattern and future facility needs and improvements. The plan is used as a tool for financial planning and assistance.
2	An ALP creates a blueprint for airport development by depicting proposed facility improvements that should be consistent with the state aviation system plan, airport master plan and community plans.
3	The ALP is a public document that serves as a record of aeronautical requirements, both present and future, and as a reference for community deliberations on transportation and land use proposals as well as budget resource planning.
4	The approved ALP enables the airport sponsor, the state and the FAA to plan for facility improvements at the airport. It also allows for anticipation of budgetary and procedural needs. The approved ALP will also allow the FAA to protect the airspace required for facility or approach procedure improvements.
5	The ALP can be a working tool for the airport sponsor, including its development and maintenance staff.

Note: The ALP drawing set is a set of planning drawings and is not intended to provide design engineering accuracy. Individual items such as runway coordinates, obstruction survey data, and application of airport design standards must comply with Federal survey standards.

The minimum elements of the ALP drawing set for NPIAS airports are defined in Appendix F, Airport Layout Plan, of [FAA AC 150/5070-6B](#), *Airport Master Plans*. (For non-NPIAS Airports refer to Appendix A, *WSDOT Airport Aid Grant Procedures Manual*.)

For each of the state-managed airports, WSDOT Aviation has some flexibility on what specific sheets shall be required to comprise an ALP set. However, regardless of the actual sheets included, WSDOT Aviation shall establish and maintain current ALP sets whose individual sheets meet the current FAA standards. (See [FAA AC 150/5070-6B](#), *Airport Master Plans*, Appendix F.)

For those state-managed airports included in the NPIAS, WSDOT Aviation shall establish and maintain an ALP plan set in full compliance with FAA and WSDOT requirements. Drawings that should be included in the ALP drawing set are described in the following table.

Drawings Typically Included in an Airport Layout Plan	
Cover Sheet	A separate cover sheet, with approval signature blocks, airport location maps, and other pertinent information as required by the local FAA Airports office. (As required)
Airport Layout Plan	A drawing depicting the existing and future airport facilities. The drawing should include required facility identifications, description labels, imaginary surfaces, Runway Protection Zones, Runway Safety Areas and basic airport and runway data tables. It may be necessary to include the data tables on a separate sheet. (Required)
Terminal Area Plan	This plan consists of one or more drawings that present a large-scale depiction of areas with significant terminal facility development. (As required)
Airport Airspace Drawing	14 CFR Part 77, Objects Affecting Navigable Airspace, defines this as a drawing depicting obstacle identification surfaces for the full extent of all airport development. It should also depict airspace obstructions for the portions of the surfaces excluded from the Inner Portion of the Approach Surface Drawing. (Required)
Inner Portion of the Approach Surface Drawing	Drawings containing the plan and profile view of the inner portion of the approach surface to the runway and a tabular listing of all surface penetrations. The drawing will depict the obstacle identification approach surfaces contained in 14 CFR Part 77, Objects Affecting Navigable Airspace. The drawing may also depict other approach surfaces, including the threshold-siting surface, those surfaces associated with United States Standards for Instrument Procedures (TERPS), or those required by the local FAA office or state agency. The extent of the approach surface and the number of airspace obstructions shown may restrict each sheet to only one runway end or approach. (Required)
Airport Land Use Drawing	A drawing depicting land uses and zoning in the area on and around the airport. Where applicable include the urban growth boundary, any land encumbrances such as lands held in trust, open space, and aviation easements. (Required)
Airport Property Map	A drawing depicting the airport property boundary, the various tracts of land that were acquired to develop the airport, and the method of acquisition. (As required)

At a minimum for all state-managed airports, WSDOT Aviation shall establish and maintain an Inventory Summary Report of each airport. This information may be similar to the information found in the Airport Master Plan or as an addendum to supplement existing information in the master plan.

Inventory Summary Report Elements	
Airport Facility and Operations Description	<p>This element of the Inventory is generally comprised of a brief summary of airport facilities, operations and planned improvements intended for use in local land use and transportation planning. Specifically, it should include the following elements:</p> <ul style="list-style-type: none"> • Location • Elevation • Runway: length, width, surface • Based aircraft: number, type • Lighting • Approach • Navigation systems • Annual operations – existing and future • On-site facilities • ARC • Summary of ALP recommendations
Airport Setting Description	<p>This component of the inventory should include a summary review of the comprehensive plans and development regulations for each affected community within the airport influence areas under the airport traffic pattern/approach. In many cases this will include neighboring communities with no direct jurisdiction over the airport itself. Include a land use matrix with applicable development regulations and comprehensive plan policies.</p>

Other Planning Efforts

There are a wide variety of other potential airport planning efforts that could potentially be undertaken by WSDOT Aviation with respect to the state-managed airports. For those studies not addressed within this handbook, it will be incumbent upon the WSDOT Aviation Airport Manager to coordinate with the WSDOT Aviation Planning staff to ensure that appropriate guidelines and requirements are followed.

6.2 What Are the Airport Design Standards

In order to ensure that airports are developed appropriately, systems of standards and recommendations for the design of airports has been developed by a variety of regulatory agencies so as to support this public charge, including the FAA, state aeronautical agencies, and other local agencies.

