U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Critical Aircraft and Regular Use Determination

Date: Draft

AC No: 150/5000-XX

Initiated By: APP-400

1 **Purpose.**

This advisory circular (AC) defines the term Critical Aircraft and provides guidance on the use of Critical Aircraft in the conduct of facility planning studies for federally obligated airports. The term Regular Use is also defined.

The terms Critical Aircraft, Design Aircraft, and Critical Design Aircraft are synonymous.

The Critical Aircraft determination establishes basic project allowability. However, this AC does not establish project justification for Federal Airport Improvement Program (AIP) funding. Final funding decisions consider many factors in addition to the determination of the Critical Aircraft. These additional considerations include, but are not limited to, specific local circumstances and needs, airspace, environmental, operational, and cost factors. Refer to FAA Order 5100.38, Airport Improvement Program Handbook, for specifics on justifying a project for AIP funding.

This guidance clarifies when the Critical Aircraft determination includes civilian-owned aircraft under military or other government agency contracts and when a Critical Aircraft determination may include military aircraft activity.

2 **Application.**

There are multiple published definitions of Critical Aircraft or substantial use in existing FAA Orders and Advisory Circulars (ACs), as shown in the following table. The policy of the Office of Airport Planning and Programming is to use this synthesized definition of Critical Aircraft, as contained in this AC, in place of all previous definitions of Critical Aircraft or substantial use found in the documents listed below. The Office of Airports plans to update these documents to reflect the new definition of Critical Aircraft.

FAA Document	Relevant Section
FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems (NPIAS)*	Paragraph 3-4
FAA Order 5100.38D, *Airport Improvement Program Handbook*	Paragraph 3-11
AC 150/5070-6B, *Airport Master Plans*	Appendix A
AC 150/3500-13A, *Airport Design*	Paragraph 102.cc
AC 150/5325-4C, *Runway Length Requirements for Airport Design*	Paragraph 102.b/h

This AC is composed of three major sections with additional resources in the appendices. Critical Aircraft is defined in Section 1, while Section 2 addresses the determination of the existing and future critical aircraft. Section 3 provides guidance on the application of the Critical Aircraft determination. A decision tool and examples are provided in the appendices.

3 **Feedback on this AC.**

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.

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Director of Airport Planning and Programming

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CHAPTER 1. CRITICAL AIRCRAFT DEFINITION

1.1 What is the Purpose for defining Critical Aircraft?

The Critical Aircraft determination is an important aspect of airport planning and design for federally-obligated airports. It sets dimensional requirements on an airport, such as the distance between taxiways and runways, and the size of certain areas protecting the safety of aircraft operations and passengers. An accurate determination of the Critical Aircraft helps to ensure the proper development of airport facilities and appropriate federal investments in airport facilities. An accurate Critical Aircraft determination matches aircraft operational area dimensions to the most demanding aircraft that regularly use the runways, taxiways, and apron areas.

1.2 What is the Definition of Critical Aircraft and Regular Use?

1.2.1 The most demanding aircraft type, or grouping of aircraft with similar characteristics, that make regular use of the airport. Regular use is 500 annual operations, excluding touch-and-go operations. An operation is either a takeoff or landing.

1.2.2 Chapter 3 describes the application of the Critical Aircraft to various design elements of the airport. For example, a separate Critical Aircraft determination is required for each runway.

1.3 What is the Definition of Similar Characteristics?

For the purpose of identifying a Critical Aircraft, ‘similar characteristics’ is a term that refers to the practice of grouping aircraft by comparable operational and/or physical characteristics. This is to recognize that it is sometimes necessary for airfield planning and development to group aircraft with similar characteristics together instead of requiring a single aircraft type to exceed the regular use threshold alone. For example, aircraft with similar wingspan or approach speed may be grouped to determine the most demanding Aircraft Approach Category (AAC) and/or Airplane Design Group (ADG). Aircraft with similar runway length requirements can be grouped to determine the future runway length at an airport. When making the Critical Aircraft determination, total the operations of the aircraft with similar characteristics. Throughout this AC, the term Critical Aircraft is inclusive of the similar characteristics definition, as applicable.

1.4 What is New with the Critical Aircraft and Regular Use Definition?

1.4.1 While the term “substantial use” was used in previous definitions of Critical Aircraft, “regular use” is more representative of what this definition is trying to capture: i.e., planning and development requirements for recurring and future activity at the airport.

1.4.2 Airport planning and design requires considering the specific safety and operational needs of all the aircraft that use the airfield. Accordingly, both itinerant and local operations (excluding touch-and-go operations) count towards regular use.

