

FORECAST APPROVAL INSTRUCTIONS

Presented to: National Consultant Workshop

By: Kent Duffy, APP-410

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**Federal Aviation
Administration**



Quiz!

- **True/False?**
 - a) We can predict the future
 - b) Except we can predict the future of airport demand
 - c) Sponsor forecasts are more accurate than the TAF
 - d) Long-term performance of airport forecasts is solid
 - e) Once approved, don't look back, forecast is good for at least 5 years
 - f) Forecasting is my favorite part of planning



Federal Aviation Administration

MEMORANDUM

Date: August 12, 2024

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Date: 2024.08.12 15:01:04 -0400
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To: Regional Airports Division Directors (XXX-600s)
Planning and Programming Branch Managers (XXX-610s)
Airports District Office (ADO) Managers
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Subject: Forecast Review and Approval Instructions

This memorandum provides instructions to FAA Office of Airports (ARP) field offices related to forecast review and approval. This memorandum replaces and cancels *Review and Approval of Aviation Forecasts* (June 2008) and *Forecast Review and Approval During the COVID 19 Public Health Emergency* (October 2020). The approval instructions contained in this memorandum are applicable to forecasts subject to FAA approval as used for planning and design, project justification, National Environmental Policy Act (NEPA) environmental reviews, benefit-cost analyses (BCAs), and Part 150 Noise Compatibility Planning (NCP).

https://www.faa.gov/airports/planning_capacity/Forecasts-Approval-Instructions



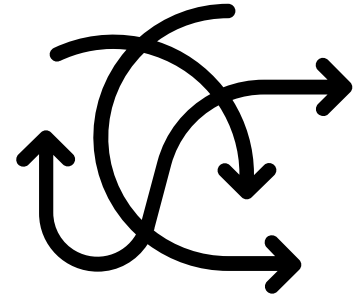
Forecast Guidance and Resources

- AC 150/5070-6, Airport Master Plans;
- ~~• Review and Approval of Aviation Forecasts – Unsigned 2008 Memo;~~
- Forecasting Aviation Activity by Airport – APO 2001 Memo;
- ~~• Forecast Review and Approval During the COVID 19 Public Health Emergency - October 2020;~~
- Manual of Air Traffic Forecasting – ICAO 2006;
- ACRP Synthesis 2, Airport Aviation Activity Forecasting;
- ACRP Report 76, Addressing Uncertainty about Future Airport Activity Levels in Airport Decision Making.



Motivation

- State of Forecast Guidance:
 - Spread over multiple documents
 - Outdated
 - This has led to inconsistent and slow forecast reviews; and subpar forecasts
- There is guidance on how sponsors should prepare a forecast, but less so on how FAA staff will review the forecast.
- Lots of new people in the industry, combined with much better data, means we need better forecast instructions



Quiz #2

- **What is FAA's Forecast Objective?**
 - a) Hope as a strategy
 - b) Objective evaluation of realistic aeronautical needs
 - c) Air service development goals
 - d) Decide on outcome, then plot the data
 - e) Build it and they will come

~~Is the Forecast Reasonable?~~

Is the Forecast Realistic?



Issuance of Forecast Review and Approval Instructions

- Replaces and cancels the Review and Approval of Aviation Forecasts (June 2008) and the Forecast Review and Approval During the COVID 19 Public Health Emergency (October 2020);
- Applicable to forecasts used for:
 - Planning Studies;
 - Part 150 noise compatibility planning;
 - Project justification.
 - NEPA reviews;
 - Benefit-cost analyses (BCA);
- Will be incorporated into upcoming AC/Order, and referenced in Master Plan AC Change 3.

If a forecast is to be used in FAA decision making, it must be approved.

What the Instruction's Cover:

- Clarifies scenario development expectations.
 - Baseline vs Conceptual Scenarios, and Constrained Scenarios
- Criteria for review and approval
 - Two swim lanes: towered, non-towered airports
 - Headquarters review of forecasts
 - Forecast approval letter template
- Streamlining for non-towered/low activity airports.
- When acceptable to use the TAF Instead of Sponsor-prepared Forecast
- Validation of previously approved forecasts.