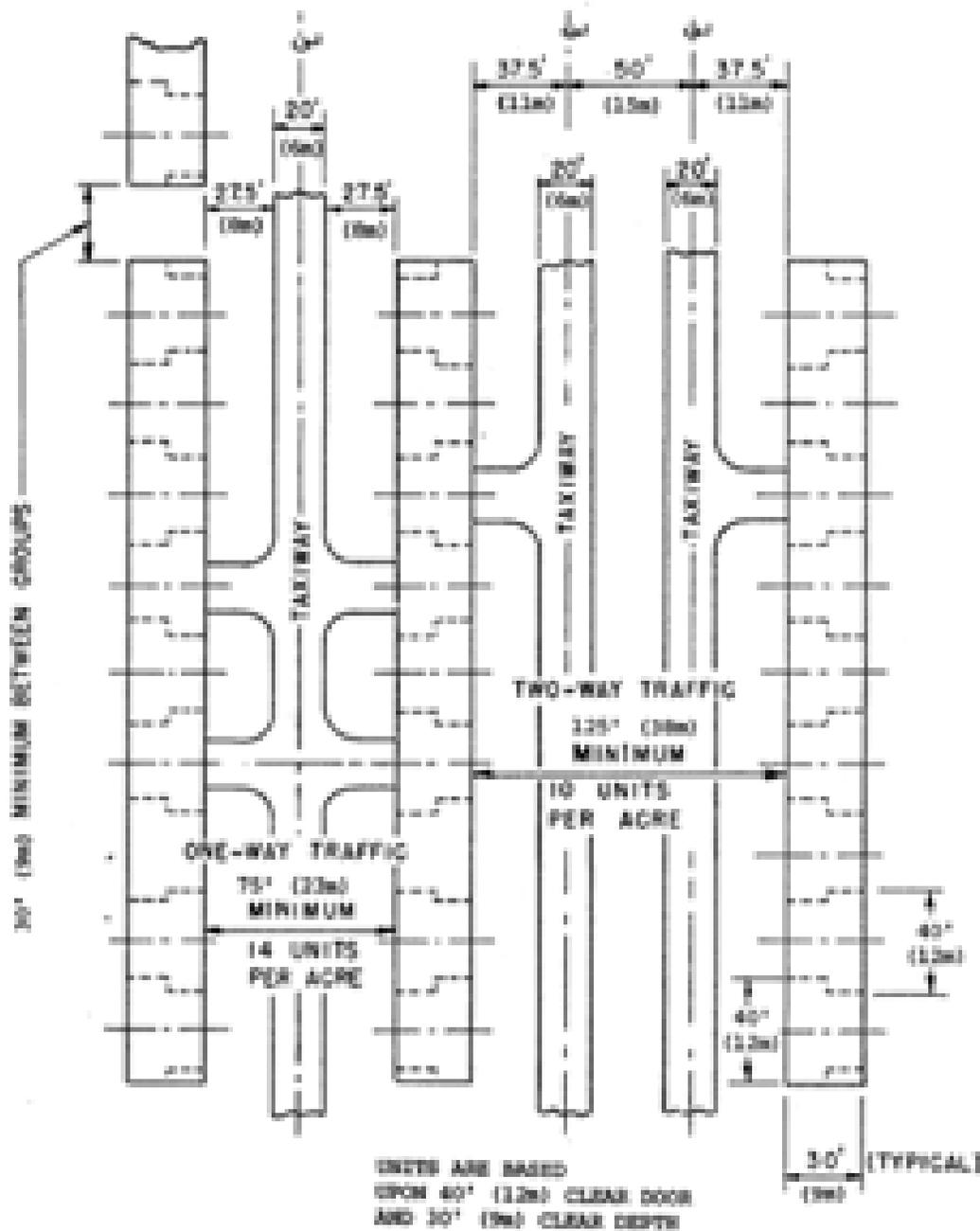


Figure A4-3. T-hanger layout

Section 103 of the Federal Aviation Act of 1958 states in part, “In the exercise and performance of his power and duties under this Act, the Secretary of Transportation shall consider the following, among other things, as being in the public interest: (a) The regulation of air commerce in such manner as to best promote its development and safety and fulfill the requirements of defense; (b) The promotion, encouragement, and development of civil aeronautics . . .”

This public charge, in effect, requires the development and maintenance of a system of safe, delay-free, and cost-effective airports. The application of FAA standards for the state-managed airports versus that of state standards is often a function of whether the particular airport has been included in the FAA NPIAS. In terms of airport design standards, these distinctions are discussed in the following sections.

State-Managed Airports Within the NPIAS

Important

- The only state-managed airport currently in the NPIAS is Methow Valley State Airport.

The state-managed airports that are included in the FAA NPIAS make them eligible for federal funding assistance. In accepting such financial assistance in the form of federal grants, WSDOT Aviation must abide by the specific grant assurances established by the FAA. In such cases, WSDOT Aviation shall comply with all federal aviation design standards established by the FAA. A partial listing of the most common design standards includes the following:

- [FAA AC 150/5300-13](#), *Airport Design*
- [FAA AC 150/5070-6](#), *Airport Master Plans*
- [FAA Order 5100.38](#), *Airport Improvement Program Handbook*
- FAR Part 77, *Objects Affecting Navigable Airspace*
- FAA Order 5050.4B, *Environmental Handbook*
- [FAA Order 8260.3B](#), *United States Standard for Terminal Instrument Procedures (TERPS)*
- [FAA AC 150/5390-2](#), *Heliport Design*

State-Managed Airports Not Within the NPIAS

Important

- Includes all other state-managed airports.

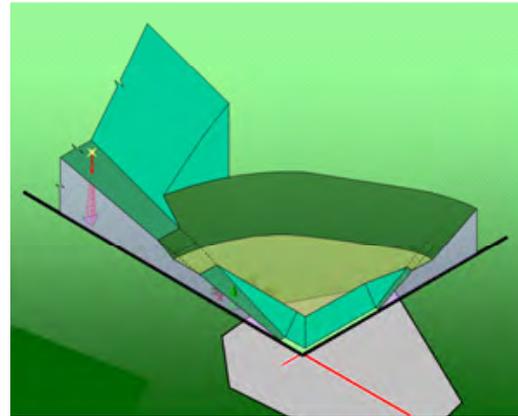
State-managed airports that are not included in the FAA NPIAS and are not bound by federal grant assurances should be managed in a safe, cost-effective manner consistent with industry best management practices.

Based on the above factors, WSDOT Aviation has elected to utilize airport design standards that are similar to those used in other states. These standards will follow the FAA’s framework, but also may be modified to reflect the smaller nature of Washington’s airports. Again note that these standards are only applicable for non-NPIAS state-managed airports that are operated under Visual Flight Rules (VFR). The following table reflects these standards. (*Note:* For a greater definition of the meaning of each design feature, refer to [FAA AC 150/5300-13](#), *Airport Design*, and [FAA AC 150/5390-2](#), *Heliport Design*.)

WSDOT Aviation VFR Airport Design Standard Dimensions	
Design Features	Criteria
General Airport Dimensions	
Runway Width – paved or prepared hard surface	50'
Runway Width – turf or gravel surface	100'
Runway shoulder width	10'
Runway Safety Area (RSA) width	100'
Runway Safety Area length beyond RW end	200'
Runway Object Free Area (ROFA) width	200'
Runway Object Free Area length beyond RW end	200'
Runway Protection Zone (RPZ) – width of inner surface	200'
Runway Protection Zone – width of outer surface	300'
Runway Protection Zone – length from inner to outer surface	1,000'
RW end to property line	200'
Runway Centerline (RW C/L) to hold line	100'
RW C/L to Parallel Taxiway (PTW) C/L	125'
RW C/L to edge of tie-down area	125'
RW C/L to property or building line	200'
RW C/L to helipad	300' to 500'
TW C/L to Building Restriction or Property Line	75'
TW C/L to tie-down area or object	38'
Longitudinal runway grade (effective runway gradient)	0 to 2%
Longitudinal runway grade change	2% maximum
Length of vertical curves for RW each 1% grade change	300' (#1)
#1 Vertical curve not required for less than 0.4% change in grade.	
Distance between points of intersection for runway vertical curves	250' x Sum of adjacent changes of grade in %
Transverse runway grade – paved	1% to 2%
Transverse runway grade – gravel	3%
Minimum site distance	Runway Length ÷ 2 or 2,000' (whichever is less)
Distance between points of intersection for runway vertical curves	250' x Sum of adjacent changes of grade in %.
Transverse runway grade – paved	1% to 2%
Transverse runway grade – gravel	3%
Minimum site distance	Runway Length ÷ 2 or 2,000' (whichever is less)
#2 Unobstructed line of site from any point five feet above the runway.	
Longitudinal taxiway grade	0-2%
Transverse taxiway grade	1½% to 3%
General Heliport Dimensions	
Touchdown and Lift-off area (TLOF) – Minimum Length and Width	1.0 Rotor Dimension of design helicopter
Final Approach and Takeoff area (FATO) – Minimum Length and Width	1.5 Rotor Dimension of design helicopter

WSDOT Aviation VFR Airport Airspace Standard Dimensions

Regardless of their size and operational levels, all airports have airspace surfaces established around them through a variety of regulatory means. The primary purpose of these airspace surfaces is to ensure the safety of aircraft operating at or around that airport. This is particularly applicable for aircraft transitioning from air to ground and/or ground to air, when aircraft are typically most vulnerable to conflicts with ground-based objects.



While the processes and requirements associated with these surfaces can be extremely complex, the critical consideration associated with all of them is that it is generally best for aircraft safety that these surfaces are kept clear of all man-made and natural obstructions.

In identifying relevant airspace it is noted that non-NPIAS airports are not obligated under federal grant assurances and therefore are not technically required to meet all the FAA requirements. However, it cannot be understated that the FAA's airspace requirements are regarded as the industry standard for airports and therefore should be considered appropriately. As such, WSDOT Aviation has utilized the framework of those standards while modifying them somewhat to appropriately reflect the needs of the non-NPIAS state-managed airports.

The size, location, topography, elevation, natural obstructions, and operational patterns at the state-managed airports varies considerably. To address these issues, two primary sources of airspace surfaces are utilized: FAR Part 77, *Objects Affecting Navigable Airspace*, and [FAA Advisory Circular 150/5300-13, Airport Design](#). The State's primary interests are in maintaining the Airport runway environment and its associated approach areas. Therefore, it was determined that FAA standard Threshold Siting Criteria, as detailed in Table A2-1 of [FAA AC 150/5300-13, Airport Design](#), be utilized as the basis for the Airport's airspace surfaces when the State's has minimum control over removing obstructions in mountainous and forested regions.

