

UPLAND AIRPORT ALTERNATIVES FOR SAN FRANCISCO INTERNATIONAL AIRPORT RUNWAY RECONFIGURATION

**Analysis prepared for submittal to the
Federal Aviation Administration and
City and County of San Francisco,
Office of Environmental Review**

Prepared for:

SAN FRANCISCO INTERNATIONAL AIRPORT

Prepared by:

J. LAURENCE MINTIER & ASSOCIATES



June 11, 2001

UPLAND AIRPORT ALTERNATIVES FOR SAN FRANCISCO INTERNATIONAL AIRPORT RUNWAY RECONFIGURATION

**Analysis prepared for submittal to the
Federal Aviation Administration and
City and County of San Francisco,
Office of Environmental Review**

Prepared for:

SAN FRANCISCO INTERNATIONAL AIRPORT

Prepared by:

J. LAURENCE MINTIER & ASSOCIATES

1415 20th Street
Sacramento, CA 95814
Phone: 916/446-0522
Fax: 916/446-7520
E-mail: mintier@jlmintier.com

June 11, 2001

This report is an update of a report originally prepared at the request of SFO for submittal to the Regional Airport Planning Committee for its review as part of the development of the Regional Airport System Plan. This revised edition addresses comments on the previous report and will be submitted to the Federal Aviation Administration and the City and County of San Francisco Office of Environmental Review for its consideration in the preparation of the Environmental Impact Report/Environmental Impact Statement for the SFO Runway Reconfiguration.

TABLE OF CONTENTS

INTRODUCTION	1
Historical Perspective.....	1
Methodology.....	2
Key Report Findings.....	3
REPLACEMENT AIRPORT	5
How big a facility?	5
Review of Regional Data and Plans	6
Where can it be located?	9
What are the Institutional Considerations?.....	13
Conclusion.....	17
SUPPLEMENTAL AIRPORTS.....	19
What Is the Role of a Supplemental Airport?	19
How big a facility?	21
Review of Regional Data and Plans	21
Where can it be located?	22
What are the institutional considerations?	24
Conclusion.....	27
SITE-SPECIFIC ANALYSIS FOR SUPPLEMENTAL AIRPORTS.....	29
Methodology.....	29
Sonoma County Airport.....	29
Napa County Airport	32
Hamilton Field.....	35
Skaggs Island	39
Travis AFB	43
Sacramento International Airport.....	47
Stockton Metropolitan Airport.....	50
Crows Landing	53
Buchanan Field	56
Livermore Airport.....	59
Moffett Federal Airfield	61
South County Airport.....	64
Summary of Site-Specific Findings.....	66
SHIFTING GENERAL AVIATION ACTIVITY AWAY FROM SFO.....	73
SITE-SPECIFIC ANALYSIS FOR SHIFTING GENERAL AVIATION AIRCRAFT AWAY FROM SFO.....	75
Methodology.....	75
San Carlos Airport.....	75
Half Moon Bay Airport	76
Palo Alto Airport	78
Summary of Site-Specific Findings.....	79

CONCLUSION 81

BIBLIOGRAPHY 83

**APPENDIX A: PLANNED IMPROVEMENTS TO BAY AREA TRANSPORTATION
NETWORK BY SUBAREA..... 91**

LIST OF FIGURES

	Appears after page
FIGURE 1: URBANIZED AREAS	6
FIGURE 2: POPULATION AND POPULATION GROWTH	6
FIGURE 3: LOCATIONAL CONSTRAINTS	6
FIGURE 4: BAY AREA AIRPORTS	6
FIGURE 5: REGIONAL HIGHWAY NETWORK	6
FIGURE 6: REGIONAL RAIL NETWORK	6
FIGURE 7: AREAS WITH MINIMAL CONSTRAINTS	6
FIGURE 8: SITES EVALUATED AS POTENTIAL SUB-REGIONAL AIRPORTS	30
FIGURE 9: GOLDEN GATE CORRIDOR	32
FIGURE 10: NORTH BAY	32
FIGURE 11: I-80 CORRIDOR	36
FIGURE 12: 680 NORTH CORRIDOR	58
FIGURE 13: 580 CORRIDOR	62
FIGURE 14: SANTA CLARA VALLEY	64

INTRODUCTION

San Francisco International Airport (SFO) is considering reconfiguration of its runway system to meet the following project objectives:

- Reduce existing and forecast flight delays;
- Accommodate forecast demand;
- Accommodate the forecast aircraft fleet, including "New Large Aircraft"; and
- Reduce human exposure to noise.