Forecast Scenarios

Baseline Scenario

- Operative scenario and outcome most likely to occur at the airport through 10 years
- Normally Unconstrained
- Aligns with the determination of the future critical aircraft that is “highly likely” or “expected” to regularly use the airport.
- Uses typical forecasting methodologies (e.g., regression, trend, and share analysis)



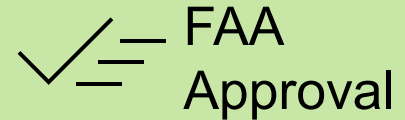
Conceptual Scenario

- Aspirational
- Air Service Development
- New Route(s)
- New Industry (AAM, MRO)

*Not
Approved,
but OK for
'what if'
planning*

Constrained Scenario

- Hard constraints:
 - Turns per gate
 - Hourly runway capacity (not ASV)



Forecast Scenarios - Baseline



- Focus of the forecast will be on development of the Baseline Scenario.
 - Operative scenario and outcome most likely to occur at the airport.
 - Aligns with the determination of the future critical aircraft that is “highly likely” or “expected” to regularly use the airport.
- Determined after development and review of typical forecasting methodologies (e.g., regression, trend, and share analysis).
- Normally an unconstrained evaluation of future demand driven by forward-looking economic projections.
- Does not include air service development, leakage studies, aspirational new routes.

Forecast Scenarios – Baseline (cont.)



- **FAA will review and approve the baseline scenario, which is limited to the 10-year outlook period.**
 - Critical timeframe for infrastructure decision making.
 - The 10-year period includes decisions related to justified 5-year near-term development during ACIP coordination, as well as planning for mid-term capital improvements that have a realistic need at the airport.
- FAA encourages long-term planning by airports (beyond 10 years through 20 years), but the accuracy of long-range forecasts based on socioeconomic/GDP projections (as is common in airport forecasts) is low.
- Long-term forecasts are best used to assess and protect options for future development that may eventually be warranted by actualized trends in aviation activity
- Forecasts exceeding 10 years are “accepted for planning purposes” rather than approved.

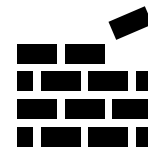


Forecast Scenarios - Conceptual



- Additional conceptual “what-if” scenarios are often useful to include in a forecast document in order to plan for facility needs.
 - New air carrier service, loss of carrier/commercial service, flight schools, assess variances in GDP/socioeconomic data.
- Having a range of forecast activity allows airport planners to develop flexibility in facilities/alternatives to accommodate different activity levels.
- Conceptual scenarios cannot be approved by FAA as the baseline forecast.
- If actual activity emerges that supports a conceptual scenario, then the planning conducted using the conceptual scenario will be ready to guide the related infrastructure development decisions.
- In this case, the ADO issues a letter to the airport agreeing that the conceptual scenario is actualizing and that it is replacing the prior baseline scenario for airport development purposes.

Forecast Scenarios - Constrained



- Not common.
- Lack of adequate airport infrastructure may limit increases in aircraft operations or passengers, but does not constrain the operation.
- Hard capacity constraints include:
 - Hourly runway capacity
 - Aircraft turns per gate
- If hard capacity constraints are likely to exist at an airport, then a constrained scenario is developed to properly assess the no action scenario for both National Environmental Policy Act (NEPA) actions and Benefit Cost Analysis (BCA) evaluations.
- Can only be approved after HQ review.

Soft capacity metrics (ASV, passenger terminal LOS) may indicate the need for infrastructure improvements to improve efficiency or level of service, but do not constrain the operation.



Forecasts at Non-towered/Low Activity Airports



- At many smaller GA airports with less than 90,000 annual operations, the development of a traditional planning forecast is not necessary.
- Option: streamline to focus on analysis of the existing critical aircraft by runway and then the likely future critical aircraft by runway, and other key metrics.
- The airport sponsor may simply state:
 - *“Current operations at the airport are less than 90,000 operations annually, and not expected to exceed 90,000 operations in the foreseeable future. Therefore, preparation of a detailed forecast is not warranted. Instead, the analysis will identify the existing critical aircraft, by runway, and if there is any expected change to the future critical aircraft in the foreseeable future.”*
- Such forecasts no longer need a TAF comparison.
- Not applicable for capacity projects or Federal Contract Towers (FCTs)



Using the TAF?