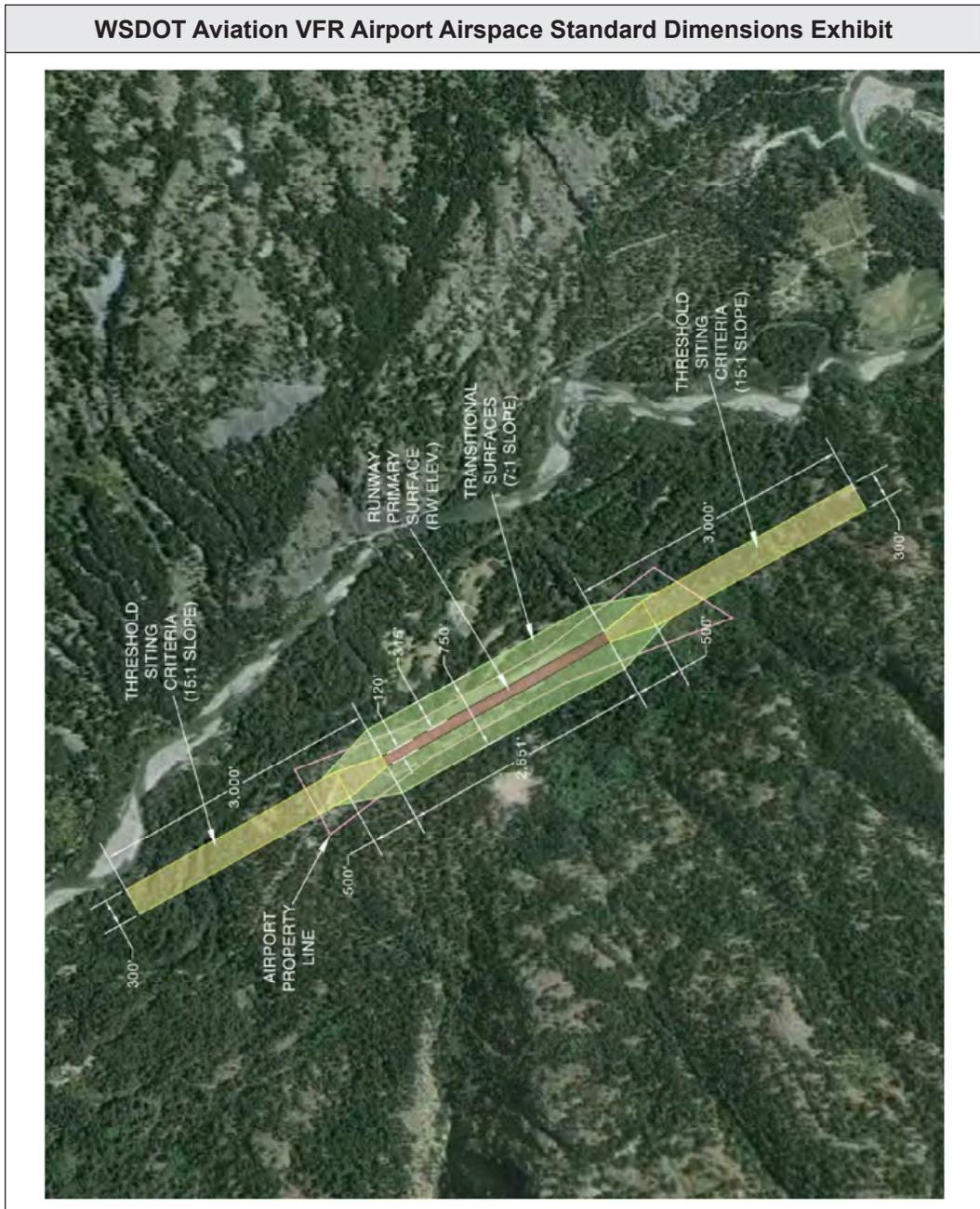
Note: While highest priority is rightly placed on obstructions located directly on the approach/departure paths on either end of the runway, it is still very important that secondary consideration be given to obstructions located in areas along the sides of the runway. As such, a design methodology was employed for establishing a non-standard runway primary surface and non-standard transitional surfaces that was generally based on FAR Part 77. Specifically, the following assumptions were made in establishing these non-standard surfaces:

- The non-standard runway primary surface width is based on the inner width of the Threshold Siting Criteria surface (120') and not the standard widths based on approach surfaces defined in FAR Part 77.

- The non-standard transitional surfaces start at the runway primary surface and climb at a rate of 7:1 (similar to FAR Part 77) – however, these surfaces only climb to 45' AGL, limiting their lateral width to 315'.
- The non-standard transitional surfaces intersect the Threshold Siting Criteria surfaces at appropriate elevations (i.e., the 45' AGL contour of the transitional surface meets the 45' AGL contour of the Threshold Siting Criteria surface.).

The following table provides a summary of the surfaces utilized and/or created as well as a graphical representation (Stehekin State Airport is shown in the example).

WSDOT Aviation VFR Airport Airspace Standard Dimensions	
Threshold Siting Criteria	Reference: FAA AC 150/5300-13 , <i>Airport Design</i> , Table A2-1 Runway Type: 1 Surface Start Location: directly at RW end/threshold Surface Start Elevation: respective RW end elevation Inner Surface Width: 120' Outer Surface Width: 300' Inner Trapezoid Length: 500' Overall surface Length: 3,000' Surface Slope: 15:1 (horizontal: vertical)
Runway Primary Surface	Surface Start: at Threshold Siting Criteria surface Surface Width: same as Threshold Siting Criteria inner surface width (120') Surface Length: 2,651' Surface Elevation: RW centerline elevation at any given point
Runway Transitional Surface	Surface Start: at Threshold Siting Criteria surface and Runway Primary Surface Surface Width: 315' Surface Slope: 7:1 Surface Elevation: starts at runway primary surface elevation and climbs to 45' above that level



It should be noted that while these are the standards established by WSDOT Aviation, each airport should be reviewed individually to determine if these standards are appropriate for that airport. In such cases where standards may not be appropriate, WSDOT Aviation shall modify them to fit the requirements of that particular airport.

6.3 What About Environmental Planning

As directed by its Environmental Policy Statement, all WSDOT employees shall follow sound environmental protection practices in the planning, design, construction, operation, and maintenance of WSDOT's transportation systems and facilities. This includes, but is not limited to, pollution prevention, energy conservation, environmental impact avoidance and mitigation, and compliance with environmental laws.

WSDOT is a positive force in support of the state's efforts to protect and preserve the quality of our environment, support healthy communities and sustainable economic growth, conserve natural resources, and respond to climate change by meeting the greenhouse gas emissions reduction and clean energy economy goals for Washington State. Responsibilities of WSDOT personnel with respect to its Environmental Policy Statement are summarized in the following table.

WSDOT Personnel Responsibilities	
Executive Responsibilities	<ul style="list-style-type: none"> • Executives must ensure that environmental compliance plans are current and compliance commitments tracked. • Executives are encouraged to look for opportunities to align the public's need for a healthy environment and a safe and reliable transportation system.
Employee Responsibilities	<ul style="list-style-type: none"> • Each employee must ensure that he or she is familiar with the environmental protection policies and procedures associated with his or her work. • Each employee will be proactive in communicating environmental compliance concerns to his or her supervisor and, as appropriate, consulting the region or modal environmental compliance plans. • Safety first: Each employee must be familiar with the safety plans for their workplace, site visits, and other safety measures necessary to execute this order.