1.4.3 Determining both an existing Critical Aircraft and a distinct future Critical Aircraft are required. The existing Critical Aircraft determination is based on current aeronautical use. The future Critical Aircraft is determined with an FAA-approved forecast that considers aircraft 'highly likely' or 'expected' to regularly use the airport. The distinction between existing and a future Critical Aircraft is important, since the timeframe for when an aircraft could regularly use the airport is relevant to planning and implementation.

1.4.4 Defining the grouping of aircraft with 'similar characteristics' that can be used to determine the Critical Aircraft as discussed in Paragraph 1.3.

CHAPTER 2. DETERMING THE EXISTING AND FUTURE CRITICAL AIRCRAFT

2.1 What Factors are Involved in the Critical Aircraft Determination?

2.1.1 The existing Critical Aircraft determination requires documenting aeronautical use of airport facilities. Aircraft operations must be counted with enough detail to determine the most demanding aircraft or grouping of aircraft with similar characteristics that regularly use the airport. To accomplish this, an operations count by aircraft make and model is required for the most recent 12-month period of activity that is available.

2.1.2 Documenting aeronautical activity may reflect specific seasonal operational characteristics of an airport (i.e., seasonal scheduled passenger service). Therefore, operations do not need to occur uniformly throughout a 12-month period. However, if the threshold of regular use, in full or in part, is based on an annual or sporadic event (e.g., an airshow) then coordination with APP-500 and APP-400 is necessary.

2.1.3 While longer periods of data can be used to assess trends at an airport, the most recent 12-month period of activity that is available should be used to determine existing regular use unless there are extenuating circumstances. Breaks from prior trends must be assessed objectively, as they could be temporary or reflect the emergence of a new long-term operational trend.

2.1.4 Factors to consider when documenting aeronautical activity are more fully explained in the sections below. A periodic review of the existing Critical Aircraft determination is necessary as activity can change at an airport. When deemed necessary by the Office of Airports (ADO, Region, or Headquarters), an airport will reevaluate the Critical Aircraft determination to support:

- Issuance of an AIP Grant or Passenger Facility Charge (PFC) decision;
- Initiation of a master plan, master plan update, or similar infrastructure planning efforts;
- New or updated Airport Layout Plan (ALP), except for revalidations (e.g., as-built updates and minor ‘pen and ink’ changes).

2.2 What Data Sources Can Be Used to Document an Existing Critical Aircraft Determination?

Documenting aeronautical activity, including number of operations by aircraft, is the basis for making a Critical Aircraft determination. Sources for documenting aeronautical activity include:

- Aircraft landing fee reports (showing aircraft make and model) provided by the aircraft operator to the airport sponsor.
- Completed IFR flight plan data as made available through the FAA Traffic Flow Management System Counts (TFMSC) database. Historical data is available for several years from the FAA’s Aviation System Performance Metrics web site. FAA staff can also access the PBN Dashboard for IFR traffic counts by aircraft type. (Username and password required and can be requested from FAA.) IFR flight

count and aircraft type data from both systems is generally available for any airport with IFR flights. FAA National Offload Program data also can be used to document aeronautical use.

- Data from an airport or commercially operated flight tracking system.
- Reliable aircraft logs (such as fuel sales records) kept by the airport sponsor, aircraft operators, or fixed base operators (FBO). To be useful, these logs would need to record the aircraft make and model. Alternatively, the logs could record the aircraft registration number, which can be cross-referenced with the FAA aircraft registry database to determine aircraft make and model.
- Observed activity (either in-person or via recorded media) that logs aircraft make and model. Observed activity can be annualized using a valid statistical sampling methodology (e.g., two weeks of observations in each of the four seasons).[1] Acoustical activity counters do not always provide sufficient information to determine aircraft make and model, unless attached to visual systems that also capture aircraft registration numbers.
- Aircraft operator (e.g., airline or charter operator) letters, or written survey results, that document existing levels of use by aircraft type.
- System plan studies, if operations by aircraft make and model are documented. Alternatively, the studies could document the aircraft registration number from which to determine aircraft make and model.
- Estimates of aircraft activity can support existing Critical Aircraft determinations when the airport sponsor documents and the FAA accepts that sufficient information from the sources above is not available to make detailed counts of actual activity.

