FAA Policy: It's Complicated

Runway Designations & Federal Funding

Presented to: AirTAP

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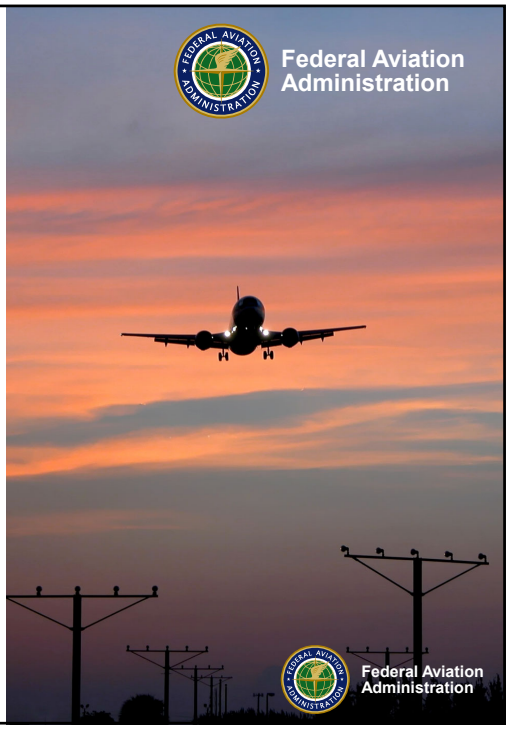

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Agenda

- **Background**
- **FAA policy & standards**
  - Funding
  - Critical aircraft & regular use determination
- **Examples**
- **Questions**

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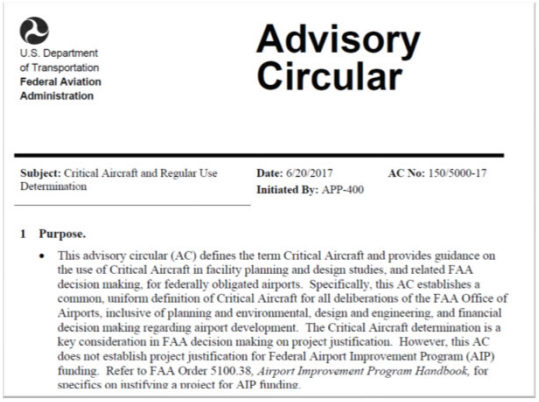
Background



U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: Critical Aircraft and Regular Use Determination
Date: 6/20/2017
Initiated By: APP-400
AC No: 150/5000-17

1 Purpose.

- This advisory circular (AC) defines the term Critical Aircraft and provides guidance on the use of Critical Aircraft in facility planning and design studies, and related FAA decision making, for federally obligated airports. Specifically, this AC establishes a common, uniform definition of Critical Aircraft for all deliberations of the FAA Office of Airports, inclusive of planning and environmental, design and engineering, and financial decision making regarding airport development. The Critical Aircraft determination is a key consideration in FAA decision making on project justification. However, this AC does not establish project justification for Federal Airport Improvement Program (AIP) funding. Refer to FAA Order 5100.38, *Airport Improvement Program Handbook*, for specifics on justifying a project for AIP funding.

- **Critical Aircraft & Regular Use Advisory Circular (AC) issued in 2017 – key consideration in FAA decision making on project justification**

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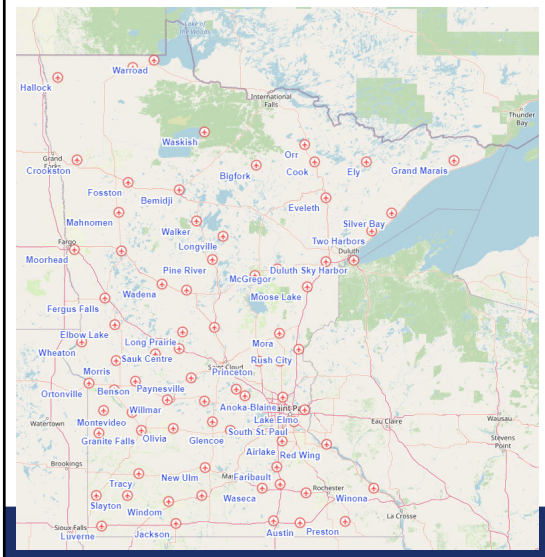
Background



https://www.dot.state.mn.us/aero/navigationsystems/awos-map-online.html

- **MnDOT has made a significant investment in weather reporting**
  - Currently 76 AWOS or ASOS systems
- **Airport planning documents**
  - In the past airports used wind data from other airports
  - Many airports have their own AWOS & data shows primary runway orientations are good, often with 95%+ coverage

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FAA Funding Policy

- **Airport Improvement Program (AIP) Handbook is the published policy for AIP funding** *(FAA Order 5300-38D)*
  - ADO can only fund a single runway unless the ADO made a specific determination that one or more crosswind or secondary runways are justified
    (Appendix G, Section G-2 in FAA Order 5100.38D Change 1, AIP Handbook)