Similarly, in compliance with the Environmental Policy Statement, WSDOT Aviation recognizes the importance of and appropriately addressing environmental considerations associated with respect to planning, design, engineering, maintenance and construction activities at the state-managed airports. This section provides general guidance for environmental considerations related to the state-managed airports.

Environmental considerations are often very complicated and can encompass a wide variety of federal, state and local regulatory requirements. As such, while this section cannot address all of those possibilities, it does present general guidelines for how the WSDOT Aviation Airport Manager shall approach environmental planning issues at the state-managed airports as they arise.

Note: The Airport Manager should consult with appropriate WSDOT Aviation and/or WSDOT Environmental Services, as required.

Important

- Recognize and understand.

SEPA Compliance Considerations

The State Environmental Policy Act (SEPA) is a Washington state policy that requires state and local agencies to consider the likely environmental consequences of a proposal before approving or denying the proposal. It is administered by a dedicated SEPA unit as part of the Washington State Department of Ecology.



WSDOT Compliance Manuals

The WSDOT *Environmental Procedures Manual* M 31-11 defines the procedures WSDOT will use to ensure compliance with all applicable environmental laws and regulations throughout the WSDOT Transportation Decision-Making Process. **Note:** This manual is generally updated on an annual basis.

Additionally, WSDOT has developed an Environmental Compliance Assurance Procedure (ECAP) for construction projects, and the procedure has since been incorporated into the WSDOT *Construction Manual* M 41-01. It is designed to enable WSDOT to recognize and eliminate environmental violations during the construction phase on WSDOT construction sites, and to ensure prompt notification to WSDOT management and agencies. Likewise, WSDOT has also developed an Environmental Compliance Assurance Procedure for maintenance projects. It may be found in Chapter 790 of the WSDOT *Environmental Procedures Manual*. The procedure is also incorporated into several Regional Environmental Compliance Plans applicable to maintenance.

WSDOT Project Scoping Guidance

WSDOT recognizes that environmental compliance must be weighed as early as project scoping. As such, during project scoping, it is important to conduct the following actions:

- Define the purpose and need for a project.
- Identify alternative design solutions and evaluate them from an engineering and environmental standpoint.
- Prepare a Project Summary to document the results and define the overall scope and cost of the proposed solution.

The Environmental Review Summary form is used to identify the potential environmental issues and impacts, any proposed mitigation, and any NEPA/SEPA documents and environmental permits that are likely to be required for the project.

If a NEPA Documented Categorical Exclusion (DCE) is required for the project, the Environmental Review Summary (ERS) will later get changed to an Environmental Classification Summary (ECS) for approval by the lead federal agency to document completion of the Environmental Review Process.

NEPA Environmental Reviews

The National Environmental Policy Act (NEPA) guidance is provided in the latest version of FAA Order 5050.4B to determine project environmental requirements for each proposed airport development project. The order provides detailed guidelines for determining a project's environmental requirements and for proper and complete environmental documents preparation.



1. **Categorical Exclusion** – A Categorical Exclusion (CE) is the type of environmental clearance required for those standalone airport development projects that do not require an Environmental Assessment (EA) or an Environmental Impact Statement (EIS).
 - These projects generally involve the repair or improvement of existing airport features such as runway, taxiway, and apron rehabilitation, constructing a heliport on an existing airport, pavement strengthening, reconstruction, runway extensions, and other airport development projects that will not significantly change the operation or function of the airport will usually qualify for a CE. Runway and taxiway lighting, pavement marking, installation of beacons, and visual approach aids, if they are not a part of a larger airport development plan that requires an Environmental Assessment or Environmental Impact Statement, would also qualify for a CE.
 - Grading or removal of obstructions on existing airport property that does not have off-airport environmental impacts can be classified as a CE. Land acquisition associated with projects such as those stated above will also fall within the limits of a CE.

CEs are not to be used as a means of circumventing the need for either an EA or EIS. Proper planning should provide sufficient information in the early planning stages to determine the environmental requirements for all of the proposed airport development. A Categorical Exclusion Checklist (see example following section) should be completed and reviewed to determine if the proposed project can be classed as a CE or if further environmental work will be required before the proposed development can be approved.

2. **Environmental Assessment** – All proposed airport development projects that do not qualify for a Categorical Exclusion will require, as a minimum, an Environmental Assessment (EA). The ultimate purpose of an EA is to either support a Finding of No Significant Impact (FONSI) or to show the need for an Environmental Impact Statement (EIS). Any airport development that significantly changes the airport operations or the airport aircraft approach category will require an EA. The EA must satisfactorily address all of the areas of potential impact as noted in the current version of FAA

Order 5050.4B. Of particular concern is early public involvement in the planning and environmental process for any proposed airport development that will require an EA. Preparation of an EA requires that the sponsor advertise for the opportunity for a public hearing after a Draft EA is approved. The Draft EA must be made available for public review a minimum of thirty (30) days in advance of a public hearing in places that are readily accessible to the public during reasonable hours.

The Draft EA becomes an official environmental document when it is approved for public review. The scope, format, and depth of review of the individual effected environments are of particular importance in the preparation of an EA. The sponsor should have a clear idea of the ultimate development that is expected to occur on their airport and should select a consultant with sufficient expertise and experience to be able to successfully prepare all planning documents to support the EA and to prepare the EA in a manner that meets all of the guidelines in the current version of FAA Order 5050.4.

The EA is the sponsor's document and a very important part of the sponsor's planning documentation. It is their official statement that they have met all of the requirements of the environmental laws that pertain to the use of federal funds in the development of their airport. Until all environmental requirements are cleared none of the proposed development can take place. The FAA is responsible for reviewing the draft documents and for providing comments to the sponsor and their consultant as to the adequacy of the document. It also must approve the Draft EA and the advertisement and timing for a formal public hearing and to ensure that the public hearing is conducted in a satisfactory manner. Ultimately, it is FAA's responsibility to either approve a FONSI or determine the need for an Environmental Impact Statement after all review comments and EA requirements have been met.

As stated above, careful consultant selection and early public involvement in the planning and environmental process can greatly enhance the successful outcome of these efforts. Public information meetings with businesses, citizens, and other governmental units that are likely to be impacted by the proposed development should be conducted throughout the planning period. Public planning and information meetings do not satisfy the need for the public's opportunity to request an official public hearing after the Draft EA is approved.

3. **Environmental Impact Statement** – Development on general aviation airports usually will not require the preparation of an Environmental Impact Statement (EIS). In most instances the need for an EIS will result from the findings during the preparation of an Environmental Assessment; therefore, an EA would normally be prepared prior to the development of an EIS. Prior to proceeding with an EIS the sponsor should review all previous planning and environmental work to determine if modifications to the proposed

airports. The approach would also include coordination with the applicable local, state or federal resource agencies, the land owner and other stakeholders to identify noxious weeds, vegetation management practices and other tools to establish formal VMP practices. Vegetation management tools can include the following:

- Mowing and trimming.
- Tree removal.
- Selectively using herbicides.
- Release of weed-eating insects.
- Improving soils.
- Planting native plants.

WSDOT Aviation intends to have formal airport VMPs established for state-managed airports for each region. The airport VMP will be established during development or update of an airport master plan and ALP or update of the regions VMP. This section generally defines what should be considered and included in the addendum for each region as they are developed. Once established, the *State-Managed Airport Handbook* will be amended accordingly.

Procedures for Developing Airport VMP

The purpose of a VMP is to define long-term, sustainable vegetative management and maintenance practices that would allow WSDOT Aviation to prevent future vegetative penetrations to safety-critical airport areas and airspace surfaces, while being protective of the environment. Ultimately, vegetation management plans for the state-managed airports will be utilized by the Airport Manager and maintenance crews to define the most appropriate tools, techniques and timing, for accomplishing prioritized airport maintenance activities. These plans, once developed, become the basis of an ongoing process of refinement and crew training, using annually documented experience of each airport's proven success and lessons learned. Ideally, the formal establishment and acceptance of a VMP will result in the relevant environmental agencies issuing an ongoing permit for vegetation maintenance operations as long as the VMP is followed

Currently, each WSDOT region has an adopted VMP. The VMP includes geographic inventories of routine maintenance activities, weed infestations, sensitive areas, and other relevant information. They also include a record-keeping system and database to document, evaluate and reference site-specific treatments, various situations and types of vegetation.

