“The New West – Passionate Planning for People and Places”

APA Idaho 2018 Annual Conference
Presentation on October 11th, 2018

Rick Patton
Aviation Planner

This presentation will be provided to the Conference Committee for distribution
AIRPORT MISCONCEPTIONS

“Too many land use restrictions”

They are a “rich-man’s playground”

“Complicated place”

“Not needed anymore”

“Too noisy”

“They are dangerous!”

“Money-pit for a community’s tax money”
AIRPORT REALITIES

They are an “economic engine”

“Medical – in and out service”

“Provide business access”

“They have huge intrinsic value”

“They can be noisy”

“Can diversify a local economy”
PLANNING = PROTECTING

Why do we protect airports?

- Life and Safety –
- Public Investment –
- Economic Reasons –
- Grant Assurances and Grant Obligations –
Rexburg, Idaho’s Airport in 1949

PLANNING = PROTECTING

Rexburg, Idaho 2015
PLANNING = PROTECTING

AIRCRAFT ACCIDENT LOCATIONS

Source: DRCOG Report

Rexburg, Idaho 2015
Rexburg, Idaho To Bring to Small Aircraft Design Standards

The FAA let us stop when our estimate hit $175 million

PLANNING = PROTECTING
OBJECTIVES FOR TODAY

1) Introduction to Airport Planning 101
2) Define Airport Protections
3) Discuss some common aviation tools available to you
4) Provide additional sources of material and advice
AIRPORT PLANNING BASICS

Airports are just ‘mini-cities’ (some are really mini!)

The FAA defines an airport as: “An area of land that is used or intended to be used for the landing and takeoff of aircraft, including its buildings and facilities, if any.”

Public vs Private

Commercial Service vs General Aviation (GA)
BEFORE PRACTICAL LAND USE

• Most important – get your Comprehensive Plan in place or updated if needed!
• All the good thoughts about protection crumble if the City, Town or County cannot withstand a challenge – and that will eventually happen.
• DO NOT adopt an ‘excuse to do nothing’ – examples abound.
• Having a bad document is worse than having no protection. It establishes the expectation that the airport is not worth protecting!
• DO HAVE a local person that either understands the issues of Land Use protection or knows the triggers to go ask for help. There are people that can and will help (Consultants), or call the Division of Aeronautics if you have the slightest question.
Tens of thousands of general aviation aircraft, including corporate jets, medical evacuation helicopters, and airplanes owned by individuals for business and personal use are flown in the United States.

In fact, three out of every four takeoffs and landings at U.S. airports are conducted by general aviation aircraft, and most of these flights occur at general aviation airports.

https://www.faa.gov/airports/planning_capacity/ga_study/
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“The plan shall include the kind and estimated cost of eligible airport development the Secretary of Transportation considers necessary to provide a safe, efficient, and integrated system of public-use airports adequate to anticipate and meet the needs of civil aeronautics, to meet the national defense requirements of the Secretary of Defense, and to meet identified needs of the United States Postal Service.”

https://www.faa.gov/airports/planning_capacity/npias/reports/
The purpose of the Idaho Airport System Plan (IASP) is to collectively assess the conditions and needs of the public-use airports throughout the state and to identify the system’s capability to meet current and future demand.

The IASP is the Idaho Transportation Department’s comprehensive plan for linking statewide aviation facilities with those of the nation and the world. Idaho’s system plan also works in concert with Idaho’s Transportation Vision. The Transportation Vision examines all of the state’s transportation needs and sets the direction for making improvements and investments in all modes of transportation.

For more information contact:

Bill Statham, Project Manager, bill.statham@itd.idaho.gov, 208-334-8784

https://itd.idaho.gov/aero/

Use the webpage tabs!
IDAHO STATE AIRPORT SYSTEM

The IASP serves as a blueprint for the development of Idaho’s public airport system. It is a top down study whose recommendations must be implemented from the bottom up.

While the analysis contained within the system plan is completed at a macro planning level, individual airport recommendations that flow from this study are important for guiding development at airports throughout Idaho.
COMPANION PLANNING DOCUMENT TO ISAP

The Airport Economic Impact Analysis (AEIA) will evaluate the on-airport and other spin-off or multiplier impacts of airports throughout Idaho. This will be done for each individual airport included in the study as well as for the system as a whole. Not only will this quantify the economic impacts of aviation in Idaho, it will help communicate the benefits of airports and validate the continued public investment in Idaho’s airport system.

https://www.idaho-airport-system-plan.com/
The Idaho Airstrip Network consists of airstrips, the adjacent or nearby lands and facilities, and the portal communities to which they are connected.