2.3 How is a Future Critical Aircraft Determination Made?

2.3.1 The determination of a future Critical Aircraft is based on an FAA-approved forecast. The approved forecast must include a projection of the number of annual operations by the future Critical Aircraft for the planning horizon year (i.e., typically not more than 20 years out from the base year). Proper diligence and awareness of aircraft fleet trends is required when establishing the future Critical Aircraft, particularly in cases where the future Runway Design Code (RDC) may change due to an aircraft type with greater requirements (i.e. runway or airfield geometry). Caution is warranted when a change in the critical aircraft is identified in the long-term forecast (years 11-20) given the uncertainty inherent to this forecast range. The long-term change to the critical aircraft must be supported by a credible forecast.

2.3.2 Airport sponsors and Office of Airports (ARP) staff must consider the plans of aircraft operators to retire aircraft and replace them with new types. The Future Critical Aircraft determination must consider ongoing trends in the aircraft fleet. This applies to both general aviation (particularly business aviation) and airline operations. For

[1] See ACRP Synthesis 4, Counting Aircraft Operations at Non-Towered Airports, 2007

example, current trends include the gradual retirement of 50-seat regional jets and 4-engine long-haul widebodies, and their replacement with more efficient airframes.

2.3.3 The discussion in this AC is about designating a Critical Aircraft for planning purposes, which is distinct from the requirements for project justification. Refer to FAA Order 5100.38D, *Airport Improvement Program Handbook*, for specifics on justification and the AIP allowability of projects based solely on a future Critical Aircraft. Project justification is based on existing activity at the airport or activity that is projected to be at the airport within the next five years. If there is concern about the forecast projection actualizing, ARP can require the sponsor to submit letters of support from airport users if the justification is based on projected activity. As stated in Section 2.1, the future Critical Aircraft determination is subject to reevaluation when deemed necessary by ARP to support the issuance of an AIP grant or PFC decision.

2.4 Can Military Aircraft or Other Federal Agency Aircraft Be Included in Documenting Aeronautical Activity?

2.4.1 Yes. Prudent facility planning should include consideration of the requirements of military aircraft or other federally-owned aircraft operating at the airport. However, this determination is made for airport planning purposes only. Federal law does not allow FAA to fund projects that solely benefit another federal agency. Therefore, in some cases, the FAA will need to designate a Critical Aircraft for AIP or PFC eligibility that is separate and distinct from the Critical Aircraft used in planning the airfield.

2.4.2 When an airport sponsor anticipates requesting AIP grant funds or PFC revenues for airport projects, a Critical Aircraft determination (used to determine project eligibility or justification) must exclude all military and federal government-owned aircraft operations and consider civil aircraft (and state/local government) activity only. When calculating the amount of funding that can be considered for AIP or PFC projects, the difference in design requirements will be considered and the costs will be prorated accordingly. Refer to FAA Order 5100.38, *Airport Improvement Program Handbook*, for instructions on prorating project costs.

2.4.3 The airport sponsor should document this information for the FAA. There are several possible ways to document this: (a) in a Master Plan or ALP narrative report, (b) in an ALP approval letter, or (c) in the narrative of a grant application.

2.5 Can Civil Aircraft Operated Under a Federal Contract Be Included in Documenting Aeronautical Activity?

Yes, if these types of flights are operated under applicable FAA regulations in 14 CFR Parts 91, 121, or 135. Aircraft operated by civil operators under military or other federal government agency contracts as civil operations are counted as civil aircraft activity for the purposes of documenting aeronautical activity, and for AIP or PFC funded projects. This includes civil aircraft operating under contract with the U.S. Forest Service for aerial firefighting activities or unscheduled military aircraft charter flights.

2.6 Does the FAA Office of Airports Approve the Critical Aircraft Determinations?

2.6.1 Yes. ARP (typically the ADO) will approve both the existing and future Critical Aircraft determination for an airport.

2.6.2 During the planning process, this is done during the forecast review and/or the ALP narrative report review. As stated in Section 2.1, the Critical Aircraft determination is subject to reevaluation when deemed necessary by the Office of Airports to support the issuance of an AIP grant or PFC decision.

CHAPTER 3. APPLICATION OF CRITICAL AIRCRAFT DETERMINATION

The following are some representative examples of the application of critical aircraft determinations to various planning issues when developing an ALP.

3.1 Can Different Aircraft Represent the Critical Aircraft for Separate Elements of Airport Design?

3.1.1 Yes. Different aircraft may define separate elements of airport design. Therefore, effective planning of an airport may need to consider different and multiple Critical Aircraft as listed below:

- Critical Aircraft or grouping of aircraft, in the most demanding for Aircraft Approach Category (approach speed) expressed as Aircraft Approach Category (AAC) A, B, etc.
- Critical Aircraft or grouping of aircraft, in the most demanding Airplane Design Group (ADG) [Wingspan] expressed as ADG I, II, etc.
- Critical Aircraft Runway Design Code (RDC) – the combination of the most demanding AAC and ADG.
- Critical Aircraft or grouping of aircraft, for runway length.
- Critical Aircraft or grouping of aircraft, in the most demanding Taxiway Design Group (TDG) expressed as TDG 1, 2, etc.