The following table generally describes the approach to be employed for establishing a VMP at a state-managed airport.

General Approach to Establish Airport VMP	
1	Identify the key stakeholders and interested regulatory agencies to participate in the VMP process. It should be noted that ultimately, a VMP is as much about the process of establishing it than about the document itself. The coordination, education, understanding and participation required for creating a VMP is a key element for ensuring its success.
2	Coordinate with the WSDOT Maintenance and applicable WSDOT region to assess vegetation management issues within the Region and assess probable vegetation and environmental characteristic, applicable resource agencies and other factors needed to develop successful solutions for addressing a VMP within the airport operating environment.
3	Identify those airport design safety and object free areas, as well as airspace surfaces that are most critical to ensuring the standard level of safety at each airport. These airspace surfaces could include any or all of the following: <ul style="list-style-type: none"> • FAR Part 77 Surfaces • FAA TERPS Surfaces, if applicable • FAAAC 150/5300-13, <i>Airport Design</i> areas • NAVAID clearance areas • Customized WSDOT safety/object free areas • Customized WSDOT airspace surfaces
4	Analyze the identified surfaces with respect to the existing ground contours around each airport to identify height/clearance requirements at and around each airport.
5	Establish Vegetative Management Zones based on those clearance requirements. These zones would effectively merge those clearance requirements with generalized vegetation height classifications to create a system whereby only certain types of vegetation having specific maximum heights would be permitted in a particular zone.
6	Compare existing vegetation types with existing soils to estimate maximum expected vegetation (tree) heights. This information would be used to delineate which areas in a particular Vegetative Management Zone would likely require removal of vegetation to preclude existing or future penetrations into airspace surfaces. <i>Note:</i> The ultimate goal for these Vegetative Management Zones is for them to be in effect “self-regulating in that the vegetation that they contain could not grow to a height that would ultimately cause obstruction or penetration of airspace surfaces. <i>Note:</i> Existing or planned control measures should also be considered to help minimize the extent of these zones.
7	For those areas where existing vegetation and soil types indicated the potential for future or existing airspace conflicts, identify best management practices based on the difference between the maximum expected vegetation height and the maximum allowable height of the respective Vegetative Management Zone. Areas should be identified that would require complete vegetation removal (clear cut) based on potential penetrations into airspace surfaces. Maintenance and inspection practices and procedures for areas should be developed that do not necessitate complete vegetation removal to ensure the integrity of those airspace surfaces. Recommendations on annual updates should also be provided to document the vegetation management practices and establish a projected schedule of maintenance and inspections.
8	Coordinate with project stakeholder groups to ensure that completed VMP is integrated into WSDOT vegetation management program.

While there are no specific standard established for the contents of an airport VMP, the following table describes those elements that might reasonably be expected to be included in an appropriate VMP for the state-managed airports.

VMPs Elements	
Regulatory Objectives	<ul style="list-style-type: none"> • Part 77 Surfaces • TERPs Surfaces • NAVAID and other Customized Surfaces • Control Measures to Conform with Regulated Surfaces • Airport Assumptions • Environmental Regulations
Routine Maintenance Activities	<ul style="list-style-type: none"> • Route Mowing/Trimming (Guidelines/ Methods/ Locations) • Hazard Tree Removal (Guidelines/Methods/Locations)
Integrated Vegetation Management Activities	<ul style="list-style-type: none"> • Integrated Vegetation Management Planning and Tracking Database • Noxious Weed Control (Guidelines/Methods/Locations) • Nuisance Weed Control (Guidelines/Methods) • Tree and Brush Control (Guidelines/Methods)
Special/Sensitive Maintenance Areas	<ul style="list-style-type: none"> • Wetlands • Flood Zones • Archeological Sites • Rare and Endangered Species List • Recommended Procedures • Coordination with Regulatory Agencies
Appendices	<ul style="list-style-type: none"> • Integrated Vegetation Management Prescriptions • Herbicide Use Guidelines • Zone Map • Routine Mowing Map/Limited Access Mowing Map • Weed Identification Photos/Location Maps • Special Maintenance Areas • Forms and Records • Stakeholder List

Once the VMPs have been formally completed, WSDOT Aviation shall utilize and updated them as stipulated within the plans.

6.5 What is the Airport Land Use Compatibility Program

One of the main challenges facing aviation today is the encroachment of incompatible land use development adjacent to airports. To meet this challenge, the state of Washington has instituted legislation that requires local jurisdictions to discourage the encroachment of incompatible development adjacent to public use airports. Technical assistance is provided by the WSDOT Aviation through the Airport Land Use Compatibility Program.

The development of land uses that are not compatible with public use airports are a primary concern within the state of Washington, and nationwide. In addition to safety, airport operations and aircraft characteristics needs to be considered when addressing the overall issue of land use compatibility around airports. Although several federal programs include airspace standards and noise mitigation measures as part of their funding-eligibility and performance criteria, the primary responsibility for integrating airport considerations into the local land use planning process rests with airport sponsors and the local governments. The objectives of compatible land use planning are to encourage land uses that are generally considered to be compatible with airports. Generally uses that are compatible with commercial and industrial activity will also be compatible with airports. Uses that may be incompatible would include uses such as K-12 school, hospitals, convalescent homes, sporting complexes, and single family residential on lots less than 5 acres in size.

Through the development of its Airport Land Use Compatibility Program, WSDOT Aviation is at the forefront of assisting local jurisdictions, airports, and other interests to protect public use airports from incompatible development by providing technical assistance and resources to support local decision-making. This section provides guidelines for the application of this program with respect to the state-managed airports.

As sponsor of the Airport Land Use Compatibility Program, WSDOT Aviation shall utilize and implement (as required) the recommendations and tools included in that program for each of the state-managed airports. It is understood that WSDOT Aviation should work closely with the local land use jurisdiction to adopt comprehensive plan policies and development regulations to discourage incompatible development.

Program Objectives

In 1996, Washington State passed land use legislation ([RCW 36.70A.510](#), [RCW 36.70.547](#)). Under this provision of the Growth Management Act (GMA), all towns, cities and counties are required to discourage the encroachment of incompatible development adjacent to public use airports through adoption of comprehensive plan policies and development regulations. GMA also identifies airports as essential public facilities. WSDOT Aviation provides a technical assistance program to help communities meet the requirements of the law.

Airport Land Use Compatibility Program Objectives	
1	Ensure the functions and values of airports are protected and enhanced statewide.
2	Assist towns, cities and counties in meeting update deadlines for comprehensive plans and development regulations.
3	Provide education, workshops and training on best practices to protect airports from adjacent incompatible development and enhance airport operations to meet transportation demand.
4	Showcase the good work of local governments in implementing GMA requirements.

Supporting Legislation

There are several primary sources of supporting legislation for the WSDOT Aviation Airport Land Use Compatibility Program. These are listing and described within the following table.