They are held in public or private ownership, but in all cases public access for general aviation purposes is permitted.

Themes:
1. Preserve and enhance access,
2. Create an understanding and demonstrate the value of airstrips as one of Idaho’s most unique transportation assets, and
3. Improve administrative effectiveness in the maintenance and operation of the airstrip network.

https://itd.idaho.gov/aero/
IDAHO AIRPORT SPONSORS CAN BE:

- Private
- State
- Towns and Cities
- County or Counties
- Authorities
- Or a Combination

FOR GRANT FUNDING, AIRPORT SPONSORS HAVE TO OWN THE LAND
STATE SYSTEM AIRPORTS

NEW MEADOWS, IDAHO

MURPHY, IDAHO
NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS (NPIAS) - GA AIRPORTS

REXBURG, IDAHO

COEUR D'ALENE, IDAHO

BURLEY, IDAHO
IDAHO AIRPORTS ARE SMALL TO BIG!
TYPICAL COMMERCIAL SERVICE AIRCRAFT
LARGE GA, FIRE-FIGHTING SUPER TANKER AND LARGE/SMALL CARGO AIRCRAFT
SMALL GENERAL AVIATION AIRCRAFT
MEDICAL, AGRICULTURAL AND MILITARY
ENOUGH “EYE CANDY”!
AIRPORT PLANNING TOOLS
AIRPORT PLANNING TOOLS FOR PLANNERS

Topics, Tools and Definitions

Airport Layout Plan (ALP)
Airport Master Plan
ITD Airport Land Use Guidelines
Idaho Airstrip Network
ACRP – TRB reports
FAA Advisory Circulars (ACs)
FAA Orders (Orders)
Airport Grant Assurances and Obligations
DRCOG Handout
ITD Airport Land Use Guidelines
Idaho State Statute Title 21 Aeronautics

FAA’s General Aviation Asset Study
Local Airport Rules and Minimums Standards
NPIAS
CFR Part 77 – Obstructions
FAA Form 7460-1 Notification of Construction
Idaho State Aviation System Plan
  ▪ Commercial
  ▪ GA
  ▪ Community

General Aviation vs Commercial Service
  ▪ Commercial Activity

And of course, ITD Airport Land Use Guidelines
AIRPORT FUNDING

AIP (for NPIAS Airports)

The Airport Improvement Program (AIP) was established by the Airport and Airway Improvement Act of 1982 to provide funding to airports on a priority needed basis.

The AIP is a user-funded program and is not funded by federal income tax dollars.

The AIP is primarily funded through the Airport and Airway Trust Fund (AATF).

The FAA coordinates this program.

https://www.faa.gov/about/budget/aatf/
AIRPORT FUNDING

AIP (for NPIAS Airports)

While some of the funds are used for FAA overhead costs, the majority of the money is distributed to community airports through grants. Eligible airports range from small community facilities to the largest commercial airports in the national system.

The AATF is funded by three components:
- passengers (tax on ticket sales),
- cargo (tax on shipping fees), and
- fuel (tax on fuels used by aircraft).
THE AIRPORT MASTER PLAN

Overview

Generally FAA – AIP funded at ~90%
Done every 7 to 10 years
Twenty-Year planning window
Includes:
- Inventory
- Forecasts (Design Aircraft)
- Facility Requirements
- Alternatives
- Environmental Overview
- Capital Improvement Program (CIP)
- Implementation Plan
- Financial and Sustainability Plan
- Public Out Reach (meetings)

Also Includes ALP Drawing Set:
- Airport Layout Plan (ALP)
- CFR Part 77 Obstructions
- Off and On Airport Land Use Plan
- Approach / Departure Plan and Profiles
- Airport Photo and Contours
- Airport Property Map
THE AIRPORT LAYOUT PLAN (ALP)

- Graphic set of drawings
- Visual representation of the existing and future development

This one is Rexburg’s New Airport
THE ALP – CFR PART 77 - OBSTRUCTIONS

This one is Rexburg’s New Airport
This one is Cedar City Utah’s Airport
THE ALP – CFR PART 77 - OBSTRUCTIONS

This one is Cedar City Utah’s Airport

TERRAIN PENETRATIONS

NOT A GOOD PLACE TO PUT ADDITIONAL OBJECTS
CFR PART 77 – OBSTRUCTIONS CASE STUDY

This one is Glen’s Ferry Airport
AN AIRPORT ENEMY – TOWERS IN THE SURFACES!