3.1.2 As a result, a single ALP may be based on multiple critical aircraft determinations. Refer to AC 150/5300-13A, Airport Design, for a definition of RDC, AAC, TDG, and ADG.

3.2 How is the Critical Aircraft Determined for Runway Length?

3.2.1 Evaluate each runway separately at an airport. Choose the single aircraft, or grouping of aircraft, with the longest runway length requirement that makes regular use of the runway. In some cases, the Critical Aircraft for runway length may be different from the Critical Aircraft that establishes the most demanding RDC for the runway.

3.2.2 Refer to FAA AC 150/5325-4, *Runway Length Requirements,* for calculating recommended runway length by aircraft types. There are no FAA-established runway length standards for a specific RDC.

3.3 Should a Separate Critical Aircraft Determination Be Made for Each Runway at an Airport?

3.3.1 Yes. Designate the most demanding Critical Aircraft for runway length, ADG, AAC, TDG, and RDC for each runway and related taxiways at an airport based upon documented aeronautical activity. Record this information in the runway data block on the ALP. For example, a parallel runway, with regular use achieved only by small

aircraft, would have a different Critical Aircraft determination than a primary runway used by larger business jet aircraft at the airport.

3.3.2 In most cases, the determination of the Critical Aircraft for a crosswind runway requires meeting both the wind coverage requirements as specified in AC 150/5300-13A, Airport Design, Paragraph 302c(3) and the regular use requirements for the aircraft that would use the crosswind runway.

3.4 Should All Airport Facilities Be Designed to Meet the Needs of the Critical Aircraft?

Not necessarily. Cost effective airport capital improvements are designed for the specific aircraft that use a particular portion of the airport. Therefore, it is appropriate for separate airside elements to have different Critical Aircraft determinations. Design taxilanes and facility separations for the most demanding Airplane Design Group (ADG) using that particular area. An example is a T-hangar area that is intended to only serve small aircraft with wingspans less than 49 feet. Design taxilanes in this area only for the small aircraft intended to use the T-hangar facilities. Record this information in the ALP Narrative Report or Master Plan.

3.5 Can the Largest Based Aircraft at a General Aviation Airport Be Used as the Existing Critical Aircraft?

This is appropriate only if that based aircraft conducts at least 500 annual operations at the airport. The existing Critical Aircraft determination is a reflection of the actual levels of activity at an airport. Therefore, do not give the Critical Aircraft determination to any aircraft or grouping of aircraft that does not regularly use the airport. Note: airport sponsors should use basedaircraft.com, and update it as necessary, to identify based aircraft.

3.6 What if a General Aviation Aircraft Is More Demanding than the Aircraft Used In Scheduled Passenger Service?

Use the general aviation aircraft to define the Critical Aircraft as long as that aircraft conducts at least 500 annual operations.

3.7 What is the Correct Critical Aircraft Determination When General Aviation Aircraft and Scheduled Passenger Service Aircraft Use the Same Runway?

The Critical Aircraft is determined by selecting the aircraft type with the most demanding facility needs that has regular use (i.e., at least 500 or more annual operations per Section 3.7) of the runway, regardless of whether the aircraft is used for general aviation or scheduled passenger service (or both).

3.8 How Should a Critical Aircraft Determination Be Made for a Secondary Runway at an Airport, such as a Crosswind Runway or Parallel Runway?

Carefully consider the Critical Aircraft determination for secondary use runways (i.e., crosswind runways, parallel runways) at an airport. Utilize Appendix A as a guide when

making the Critical Aircraft determination for a secondary runway at an airport, particularly when evaluating use of 14 CFR Part 121/125/135 operations.

3.9 Should a Critical Aircraft Determination Be Made for Pavement Strength Design?

No. The methodology for designing pavements is different. Refer to AC 150/5320-6, Airport Pavement Design and Evaluation. FAA pavement design considers the damage to the pavement for each individual airplane in the traffic mixture and the final pavement thickness is based upon the cumulative damage of all aircraft.

3.10 What Should Be Done if a Scheduled Revenue Aircraft (Passenger or Cargo) Exceeds the Design Standards of an Airport but Does Not Meet the Threshold of Regular Use?