Supporting Legislation	
RCW 14.07 and 14.08 Municipal Airports Act	The act adopted in 1941 and 1945 provides for the acquisition and sponsorship of airports by Washington cities, towns, counties, port districts, and airport districts.
RCW 14.12 Airport Zoning	This section was adopted in 1945 and establishes definitions, criteria, and allows local jurisdictions to adopt zoning controls to protect critical airspace from buildings, structures or other airspace obstructions. The law provides direction and guidance to cities and counties on airport hazards.
RCW 36.70.547, 36.70A.510, 35A.63.270, and 35.60.250 General Aviation Airports	These sections were adopted in 1996 and requires all cities and counties (also applies to city or counties not planning under GMA) to protect public use airports from the siting of incompatible development, whether publicly owned or privately owned public use airports through its comprehensive plan and development regulations. The plans may only be adopted following formal consultation with airport owners and manager, private airport operators, general aviation pilots, ports, and WSDOT Aviation. The law requires that comprehensive plans and regulations be filed with WSDOT Aviation and that each jurisdiction may obtain technical assistance from the WSDOT to develop plans consistent with state law.

<p>RCW 36.70A Growth Management Act</p>	<p>The Growth Management Act was originally adopted in 1990, and identifies requirements and processes under which counties and cities are required to act. Within the Act there are several important sections related to airports.</p> <ul style="list-style-type: none"> • RCW 36.70A.070 outlines mandatory elements within a comprehensive plan, which includes maps, descriptive text covering objectives, principles, and standards, and that the comprehensive plan must also be internally consistent with all elements. This section also requires that an inventory of air, water and ground transportation facilities and services be included. As well, new or amended elements of the Act must be adopted concurrent with scheduled update provided in RCW 36.70A.130. • RCW 36.70A.130 requires that each comprehensive plan and development regulations shall be subject to continuing review and evaluation by the county or city that adopted them. A county or city shall take legislative action to review and, if needed, revise its comprehensive plan and regulations to comply with this section. Legislative action means the adoption of a resolution or ordinance following notice and a public hearing indicating at a minimum, a finding that a review and evaluation has occurred and identifying the revisions made, or that a revision was not needed and the reasons thereof. Additionally, any amendment of or revision to development regulations shall be consistent with the comprehensive plan. • Airports are also recognized under RCW 36.70A.200 by the state as essential public facilities (EPF). All counties and cities planning under GMA RCW 36.70A.040 are required to protect public use airports as essential public facilities. Jurisdictions are required to develop a siting process for locating EPF and should not prohibit the siting, expansion, or continuation of EPF within their comprehensive plan or development regulations. Nor can jurisdictions develop strategies or develop provisions within their comprehensive plan or development regulation that would render the siting of an EPF impossible, impractical, or incapable of being accomplished, however, it is not inappropriate for a jurisdiction to require applicable conditions or mitigation measures.
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Airport Land Use Compatibility Program Resource Materials

The following table provides a listing of resource materials that are currently available for review and use.

Supporting Resource Materials	
Resource Documents and Other Sources	<ul style="list-style-type: none"> • The Growth Management Act 101 • WSDOT Aviation Airports and Compatible Use Guidelines • Land Use Compatibility and Airports, A Guide for Effective Land Use Planning, FAA Airports Division Southern Region • Height and airspace Hazards • Airport Stormwater Design Guidelines
Land Use Planning Tools	<ul style="list-style-type: none"> • Example Scope of Work • Example Comprehensive Plan Goals and Policies • Example Disclosure Notice • Frequently Asked Questions • Reference Materials from the FAA, Defense Department, other states, universities, etc. • Index of Airport Master Plans (City/County, Airport Name, Subject, Year) • List of Airports by County and MPO/RTPO Regions

6.6 How to Plan for Public Communications

A primary responsibility of an airport manager is the initiation and maintenance of a proactive and open public awareness, outreach and education program. Many times, airports only undertake public involvement efforts in order to secure a short-term goal, such as to win approval for major facility enhancements. However, a truly successful relationship between the airport and the community requires the ongoing attention of the airport to ensure that it is being a good neighbor.

The following section provides guidelines for public communications with respect to the state-managed airports. These guidelines incorporate both current WSDOT Communication practices , as well as several best management practices used within the airport industry.

Current WSDOT Communication Program

WSDOT currently has a communications program already formally established for use during specific planning efforts. While not specifically designed for airport activities and audiences, this program encompasses many of the elements discussed above.

Work Together to Reach Common Goals

Bring together all managers and employees who own the content, work with customers and maintain the site. Adopting an inclusive process at the outset helps ensure the final product meets the needs of everyone involved, especially customers. With many people planning a website you may find that each person could have different goals, expectations and direction for the site.

Using the WSDOT Creative Brief and Communication Planning directions below will help get everyone involved working toward the same goal. Use these tools to ensure your website is developed right the first time.

Communication Tools	
Creative Brief	Use the brief to get all the issues on the table, get everyone on the same page, define your target audiences, develop your key messages, and develop a timeline.
Communication Planning	Use this format to develop a formal Communication Plan when you need to accomplish the above and in addition to creating a new website, you also need to reach customers in more ways than the Web such as via open houses, media, posters, brochures, email campaigns, list serves, and any other mediums. This ensures all communications support each other and enhances the effectiveness of the entire communication campaign.

Information on Creative Briefs

The process for developing a creative brief can be as simple as answering the following questions. As a group and write the answers on a flip chart so everyone can follow the process.

Key Creative Briefs Questions	
1	What is the assignment? <ul style="list-style-type: none"> • <i>Example:</i> Develop a website for x subject.
2	What do you want this plan to accomplish? <ul style="list-style-type: none"> • <i>Example:</i> Reach customers and let them know what services and tools are available to help them.
3	Who is your target audience or stakeholders? <ul style="list-style-type: none"> • <i>Example:</i> Describe them in as much detail as possible.
4	What does your target audience think now? <ul style="list-style-type: none"> • <i>Example:</i> This can be in the form of a quote, "I have no idea why WSDOT doesn't solve the congestion problems. We obviously shouldn't give them any more money until they fix what they have."
5	What do you want them to think? <ul style="list-style-type: none"> • <i>Example:</i> What do you want to happen or have the target feel when your communication plan is done? You can use a quote for this answer as well. "WSDOT has proven they spend money wisely by providing detailed information showing projects are on time and on budget."

6	What are the main messages you plan to communicate? <ul style="list-style-type: none"> Select three or fewer key messages. They should be short and succinct.
7	Why should the target audience believe this? <ul style="list-style-type: none"> <i>Example:</i> What type of supporting material do you have – incentives and/or cutting edge information.
8	Is there anything else that is important? <ul style="list-style-type: none"> This is the bare your soul time. Identify the elephants lurking in the room.
9	What is the decision/input timeline?
10	What is the due date?

More Information on Communication Planning

Communication planning yields success. The Plan is what keeps you from trying to do everything and helps prioritize which elements will get you the most bang so you can minimize risk and maximize results. Great communication plans have established parts. You must define each of the following parts. (See also WSDOT Communication Plan Template at the end of this section.)

Key Communication Planning Components	
Goal	This is the thing you want to do. In business, a goal might be to sell more widgets. For the agency, your goal might be to increase awareness.
Objectives	There are broad ideas of how you will achieve your goal and how you will measure success - objectives need to be quantifiable. These are written as sentences. Use beginning words like develop, position, build, determine, help, assist, etc.
Target Audiences	Be as descriptive as you can. You may need to break your audiences into primary and secondary audiences if you have several target audiences. For example, if elected officials are a primary audience, the media may be a secondary audience. The public is not a target audience but defined segments of the public can be.
Key Messages	Be concise. No more than three. Messages must be short, easily repeatable and readily understandable.
Strategies	Strategies are more specific than objectives. Use words such as: utilize, produce and concentrate. “Utilize integrated communication to achieve goal (public relations, government/ community relations, program sponsorship, etc.) Strategies are how you achieve your objectives.
Tactics	Be very specific. These are the actual actions that will be taken to achieve your goal. These are assignable tasks. They are deliverables.
Budget	Be realistic.
Timeline	Start at the end of your planning cycle and plan backward. Be realistic about how much time things take to accomplish – review and adjust as needed.