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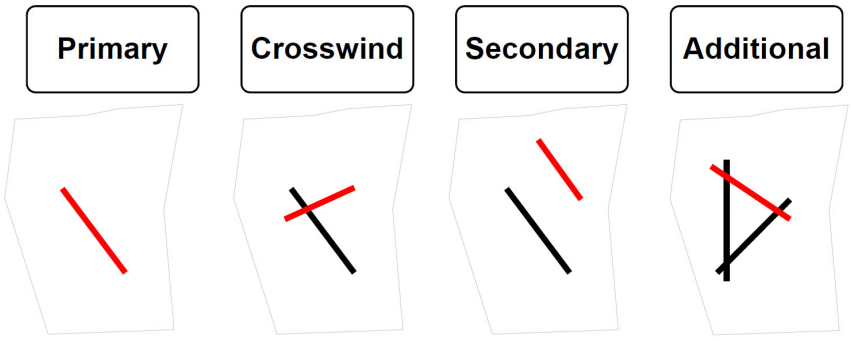
FAA Funding Policy

- Before planning a project on a runway, the ADO must determine the type of runway (primary, secondary, crosswind or additional)



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FAA Funding Policy

- **Additional runway – runway that is not a primary runway, a secondary runway, or a crosswind runway**
  - It is not unusual for a two-runway airport to have a primary runway & an additional runway, with no secondary or crosswind runway
  - ADO can only designate a runway as a secondary runway or crosswind runway if it meets the specific operating and justification parameters in Table G-1

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FAA Funding Policy

Table G-1 Runway Types and Eligibility

For the following runway type…	Must meet all of the following criteria…	And is…
a. Primary Runway	(1) A single runway at an airport is eligible for development consistent with FAA design and engineering standards.	Eligible
b. Crosswind Runway	(1) One of the following two criteria are met: (a) For the first crosswind, the wind coverage on the primary runway less than 95% (b) For more than one crosswind runway, the wind coverage on the primary runway less than 95% and the existing crosswind runway(s) are operating at 60% or more of their annual capacity, which is based on guidance developed by APP-400 as the threshold for considering when to plan a new runway.	Eligible if justified

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FAA Funding Policy

Table G-1 Runway Types and Eligibility

For the following runway type…	Must meet all of the following criteria…	And is…
c. Secondary Runway	(1) There is more than one runway at the airport. (2) This is not a crosswind runway. (3) Either of the following: (a) The primary runway (or primary runway AND all secondary runways) is operating at 60% or more of its annual capacity, which is based on guidance developed by APP-400 as the threshold for considering when to plan a new runway. (b) APP-400 has made a specific determination that the runway is required for operation of the airfield.	Eligible if justified.
d. Additional Runway	(1) There is more than one runway on the airport. (2) The ADO has determined that this runway does not meet the requirements to be designated a crosswind runway. (3) The ADO has determined that this runway does not meet the requirements to be designated a secondary runway.	Ineligible.

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Critical Aircraft & Regular Use Determination

- **Advisory Circular (AC) 150/5000-17 (6/20/2017)**
  - Critical aircraft – the most demanding aircraft type, or grouping of aircraft with similar characteristics, that make regular use of the airport
  - Regular use – 500 annual operations, including both itinerant & local operations, but excluding touch-and-go operations

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Critical Aircraft & Regular Use Determination

- **Runway type categorization – define the role of each runway**
  - Identify which runway is primary – consider & apply planning judgement
    - Runway utilization
    - Approach & departure capabilities (IFPs), including minima, type, etc.
    - Runway length & width
    - Runway pavement condition
    - Proximity to airport infrastructure (e.g. terminal, FBO, hangars, etc.)

Only one primary runway at an airport

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Critical Aircraft & Regular Use Determination

- **Other runways – define each runway's role**
- **Does the primary runway have less than 95% (<95%) all-weather wind coverage for the applicable Runway Design Code (RDC)?**
  - If yes, the next runway is a crosswind runway if it contributes to necessary wind coverage & has regular use of the aircraft needing crosswind coverage on that runway
  - If no, the next runway is either a secondary runway or an additional runway

Table B-1. Allowable Crosswind Component per Runway Design Code (RDC)

RDC	Allowable Crosswind Component
A-I and B-I *	10.5 knots
A-II and B-II	13 knots
A-III, B-III, C-I through D-III D-I through D-III	16 knots
A-IV and B-IV, C-IV through C-VI, D-IV through D-VI	20 knots
E-I through E-VI	20 knots

Note: * Includes A-I and B-I small aircraft.

