Northern California Initiative
Executive Summary- Feasibility Study

NorCal Feasibility Assessment Recap

The NorCal Initiative includes a number of proposed technical solutions that were brought to the FAA to analyze, study and/or evaluate. Many of the proposed solutions were related and required similar analysis. As a result of the feasibility study, there are technical solutions that were deemed feasible, to include recommendations to change the Class B airspace, and the FAA is already in the process of doing that. Overall the FAA team focused on whether the recommendations for proposed new and modified flight procedures met established FAA criteria and could be flown by the fleet mix that operates in the Bay Area. The team also assessed impacts to operations at the surrounding airports and traffic flows, and evaluated potential procedural modifications, including speed/altitude adjustments, airspace changes, moving existing waypoints and operational safety.

We look forward to feedback from the Select Committee and once a regionally vetted endorsement is provided to the FAA, we can move forward with next steps; for example, if there is a feasible procedural change or amendment endorsed by the Select Committee, the FAA will proceed with all necessary safety and environmental reviews (as required by FAA policy and regulations) to complete the formal amendment process for implementation.

Background

Longstanding issues with noise, as well as changes to the Northern California TRACON (Terminal Radar Approach Control) instrument approach and departure procedures, have generated some new and highlighted ongoing areas of concern from residents of Santa Cruz, Santa Clara, San Mateo and San Francisco counties.

In the absence of constituency representation at existing airport community noise roundtables, the FAA agreed to consider recommendations to adjust the current published procedures from local community representatives and congressional offices. In response, the FAA undertook the Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties to explore such modifications.

The initiative is divided into three Phases:

- Phase 1: Feasibility Study including detailed analysis, fly-ability and operational assessments
- Phase 2: Stakeholder feedback, initial environmental review and safety assessment
- Phase 3: Final determination, roundtable/community outreach, NEPA actions, flight procedure development, charting and Implementation

Phase 1- Feasibility Study Process

The FAA team focused on whether the recommendations for proposed new and modified flight procedures met established FAA criteria and could be flown by the fleet mix that operates in the Bay Area. The team also assessed impacts to operations at the surrounding airports and traffic flows, and evaluated potential procedural modifications, including speed/altitude adjustments, airspace changes, moving existing waypoints and operational safety.

The feasibility team had four reportable milestones. These included a detailed analysis, fly-ability assessment, operational assessment and feasibility determination.

1. Detailed Analysis

The detailed analysis consisted of evaluating different variables to determine the most likely cause of noise concerns. The variables included:

- Instrument Flight Rules (IFR) or Visual Flight Rules (VFR) operations,
- historical track data,
- significant event (i.e. Super Bowl),
- time of day,
- anomalies such as weather or aircraft emergency,
- percentage of flights on a filed procedure, average altitude or speed and flight counts.

2. Fly-ability Assessment

The fly-ability assessment portion of the study uses specific criteria known as Terminal Instrument Procedures (TERPS) criteria. TERPS criteria are used to establish instrument procedures as well as evaluate the rate of climb/descent and degree of turns to ensure a stabilized approach/departure.

The key considerations for developing any terminal instrument approach or departure procedures include but are not limited to: existing obstructions, ground/satellite-based equipment, lighting, and aircraft category. The criteria specify the minimum distance that the FAA considers to provide a satisfactory level of vertical clearance from obstructions.

3. Operational Assessment

The team evaluated potential impacts to airspace complexity, existing air traffic procedures, traffic flows in and out of airports, current airspace structure, radio communication, and radar and/or satellite coverage. The team included representatives from affected air traffic control facilities.

4. Feasibility Assessment

The feasibility determination was made after all other aspects of the study were completed and were considered in the determination. All recommendations were analyzed and grouped into distinct categories. The categories included similarity of request, similarity of service and affected user (aircraft operator and air traffic control).

Some recommendations may be found in two separate categories. For example, speed brakes were considered by air traffic and the operators. Air traffic reviewed clearances to determine if they had an impact on the use of speed brakes and the operators reviewed whether they had used speed brakes unnecessarily.

Five categories were analyzed:

1. Instrument Flight Procedures/Airspace: altitude adjustments, track adjustments, waypoint adjustments, speed adjustments, holding patterns, and performance based navigation procedures.

2. Air Traffic Control: recommendations for sequencing and vector points, use of "descend via," Class B containment, speed brakes, runway usage, instrument flight procedures and opposite direction operations.

3. Traffic Management: analysis on time based flow management (TBFM- an automation tool that predicts arrival times to an airport in order to assist in sequencing, spacing and efficiency), equitability and nighttime operations (routes).

4. Operators: use of speed breaks, runway choices, Instrument Flight Procedure choices, nighttime offloads/routes, early turns and international air carrier execution of Optimized Profile Descents (OPDs).

5. Community Engagement: input from community forums and San Carlos Airport.

The final report provides specific details on the disposition of each suggestion, and basis for determination. In cases where the FAA team determined proposed procedural amendments were unfeasible or operationally unacceptable, the agency completed a detailed description explaining why. These explanations will be provided to the Congressional representatives. In cases where the FAA team determined proposed procedural amendments were feasible and flyable, as well as operationally acceptable from a safety point of view the agency will conduct formal environmental and safety reviews, and seek feedback from existing and/or new community roundtables and operators, before moving forward with the formal amendment process. Items that the team considered feasible but require committee discussion were identified as such in the final determination report.

The FAA will deliver the determination report to the Select Committee after their initial meeting.

Next Steps- Phase 2 and Phase 3

Once a regionally vetted endorsement is provided to the FAA for the FAA to move forward with a feasible procedural change or amendment, the FAA will consider proceeding with all necessary safety and environmental reviews as required by FAA Order to complete the formal amendment process for implementation