3.10.1 Because the airport sponsor has responsibilities for airport safety, they should work cooperatively with the FAA to determine potential measures to mitigate any risk to the air transportation system for revenue passenger flights. An example of this situation is an aircraft that falls within RDC D-V using an airport that meets RDC C-III standards.

3.10.2 Coordinate with AAS-100 to determine when you should begin to examine potential operational risk mitigation strategies when a 14 CFR Part 121 or 14 CFR Part 129 certificated air carrier operates on a published schedule and reports scheduled commercial activity to the U.S. Department of Transportation, or when a 14 CFR Part 135 Air Taxi operator conducts scheduled operations to the airport, regardless of the number of total operations.

3.10.3 Although the scheduled revenue aircraft does not have sufficient operations to meet regular use, pilots are responsible for the safe operation of their aircraft and must be familiar with all available information which affects their flight, in accordance with 14 CFR 91.103.

3.11 What Should Be Done if an Unscheduled Revenue Aircraft (Passenger or Cargo) Operating Under 14 CFR Part 135, or an Aircraft Operating Under 14 CFR Part 91, Exceeds the Design Standards of My an Airport but Does Not Meet the Threshold of Regular Use?

3.11.1 Because the airport sponsor has responsibilities for airport safety, larger GA or commercial service aircraft operating to the runway may need limitations to taxiing or other operating procedures to ensure safe operations.

3.11.2 In addition, pilots are responsible for the safe operation of their aircraft and must be familiar with all available information which affects their flight, in accordance with 14 CFR 91.103.

3.12 What Should Be Done if the Existing Critical Aircraft Exceeds the Existing Airport Standards at a Geometry Constrained Facility?

3.12.1 An example of this situation is where the runway-to-taxiway separation distance is insufficient per airport design standards.

3.12.2 Because the airport sponsor has responsibilities for airport safety, they should work cooperatively with the FAA through a planning study to evaluate geometric changes to mitigate risk. If geometric changes are not feasible, then potential risk mitigation strategies should be examined for implementation including modifications to standards or adjusted operational procedures.

3.12.3 Once the Critical Aircraft has been identified in accordance with this AC, and the resulting RDC established, then this should be reflected on the ALP as the Critical Aircraft regardless of whether or not the airport meets that standard and regardless of whether or not the sponsor plans to reconfigure the airport to meet the standard. The existing APRC and DPRC are also identified on the ALP.

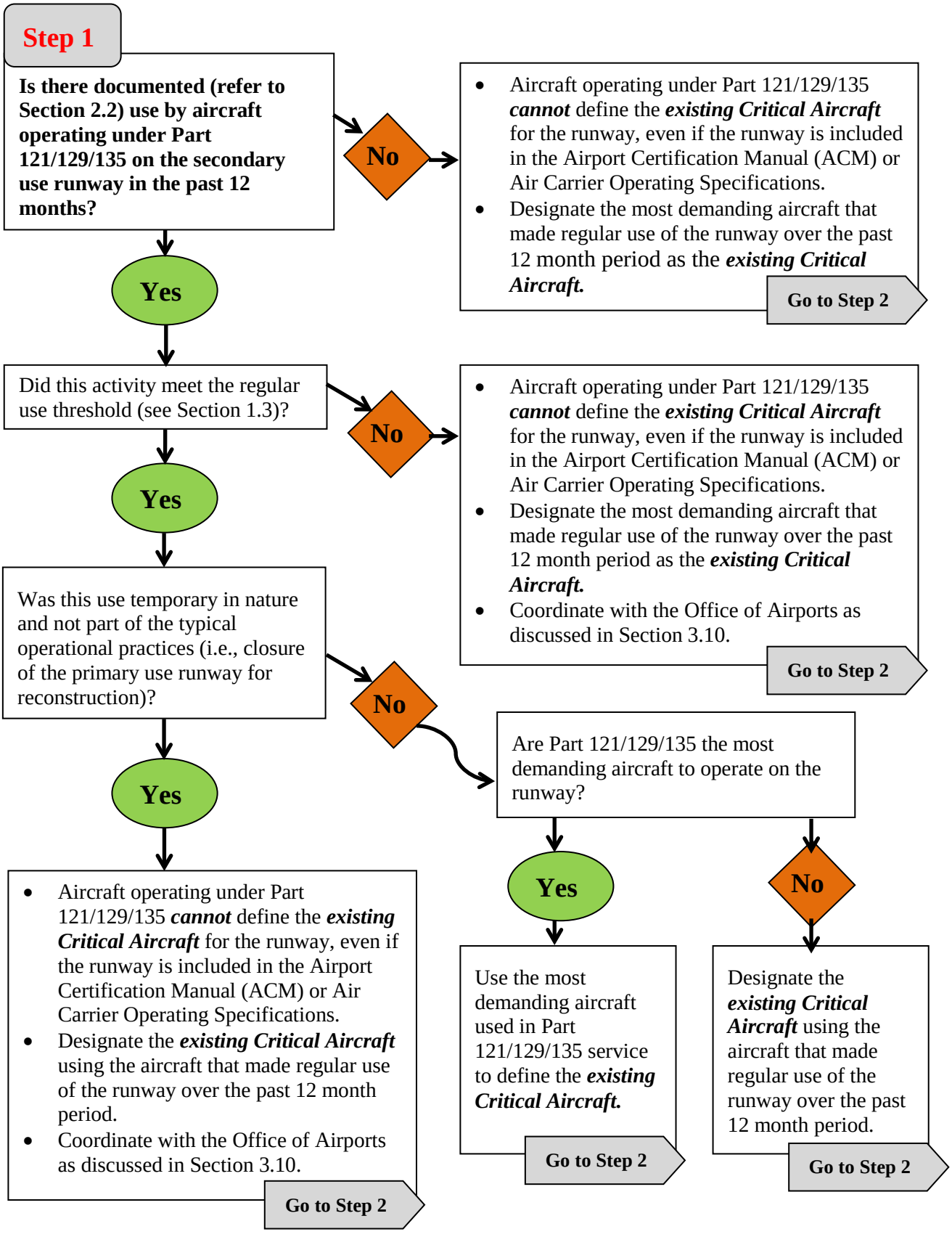
3.13 How Should Variants of the Same Aircraft Model Be Counted?