- Only Large and Medium Hubs, with stable airline service, can opt to use the TAF for their forecast.
- Airports that opt to use the TAF should understand how it was developed for their airport(s), including assumptions, methods and calculations used.
- Coordination call with ADO, sponsor, APO, and APP-410 needed before proceeding
- Document the decision to use the TAF, and the rationale, in the forecast summary document.
- If using the TAF, the primary analytical need will be to develop the existing and future fleet mix that align enplanements to operations.

Criteria for Forecast Review and Approval

- Near and mid-term forecasts for **towered airports** differ from the current **TAF** by less than 10 percent at 5-years and 15 percent at 10-years.
- Near and mid-term forecasts for **non-towered airports** differ from the current **FAA Aerospace Forecast** growth rates by less than 10 percent at 5-years and 15 percent at 10-years.

Forecasts are:

- Realistic
- Based on the latest available data; supported by information in the study
- Reflect the current conditions at the airport
- Sufficient to assess if there is adequate justification for development?



Can the ADO approve a forecast that exceeds the TAF, without HQ concurrence?

*****No*****

Criteria for Forecast Review and Approval (1 of 2)



- Requirement for FAA approval of the baseline forecast scenario:
 - It is supported by a credible forecasting analysis such that it's a realistic (i.e., likely to occur) forecast scenario,
 - Is consistent with the TAF at towered airports, and
 - The forecast's currency is relevant for FAA decision making.
 - FAA does not approve air service development or leakage studies, and so they cannot be incorporated into the baseline scenario.
- Forecasts are evaluated in reference to the current published TAF only, not a prior TAF.
 - If a sponsor forecast is submitted prior to a new TAF being published, but then a new TAF is published, the forecast is evaluated in reference to the new TAF.
- If the baseline scenario does not meet FAA criteria for approval, the differences must be resolved if the forecast is to be used in FAA decision-making.
- As always, we recommend the using professional judgment when evaluating forecast data and scenarios. Not every scenario can be covered here. APP-400 is available to provide technical assistance for ROs/ADOs.



Criteria for Forecast Review and Approval (2 of 2)



- Current data and realistic fleet projections are used to identify the **existing and future critical aircraft**, by runway, per AC 150/5000-17.
- The forecast identifies relevant factors that cause uncertainty including risks to the forecast's predictions, and applies lessons learned from the prior forecast.
- Inclusion of new entrant aircraft operators or aircraft types, including new routes, in the baseline scenario are **supported by credible letters of firm interest** by the aircraft operator(s).
- ADO may “**accept for planning purposes**” the long-term forecast covering years 11-20 years as is useful to assess and preserve options for future facility needs, if predicted annual growth rates are within 0.5% of the TAF's long-term growth rates for that airport.

Headquarters Review of Forecast

- Prior to approval, ADOs must send forecasts to APP-400 for HQ review when/if:
 - Large and medium hub airports;
 - New supplemental or replacement airports;
 - Forecasts are to be used for a new AIP-funded Federal Contract Tower (FCT) at a currently non-towered airport;
 - Incorporate constrained operations;
 - To be used in an EIS and/or BCA;
 - To be used in an EA for a new airport, for a new runway to accommodate air carrier aircraft at a commercial service airport in an MSA and for a major runway extension.
 - Forecasts not consistent with the TAF
- Then: APP-400 will review the forecast and coordinate with APO-110 if required



Validation of Previously Approved Forecasts



- Decisions to proceed with environmental review, AIP funding, or PFC approval are based on actual activity as the primary reference at the time proposed development is ripe for those decisions, rather than broad reliance on the forecast.
- The forecast may still be used to inform project justification if actual activity levels and critical aircraft are consistent with forecast trends. So, if previously approved forecasts are to be used to support proposed development, validation is essential to ensure they remain realistic.
- Validate if it continues to be realistic for FAA decision making?

Critical Aircraft still the same?

Or, did the predicted change in Critical Aircraft actually happen?

Scale and timing of project still justified?

Consistent with the current published TAF?

When applicable -- what has recovery been following past shock events?



Next Steps

- **Training to FAA staff, States (SBGs), as well as industry**
- **Questions and recommendations are welcome on the memo!**
- **Memo establishes the framework for the Forecast Order/AC**

Q/A



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