Public Communication and Relations for Airports – Best Practices

As defined, community or public relations is “a set of management, supervisory, and technical functions that foster an organization’s ability to strategically listen to, appreciate, and respond to those persons whose mutually beneficial relationships with the organization are necessary if it is to achieve its missions and values.”

At its core, effective airport-community relations depend on trust. It is difficult for community members to have trust in airports if they feel their concerns and ideas are consistently being discounted and/or rejected. If trust is to be built with regard to airport activities, it is fundamental that airport management be responsive to criticisms and make real efforts to see things from different perspectives. Similarly, it is critical that the community fully appreciate the requirements and constraints experienced by airports. As such, it is incumbent upon airport representatives to offer the community insight as to the practical realities of airport operational requirements.

The goal of airport community relations is the establishment and preservation of relationships and trust through effective communications.

Some Common Misconceptions

- **A Low Profile Will Avoid Difficulties** – There is no such thing as a “low profile” for an airport. The mere fact that the airport exists means people will have opinions about it.
- **Public Relations is Just About Publicity** – Public relations involves everything the airport is and does that addresses or affects the public interest. The best time to start a planned, positive public relations program is before you need it.
- **Everybody Knows How Important Airports Are** – Many airport-related problems arise from a lack of understanding by the community and its leaders of the airport’s value. Most opponents believe an airport is just for hobbyists and therefore frivolous, expensive and expendable. It is up to the airport to promote the value of the airport to the local community.
- **We Only Need Public Relations for Specific Projects** – A public relations program should include community involvement, political action, and media relations. Ideally, it should be launched before any negative public opinion builds into action and continued even when no crisis threatens.

Developing an Airport Public Relations Plan

The ultimate purpose of public relations is to influence public opinion through persuasion. In essence, it is convincing people that a viewpoint offered serves their best interests, or that they should subordinate their personal self-interest in favor of a greater public interest. With respect to airports, persuasion will typically require an effective public relations effort comprised of steps in the following table.

Key Steps for Developing an Airport Public Relations Plan	
1	Define and write down your objectives for your public relations plan. In order for your public or community relations plan to be successful, it is first most important to determine and define your objective.
2	Define your goals in achieving this objective. It is important that your goals be specific, measurable, results-oriented and time-bound. These goals must be in-line with your overall airport operations, development and business objectives.
3	Determine who comprises your target audience and what issues are important to them. Who is it that you want to reach with this campaign? What do you want your key message to be?
4	Develop a schedule for your public relation campaigns. Create synergy by coordinating your public relations plan with other promotional efforts.
5	Develop your plan of attack. Determine which media your audience uses and trusts the most, and identify those communication vehicles you will use to get your message to the public. Examples include the following: <ul style="list-style-type: none"> • Advisory committees, public hearing testimony. • Press releases, articles, letters to the editor, newsletters. • Press conferences, interviews, or media tours. • Radio, television, or press Interviews. • Seminars or speaking engagements. • Event sponsorships.
6	Establish measures to track the results of your public relations plan. At specific times, review the plan and ask questions. For example, did you achieve the defined objectives and goals of this campaign? Should you consider modifying your original plan?

Foundations for an Effective Airport Communications Plan

To establish an effective airport communication plan the airport manager must incorporate the interests of the local community with the goals of the airport ... understand in detail how the goals of the airport compare with those of the surrounding community. It is essential that these goals align to the greatest degree possible with the community, particularly when they are complementary.

Examples:

- If the community wants growth, point out how an airport attracts business.
- If it wants safety, point to the role airports play in law enforcement or in movement of emergency supplies after a natural disaster such as a hurricane or earthquake.

In order to effectively establish the airport’s position with respect to these goals, the airport manager should collect and track relevant airport operational data (both hard and anecdotal), such as the following:

- Details of the significant role the airport plays in the community (law enforcement, disaster relief, and handling dignitaries or business visitors).

- Aircraft traffic counts, both local and itinerant.
- Economic implications – document the number of businesses at the airport, their jobs and payroll; the businesses connected with or dependent on the airport and the jobs they provide; outside businesses that fly to your airport; tourism, etc.
- Social implications – document how the airport is currently used.
- Emergency services (medical, firefighting, access/evacuation, etc.).
- Emergency landing
- Education, vocational training, flight training.
- Law enforcement, military or National Guard.
- Air cargo (mail, overnight express parcel, high-priority freight handling for just-in-time manufacturing operations delivery, etc.).
- Pipe or power-line patrol.
- Agriculture.
- Personal air transportation (which results in gas sales, tiedown fees, and maintenance services).

In order to anticipate community reactions and to effectively respond to their concerns, it is important that the airport manager have a clear understanding of who comprises the community and what their attitudes toward the airport may be. For example, typical questions that oftentimes remain unanswered for an airport manager include: Is opposition to the airport common throughout the community, or just among a vocal few? Is there positive opinion out there that needs to be strengthened and made public? Is there negative opinion that can easily be erased with a few clarifying facts? While this type of attitude research is commonly done by advertising firms, it can be costly. However, an airport manager might interest an advertising class at a local school or university in examining attitudes about the airport at no cost. Local business leaders or civic organizations might also sponsor such research.

What is important for an airport manager to recognize is that it is best to collect as much information regarding the airport and the host community as possible, and that even a little data can help.

Airport Public Outreach Conduits Strategies

A progressive and enthusiastic public outreach program will endeavor to communicate the many ways that airports provide positive benefits to the communities in which they serve. It will also be the responsibility of the airport manager or administrator to be vigilant against forces that may act to discredit these positive impacts.

There are a wide variety of methods and means to communicate to the public with respect to the airport. **Note:** Use of multiple mediums for the dissemination of information is recommended to ensure that a diverse range of interests are communicated with, and the facts surrounding the project are distributed in a straightforward manner. The following reflect several examples.

- **Technical Advisory Committee (TAC)** – Ongoing public relations can be effectively facilitated by a special airport committee such as a TAC, which are typically formed to oversee the development of an airport master plan. Members of such committees typically hold some influence within the community and usually include local elected officials or their representatives, local and regional planners/engineers, stakeholder agencies, airport businesses/airlines, pilots, and neighborhood groups. A significant benefit to utilizing this group of individuals is that they likely have at least a basic working understanding of airport operational considerations, which can be leveraged to enhance communication with the general community.
- **Committee Outreach** – Effective community outreach begins with communicating and educating local civic organizations. This aspect is critical since people who care enough to hold and defend an opinion on community issues are almost always involved with a civic organization. Generate a listing of these organizations and establish a program of regular briefings/educational efforts on behalf of the airport. Create a standardized audiovisual slideshow presentation for these briefings that educates the audience on the airport, and promotes its benefits to the community. **Note:** Schools can be a valuable resource in that there are numerous ways to nurture aviation interest among students, ranging from flights for interested teachers to simply collecting aviation magazines and donating them to school libraries. AOPA has information on a variety of promotional programs, including “Fly-A- Teacher,” “Fly A Reporter,” “Fly A Leader,” and AOPA’s “APPLE” (America’s Pilots Participating in Local Education) program.
- **Special Events** – Airport-sponsored special events are among the best ways to promote aviation in the community. These events can include airport anniversary celebrations, military reserve days, air races, static displays, fly-in breakfasts, dedication of new buildings, youth group activities, career days, student art showings, antique shows, and warbird displays. Most of these events can be conducted with minimal expenditures of time and money through use of existing airport facilities and volunteers. However, it must be noted that many such events fail due to lack of proper planning. Basic requirements for a special event include a planning committee, a sponsor, and a small reserve of operating funds. It is generally sound practice to appoint one person to coordinate all planning and information. It is also good practice to leverage community involvement through participation of local parent-teacher associations, Civil Air Patrol, the Boy Scouts, etc.