3.13.1 An example of this is a Boeing 737-800 with winglets, versus the same type without winglets.

3.13.2 Determining which variant of aircraft is actually using an airport can be difficult, as the variances of an aircraft model relate mostly to engine type and this is typically not reported on landing fee reports or in other data sources. Therefore, an acceptable practice is to plan for the least performing/most demanding variant of a particular aircraft model. However, if detailed data is readily available, or if the operator of the Critical Aircraft uses only one variant of an aircraft type, then the more specific information should be used. When the existing critical or future critical aircraft is projected to be operated by an identifiable, or group of identifiable, Part 121/129/135 air carriers then such detailed data should be considered readily available. Similarly, if an operator is in the process of upgrading its entire fleet (e.g., if all Boeing 737-800s are to receive the same winglets) then this specific information should also be used.

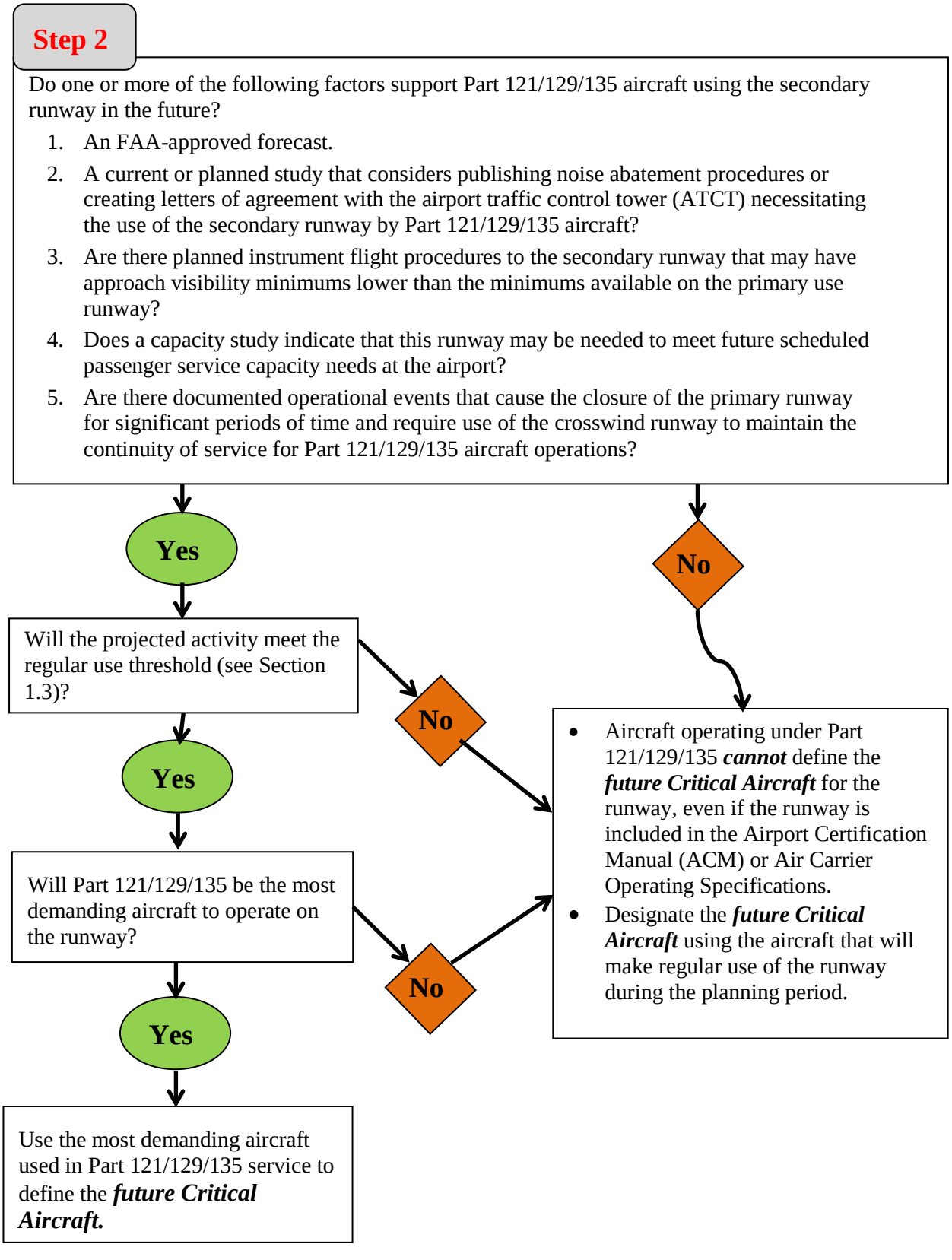
APPENDIX A. DECISION TOOL FOR DESIGNATING THE CRITICAL AIRCRAFT WITH USE BY 14 CFR PART 121/129/135 OPERATIONS ON A SECONDARY RUNWAY