This one was submitted to the Town of Glenns Ferry
AN AIRPORT ENEMY – TOWERS IN THE SURFACES!

This one is Glenns Ferry Airport
AN AIRPORT ENEMY – TOWERS IN THE SURFACES!

This one is Glenns Ferry Airport
This one is Glenns Ferry Airport
This one is Rexburg’s New Airport
OFF-AIRPORT LAND USE PLAN

This one is Rexburg’s New Airport
OFF-AIRPORT LAND USE PLAN

This one is Rexburg’s New Airport
OFF AIRPORT LAND USE PLAN

This one is Rexburg's New Airport

Landfill

School

Park
THE E-ALP (ONLY IF THIS WORKS LIVE)

CDC_Google_Earth.kmz
STATE REPORTING OF TALL STRUCTURES -

The Division of Aeronautics evaluates structures under the authority of Idaho Code 21-513 through 21-520 and Idaho Transportation Rule No. 39.04.02. All proposals for structures in excess of 199’ or those of a lower height located near a public-use airport are evaluated for impacts on aircraft navigation. Mitigation of aviation hazards typically involves marking and lighting of structures. Proponents of vertical structures can contact the Aviation Technician if questions regarding location, height (and the need to notify the Division of Aeronautics of a proposal) arise during the project planning phase. Notification of the Division of Aeronautics prior to construction best accomplished by submitting a copy of the FAA form 7460-1 to our office. This form contains all the information the State of Idaho needs to accurately evaluate a structure and its location.

You can find a link to this form at: https://www.faa.gov/forms/index.cfm/go/document.information/documentID/186273.

It should be noted that proponents of structures described above are required to notify the Federal Aviation Administration to allow that agency to evaluate the structure for impacts on the national airspace system.

For more information contact: Flo Ghighina, Flo.Ghighina@itd.idaho.gov, 208-334-8895
NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

§ 77.7 Form and time of notice.
(a) If you are required to file notice under § 77.8, you must submit to the FAA a completed FAA Form 7460–1. Notice of Proposed Construction or Alteration. FAA Form 7460–1 is available at FAA regional offices and on the Internet.
(b) You must submit the form at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction or alteration is filed, whichever is earlier.
(c) If you propose construction or alteration that is subject to the licensing requirements of the Federal Communications Commission (FCC), you must submit the FAA notice on or before the date that the application is filed with the FCC.
(d) If you propose construction or alteration to an existing structure that exceeds 200 feet in height above ground level (AGL), the FAA may require the construction or alteration to be a hazard to air navigation that may be necessary to prevent or minimize the efficient use of airspace. You may be required to provide the FAA with details explaining both why the structure does not constitute a hazard to air navigation and why it would not otherwise be necessary.
(e) If your construction or alteration is deemed to create an emergency invasion of the airspace, the FAA may provide notice of any emergency invasion to the media, FAA airport facility managers, and other interested parties an initial notice to the airport affected business hours. The FAA will follow notice procedures described in paragraph (d) of this section.

CONSTRUCTION OR ALTERATION NEAR AN AIRPORT

SCHWEITZER LAGOONS
NOTIFICATION OF CONSTRUCTION NEAR AN AIRPORT

https://oeaaa.faa.gov/oeaaa/external/portal.jsp
§ 77.9 Construction or alteration requiring notice.

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

(a) Any construction or alteration that is more than 200 ft. AGL at its site.

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

1. 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.

2. 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.
LAND USE NEAR AN AIRPORT

We have talked about the issue of restrictions on object height near airports, the other side of airport protection – is what are we **doing** on the land?

Certain areas are **VERY** sensitive to incompatible land use.

Potential issues include:

- Congregations of people (schools, churches, apartments, shopping centers, etc)
- Wildlife attractants (mostly birds, but others as well)
- Smoke, steam or other vapor screens
- Radio interference
- Glare
DRCOG 1997 RESOURCE HANDBOOK

This dated document still has some of the best explanations to the concepts of planning around airports – especially urban ones.

Some of the surface descriptions have changed, but the arguments for progressive planning and protecting airports are spot-on.

IDAHO AIRPORT LAND USE GUIDELINES

Indispensable for the Idaho Planner’s desk (or at least shelf).

It is somewhat ‘technical’ – but worth reading and developing an understanding of specific Idaho issues, rules, regulations and laws.

Great graphics and this document really tells the story of what and why we need for airport protection.

Even includes a model comprehensive Plan!