AC 150/5300-13B, Appendix B

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Critical Aircraft & Regular Use Determination

- **Does the primary runway operate at greater than 60% (>60%) annual service volume (ASV)?**
  - Or, without the secondary runway, would ASV exceed 60%?
  - Rule of thumb: at least 120,000 annual operations are needed for a secondary runway
    - If yes, the next runway is a secondary runway as its needed for capacity
    - If no, the next runway is an additional runway

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Critical Aircraft & Regular Use Determination

- **Rules of thumb that aren't supportable for FAA funding participation**
  - Backup runway
  - "Airport wants it"
  - Prior grants issued (sunk costs)
  - Benefit cost analysis shows positive value to retain
  - Diversions
  - Preservation for some non-specific future aviation need beyond what is in the forecast
    - If we lose it, we will never get it back

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Critical Aircraft & Regular Use Determination

- **Runway type designations are <u>not</u> permanent**
  - Revisions can be made when better data is available or a clarified role in the runway becomes apparent
  - Runway eligibility & justification will be reevaluated in advance of project implementation

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Example

- **Crosswind Coverage eligible A-I/B-I runway, but <500 ops**
  - Does not meet minimum use threshold for public investment
  - AC 150/5000-17: 3.3.2 The determination of the Critical Aircraft for a crosswind runway requires meeting both the wind coverage requirements as specified in AC 150/5300-13, *Airport Design*, and the regular use requirements for the aircraft that would use the crosswind runway. See Paragraph 3.8.

All AI/BI ops	Towered airport annual operations (to remove uncertainty in this example about actual ops)			
Wind Coverage	**10,000**	**15,000**	**20,000**	**25,000**
Primary Runway @94%	9,400	14,100	18,800	23,500
Crosswind Runway (combined) @97%	300	450	600	750
Outside wind coverage	300	450	600	750
Unmet?	600	900	600	750
Crosswind AIP Justified?	No	No	Yes	Yes

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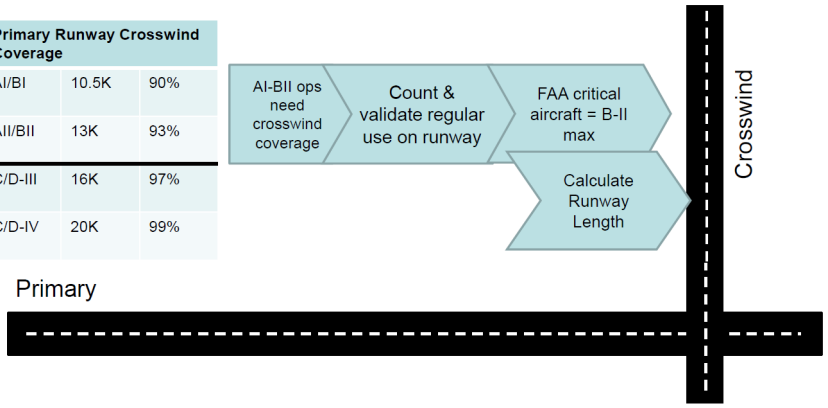
Example

Primary Runway Crosswind Coverage		
AI/BI	10.5K	90%
AII/BII	13K	93%
C/D-III	16K	97%
C/D-IV	20K	99%



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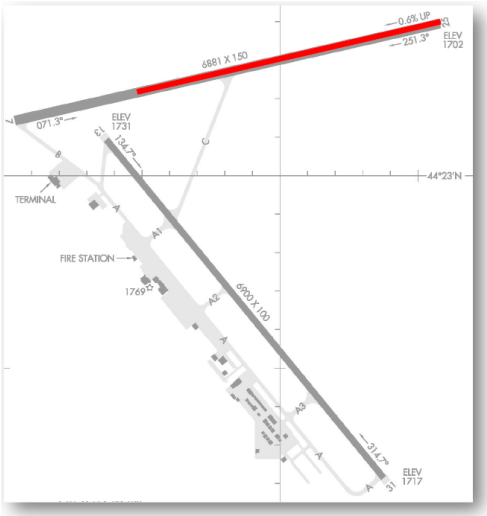
Example

- **Runway type is a crosswind for A-I/B-I ops**
- **Longer & wider than AIP eligible**
- **Sponsor has the option to fund the difference**



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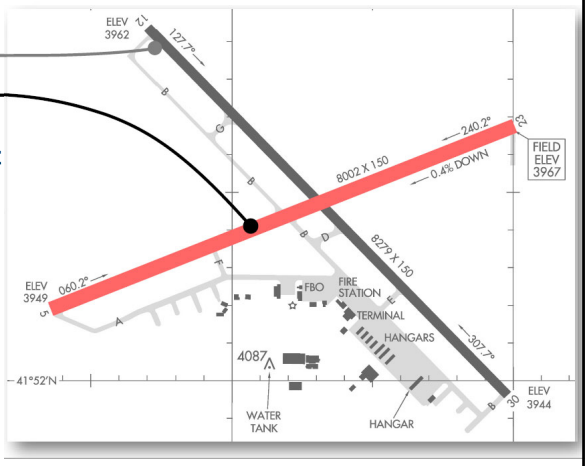
Example

- **Two Runway Airport**
  - 12-30 – Primary
  - 05-23 – Crosswind (B-II)
- **Current configuration exceeds critical aircraft needs**
  - 75'-100' would be AIP eligible depending on visibility minimums
- **Sponsor has the option to fund the difference**



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Questions

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