Figure A-1. Step 1 of the Decision Tool for Designating the Existing Critical Aircraft



A.1

Figure A- 2. Step 2 of the Decision Tool for Designating the Future Critical Aircraft



APPENDIX B. EXAMPLES OF CRITICAL AIRCRAFT DETERMINATIONS

B.1 Example 1: General Aviation Critical Aircraft

The Critical Aircraft is a **Cessna CJ3 (B-II)**. The C-II operations are less than the required 500 annual operations.

Example 1 Table showing a General Aviation Critical Aircraft

Aircraft	Aircraft Approach Category (AAC) + Airplane Design Group (ADG)	Annual Operations
Embraer E145 (Air Carrier)	C-II	350
Cessna CJ3 (General Aviation)	B-II	1,200

B.2 Example 2: Air Carrier Critical Aircraft

The Critical Aircraft is an **Embraer 145 (C-II)** because it represents the most demanding aircraft with more than 500 operations.

Example 2 Table showing an Air Carrier Critical Aircraft

Aircraft	AAC+ADG	Annual Operations
Cessna CJ3 (General Aviation)	B-II	550
Embraer E145 (Air Carrier)	C-II	1,500

B.3 Example 3: Primary and Secondary Runway Considerations

B.3.1 For the primary runway, the Critical Aircraft is an **A320 (C-III)** because it represents the most demanding aircraft with more than 500 annual operations. Accordingly, the airport should consider upgrades to meet applicable C-III design standards. The runway also provides greater than 95% crosswind coverage for the aircraft type.

B.3.2 For the secondary/crosswind runway, the Critical Aircraft is **Cessna CJ3 (B-II)** because it represents the most demanding aircraft with more than 500 operations. In addition, the aircraft needs the runway in order to meet the crosswind coverage requirements per Section 3.3.

B.3.3 The airport sponsor should coordinate with the FAA as specified in Section 3.10 above due to the scheduled passenger aircraft RDC exceeding the RDC for the primary runway.

Example 3 Table showing Different Critical Aircraft with the Primary and Secondary Runways

Aircraft	AAC+ADG	Annual Operations
Primary Runway (*This runway meets C-II design standards.)*		
Airbus A320 (Air Carrier)	C-III	1,500
Gulfstream G350 (General Aviation)	C-II	550
Secondary/Crosswind Runway *(This runway meets B-II design standards.)*		
Airbus A320 (Air Carrier)	C-III	200
Cessna CJ3 (General Aviation)	B-II	5,000

B.4 Example 4: Similar Characteristics

The Critical Aircraft is an ATR-72 (**B-III)** because it represents the most demanding aircraft with more than 500 operations, using the similar characteristics provision discussed in Section 1.3. In this example, there are more than 500 annual operations of AAC 'B' aircraft (EMB-120 and ATR-72, combined). There are also more than 500 annual operations of the ADG 'III' aircraft (ATR-72 and MD-90, combined). Accordingly, the combined annual operations are sufficient to establish regular use for the B-III aircraft.