OWNERSHIP AND CONTROL OF CRITICAL AREAS

Runway Protection Zone (RPZ)
- The only protection surface meant for people and objects on the ground!
- Generally a 1,000 feet long for smaller airports and 1,700 feet long for medium sized and up to 2,500 feet for large airports

Sponsors should own the RPZ in fee for complete land use control.

CASE STUDY
Inner Parts of the Approach and Departure Surfaces

- These surface dimensions depend on the type of Instrument Approach Procedure (IAP) into the airport:
  - Visual (non IAP)
  - Non-Precision Instrument
  - Precision

- These procedures are very important to the community

IAP’s assist the pilot to find and approach the airport in marginal weather.

In addition, some commercial and corporate users are required to utilize IAPs for safety and insurance reasons.

Sponsors should control the Inner portions of the Approach and Departure Surfaces with strong zoning.
PROTECTING CRITICAL AREAS

Approach and Departure Surfaces

Light to heavy Industrial is a marginal use – normally, but in winter – watch out!
BURLEY (BYI) GPS IAP TO RUNWAY 20
COLD MORNING (~10°F)
WHY ARE LAND USE & HEIGHT RESTRICTIONS IMPORTANT?

1. Safety – for Pilots, Passengers and People on the ground

2. Operational value – reduction in IAP minimums or use of the airport decreases the intrinsic value of the facility

3. Economic – The Country and/or the State has invested in the facility and any loss of utility lessens the ROI and value to the community – loss of jobs, business, industry

4. Even small, incremental chipping away at the airport value and use may eventually lead to VERY expensive solutions!

LOCAL ZONING PROTECTIONS ARE KEY
GRANT ASSURANCES AND OBLIGATIONS

Strings from the Funding Agencies when accepting a grant

- There are dozens, but a couple important ones (paraphrased):
  - Keep the airport safe (pretty opened ended)
  - Protect the airport from incompatible land use
  - Non-discrimination (treat all equal)
  - No revenue diversion
    - $$ generated on the airport MUST stay at the airport
  - Open to the public and military
  - Consistency with local plans & consideration of local interest
  - Serve aeronautical use (ie- hangars must have an airplane)
  - Hazard removal and mitigation
  - Have a current and up-to-date ALP

- Obligate the land to be a safe airport

https://www.faa.gov/airports/aip/grant_assurances/
AIRPORT COOPERATIVE RESEARCH PROGRAM (ACRP)

**Reports:** Reports are the main product of the research project and are often written as guidebooks or manuals.

**Syntheses of Practice:** Syntheses report on the state of the practice based on literature reviews and surveys of recent activities in critical areas. *Syntheses also inform airport managers about innovations being used by others to solve problems.*

**Legal Digests (LRDs):** LRDs report on timely legal issues, compile case law, or recommend specific solutions to specific problems.
OBJECTIVES FOR TODAY

Introduction to Airport Planning 101

- Planning, funding, surfaces

Define Airport Protections

- Height – CFR Part
- Use – Types of Incompatible Land Use
OBJECTIVES FOR TODAY

Discuss the common aviation tools available to you


Provide additional sources of material and advice

- FAA – State contact information
## AIRPORT PLANNING TOOLS FOR PLANNERS

### Topics, Tools and Definitions

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FUNDING / REGULATORY AGENCY CONTACTS

Helena Airport District Office – Idaho Staff
- Manager Chuck Garrison – 406.441.5404
- Community Planner Scott Eaton – 406.441.5408
- East Idaho State Engineer Gary Gates – 406.441.5405
- West Idaho State Engineer Steve Engebrect – 406.449.5279
- Environmental Specialist Diane Stilson – 406.441.5411

Idaho Transportation Department, Division of Aeronautics
- Mike Pape, Division Administrator, Phone: 208.334.8788
- Bill Statham, Project Manager, Phone: 208.334.8784
- Jennifer Schildgen, Airport Planner, Phone: 208.334.8640
INDUSTRY CONTACTS

Aircraft Operators and Pilots Association (AOPA)
- Warren Hendrickson, Regional Representative – 206.999.3111

National Business Aviation Association (NBAA)
- Kristi Ivey, Regional Representative – 206.434-5688

Idaho Airport Managers Association (IAMA)
- https://www.idahoairports.org/

Idaho Aviation Association

Your Local Airport Manager!

Or Call me –
Rick Patton, Aviation Planner with T-O Engineers – 208.433.1900
Thank you

Rick Patton, Aviation Planner
208.433.1900
rpatton@to-engineers.com