- **Briefings**
- **Webpage**
- **Media Outreach** – Given the evolution and recent expansion of media outlets, it is critical that airport management develop a program to integrate appropriate media coordination into its overall communications efforts. It must be recognized that existing media resources are the best and most cost-effective means for the airport to reach the community. However, it must also be understood that utilizing this resource in an effective manner requires not only establishing relationships with media elements, but also maintaining those relationships over the long term. While there are significant benefits available to airport management when these relationships are managed appropriately, mismanagement or neglect of these relationships can result in negative impacts for the airport that are just as dramatic. Some of the methods that media outlets can be leveraged include the following table.

Media Outlet Methods	
Press Liaison	Become a news and contacts source for media outlets.
Press Releases	Issue timely announcements of newsworthy events, actions, or statements. News releases must be concise, to the point and, above all, contain genuine news. (Aviation list service)
News Events	Beyond a press release, directly providing media outlets with news is an excellent way to generate publicity. <i>Note:</i> Determining what is “news” is open for interpretation. For example, simply having an opinion doesn’t constitute news unless a public statement contributes meaningfully to a current, high-profile public debate. While releasing an economic study of the airport can be news, sending a copy to a local official is still bigger news, since the reporter could then work that official into the story. Additionally, the reporter would likely call the official for comment, effectively facilitating the process of public dialogue. In some cases, the public official could perhaps provide the airport with support by publicly agreeing with the information that was developed.
Media Events	A media event is an occasion or happening that attracts coverage by mass media organizations. For example, an aviation day for the local news media, held at the airport, has proven to be an effective media relations opportunity. <i>Note:</i> These media events can coincide with the Special Events discussed above.
Letters to the Editor	A letter to the editor of the local newspaper, or a posting on its website, can often be an effective means of responding to a news story, particularly if it is believed that the reporter is not conveying the position of the airport appropriately.

Political Action	Political action and public relations tie closely together in any campaign to gain support for a local airport. While a successful public relations campaign focuses primarily on the objective of influencing “public opinion” concerning an airport, political action focuses on influencing those elected officials who make decisions on important airport issues.
Personal Contact	Personal contact is probably the most effective means of communication. However, due to its inherent limitation with respect as to how many people can be directly contacted, its use should be employed judiciously.
Public Meetings	Effective public meetings are oftentimes the best means of creating synergy between the public outreach efforts described above. Through disseminating information about the airport, a public meeting can be a media/news event that oftentimes involves public officials and typically results in facilitating personal contacts following the meeting.
Electronic Promotions	New electronic mediums continue to evolve that afford an airport manager additional avenues of communication. These can include website notifications, email “blasts,” and mass “texting” that reflect the migration of communications from mass to personal media.

6.7 Chapter References and Supporting Documentation

Chapter References

The following tables include references for additional and/or supporting information with respect to the various sections of this chapter. This has been provided with the intent of providing the reader with a current listing of appropriate sources for additional information and research.

6.1 What is the Importance of Airport Planning Studies
<ul style="list-style-type: none"> • FAA AC 150/5070-7, <i>The Airport System Planning Process</i>. FAA. 10 November 2004 • FAA AC 150/5300-13 CHG 14, <i>Airport Design</i>. FAA. 1 November 2008 • FAA AC 150/5070-6B CHG 1, <i>Airport Master Plans</i>. FAA. 1 May 2007 • FAA Order 5100.38C, <i>Airport Improvement Program Handbook</i>. FAA. 28 June 2005

6.2 What Are the Airport Design Standards
<ul style="list-style-type: none"> • FAA AC 150/5300-13 CHG 14, <i>Airport Design</i>. FAA. 1 November 2008 • FAA AC 150/5070-6B CHG 1, <i>Airport Master Plans</i>. FAA. 1 May 2007 • FAA Order 5100.38C, <i>Airport Improvement Program Handbook</i>. FAA. 28 June 2005 • FAR Part 77, <i>Objects Affecting Navigable Airspace</i>. FAA

- FAA Order 5050.4B, *Environmental Handbook*. FAA. 28 April 2006
- FAA Order 8260.3B, *United States Standard for Terminal Instrument Procedures*. FAA. 15 May 2005
- FAA AC 150/5390-2B, *Heliport Design*. FAA. 30 September 2004

6.3 What About Environmental Planning

- WSDOT *Environmental Procedures Manual M 31-11*
www.wsdot.wa.gov/publications/manuals/m31-11.htm
- Washington State Department of Ecology. *State Environmental Policy Act (SEPA) Handbook*. October 2008
www.ecy.wa.gov/programs/sea/sepa/handbk/hbtoc.html
- FAA Order 5050.4B, *Environmental Handbook*. FAA. 28 April 2006
- WSDOT. National Environmental Policy Act (NEPA)/State Environmental Policy Act (SEPA) Guidance
www.wsdot.wa.gov/Environment/Compliance/NEPA_SEPA.htm
- WSDOT. Department of Transportation Act, Section 4(f) Guidance
www.wsdot.wa.gov/environment/compliance/section4fguidance.htm
- WSDOT. Land and Water Conservation Fund Act, Section 6(f) Guidance
www.wsdot.wa.gov/environment/compliance/section6fguidance.htm
- WSDOT. Environmental Justice Guidance
www.wsdot.wa.gov/environment/ej/envirojustice.htm

6.4 What Are the Vegetation Management Procedures

- WSDOT Integrated Vegetation Management
www.wsdot.wa.gov/maintenance/vegetation/default.htm

6.5 What is the Airport Land Use Compatibility Program

- WSDOT Aviation Airport Land Use Compatibility Program
www.wsdot.wa.gov/aviation/landusecompatibilityoverview.htm
- RCW 14.07 and 14.08 Municipal Airports Act
<http://apps.leg.wa.gov/rcw/default.aspx>
- RCW 14.12 Airport Zoning
<http://apps.leg.wa.gov/rcw/default.aspx>
- RCW 36.70A Growth Management Act
<http://apps.leg.wa.gov/rcw/default.aspx>
- RCW 36.70.547, 36.70A.510, 35A.63.270, and 35.60.250 General Aviation Airports
<http://apps.leg.wa.gov/rcw/default.aspx>
- Airport Noise Compatibility Planning Toolkit. FAA. 12 December 2006
www.faa.gov/about/office_org/headquarters_offices/aep/planning_toolkit
- FAA AC 150/5020-1, *Noise Control and Compatibility Planning for Airports*. FAA. 5 August, 1983

6.6 How to Plan for Public Communications
<ul style="list-style-type: none"> Aircraft Owners and Pilots Association (AOPA). Guide to Obtaining Community Support for Your Local Airport. AOPA. 15 April 2008 www.aopa.org/asn/airportpr/
<ul style="list-style-type: none"> Lake, Laura. Six Steps to Developing Your Public Relations and Media Plan. About. 15 April 2008 http://marketing.about.com/cs/publicrelations/a/prplan6steps.htm
<ul style="list-style-type: none"> National Air Transportation Association (NATA). Community Relations Toolkit. NATA

Supporting Documentation

The following tables include supporting WSDOT Aviation-specific documents and resources to support the implementation of the various sections of this chapter. The following table provides a listing of these documents and resources.

6.1 What is the Importance of Airport Planning Studies
<ul style="list-style-type: none"> FAA Airport Layout Plan Drawing Set Checklist

6.3 What About Environmental Planning
<ul style="list-style-type: none"> WSDOT Environmental Policy Statement, April 7, 2009
<ul style="list-style-type: none"> WSDOT Project Definition Form
<ul style="list-style-type: none"> WSDOT Design Decisions Form
<ul style="list-style-type: none"> WSDOT Environmental Review Summary Form
<ul style="list-style-type: none"> FAA Categorical Exclusion Checklist
<ul style="list-style-type: none"> Environmental Permits and Approvals, WSDOT Environmental Procedures Manual

6.6 How to Plan for Public Communications
<ul style="list-style-type: none"> WSDOT Communications Plan Template