Example 4 Table for Using the Similar Characteristics Definition to Determine the Critical Aircraft

Aircraft	AAC+ADG	Annual Operations
Embraer EMB-120	B-II	1000
ATR-72	B-III	350
Boeing MD-90	C-III	200

B.5 Example 5: Critical Aircraft for Runway Length

The operations from the G550 general aviation aircraft and MD-82 air cargo service aircraft with runway length requirements of 7,900 feet are combined to meet the 500 annual operations regular use threshold. These aircraft now define the Critical Aircraft for runway length.

Example 5 Table with for Considering Runway Length when Determining the Critical Aircraft

Aircraft	Runway Length Requirement	Annual Operations
Airbus A319 (Air Carrier)	6,000'	300
Boeing MD-82 (Air Cargo)	7,900'	350
Gulfstream G550 (General Aviation)	7,900'	200
Cessna CJ2+ (General Aviation)	4,000'	20,000

B.6 Example 6: Occasional use of larger aircraft insufficient to be the Critical Aircraft

B.6.1 A commercial service airport receives regularly scheduled service from three different air carriers. The published schedule for the airport shows that two of these air carriers provide regularly scheduled service with an Embraer EMB-120 and Canadair CRJ-200. The third air carrier provides regularly scheduled service with a Boeing 737. Occasionally, the third air carrier replaces the B737 with a B757 on the published schedule during peak periods.

B.6.2 The B737 is the Critical Aircraft. The airport sponsor should coordinate with the FAA as specified in Section 3.10 above if the runway(s) used by the B757 do not meet D-IV standards.

Example 6 Table with 12 Month of by Scheduled Passenger Service

Aircraft	AAC+ADG	12 Month Activity Total
Embraer EMB-120	B-II	3,640
Bombardier CRJ-200	C-II	1,456
Boeing B737	C-III	2,912
Boeing B757	D-IV	208

B.7 Example 7: Critical Aircraft Determination with Diverse Aircraft Fleet Mix

The existing AAC+ADG is expressed as B-II. The future RDC is expressed as C-II[2]. This scenario is based on a single runway general aviation airport.

Note: If existing AAC-D aircraft totaled 15 or more operations annually, then the resulting existing Critical Aircraft would be a C-II. This results from combining the AAC-C and AAC-D operations, which would then exceed 500 annual operations. While AAA-D is faster than AAC-C, these operations can be added to the AAC-C operations to determine if you have at least 500 operations by AAC-C (or greater) approach category.

[2] By definition in AC 150/5300-13A, Airport Design, the RDC signifies the design standards to which the runway is to be built.

Example 7 Table showing a Critical Aircraft Determination with a Diverse Aircraft Fleet Mix

Aircraft Type		AAC+ADG	Existing Annual Operations	FAA Approved Five Year Projection
Cessna 172		A-I	4,000	6,300
Beechcraft Bonanza		B-I	2,500	3,100
Cessna 500 Citation I		B-I	50	75
Cessna 501 Citation I/SP		B-I	25	50
Beechcraft King Air 200		B-II	1,100	1,300
Cessna 550 Citation II		B-II	260	300
Cessna 560 Citation V Ultra		B-II	75	100
Lear 31		C-I	100	125
Lear 35/36		C-I	25	50
Cessna 650 Citation III/V		C-II	150	175
Cessna 750 Citation X		C-II	125	150
IAI Galaxy 1126		C-II	30	75
Lear 60		D-I	5	50
Gulfstream IV		D-II	10	20
Gulfstream V		D-III	40	100
Total Operations			8,495	11,970
Subtotals by AAC	A		4,000	6,300
	B		4,010	4,925
	C		430	575
	D		55	170
Subtotals by ADG	I		6,705	9,750
	II		1,750	2,120
	III		40	100

Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) emailing this form to [kent.duffy@faa.gov] or (2) faxing it to the attention of the FAA Office of Airports, APP-400, at (202)267-5257.

Subject: AC 150/5000-XX, Critical Aircraft and Regular Use Determination

Date: _____

Please check all appropriate line items:

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:

☐ In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

☐ Other comments:

☐ I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____