Runway Reconfiguration would increase both the adverse weather capacity and the all weather capacity of SFO. Due to topographic constraints, adjacent land uses and noise constraints, Runway Reconfiguration at SFO is likely to involve Bay fill, requiring the approval of the San Francisco Bay Conservation and Development Commission (BCDC). Before BCDC approves any Bay fill for SFO, the Commission must find that there are no feasible "upland" alternatives to filling the Bay for new runways. Any bay fill project also subject to permit approval from the U.S. Army Corps of Engineers, which requires a similar finding of "no feasible alternative." This report assesses the feasibility of various airport sites as upland airport alternatives to SFO Runway Reconfiguration. Such upland alternatives would address the project objectives by shifting some or all of the existing SFO passenger and flight demand to alternate airports on "upland" sites.

Historical Perspective

When BCDC adopted its first Bay Plan in January 1969, it spoke to the Bay Area's need for viable regional airport facilities. The Bay Plan contained a finding that the shoreline of the Bay was a favored location for airports due to the inherent value of the Bay itself as a noise and safety (open space) buffer for aircraft takeoffs and landings and its convenient location close to population centers (BCDC, Bay Plan, January 1969, p. 21). The Plan stated that some Bay filling could be justified for purposes providing substantial public benefit, including:

...expanded airport terminals and runways if regional studies demonstrate that there are no feasible sites for major airport development away from the Bay (Loc. cit.)

The Plan thus encouraged a search for new upland airports and a *system* of airports as a means of minimizing the need for Bay fill at SFO and Oakland International Airport (OAK). If no new sites could be located, expansion of existing airports could be considered under the Bay Plan; however, those expansions would have to minimize Bay fill and the airport-oriented industrial uses of those expanded airports were not to be accommodated via Bay fill (Ibid, p. 21). The Plan also envisioned that through a comprehensive airport system plan for the region, a network of airports throughout the region would be created to serve short-distance air travel needs (e.g., Bay Area to Los Angeles) instead of having all flights go from one or two very large facilities. The concept was to have SFO and OAK serve as the long-distance flight terminals, with San Jose International Airport (SJC), Napa, and Santa Rosa functioning as the short-hop terminals, thereby reducing congestion at SFO and OAK (Loc. cit., p. 21). Though this notion was later complicated by deregulation of airlines at the national level and made more difficult by the economics of the airline industry, shifting demand to other facilities remains a potentially valid concept. Since 1972, the Metropolitan Transportation Commission (MTC) has been the Bay Area's agency for implementing a regional planning process to identify new airport sites through its Regional Airport Planning Committee (RAPC) and Regional Airport System Plan (RASP).

Through its planning efforts over the years, MTC has confronted the issues surrounding establishment of new airports and found the barriers to be formidable. MTC's RASP Update 2000 includes a finding that:

Development of a new [commercial service] airport in the Bay Area is not feasible given the financial, environmental and community acceptance hurdles a new airport would need to overcome – nor would it capture sufficient air traffic to effectively relieve SFO's long-range demand (Regional Airport System Plan Update 2000, p. 29).

In short, the RASP Update 2000 found that alternative sites that would generate substantial air travel demand would be strongly opposed by local residents due to perceived environmental impacts. Airports in remote sites that might be politically acceptable would generate very limited air travel demand. This report supplements MTC's conclusions by conducting additional and expanded analyses of upland airport alternatives. However, the basic conclusion is similar: ***Development of a new airport in the Bay Area is not feasible given the financial, environmental, ground access, and community acceptance challenges that would confront establishment of a new airport.***

Methodology

This report examines three approaches to creating new "upland" regional airport capacity:

- The first approach is to accommodate all of the Bay Area's existing and projected demand by constructing a completely new international "Replacement Airport" that would replace the existing core airport facilities at SFO, OAK, and SJC. This alternative assumes closure of SFO, OAK, and SJC. Such a replacement airport would address the project objectives through the construction of a completely new facility, like the new Denver International Airport.
- The second approach is to develop one or more "Supplemental Airports" that would meet the project objectives by dispersing some portion of SFO's aviation demand to other existing airports and/or by constructing one or more new supplemental airports. (Note that this report does not address the concept of shifting demand from SFO to either Oakland International Airport or San Jose International Airport. Such shifts are extensively addressed in other environmental analyses of the proposed SFO Runway Reconfiguration.)
- The third approach is to shift SFO's general aviation demand to nearby general aviation airports thereby relieving an element of congestion at SFO.

The report examines the first two of these alternatives first from a region-wide perspective. The report next examines various specific alternative sites and areas that have been identified as potential candidates for a supplemental airport in previous analyses, including the following:

- Sonoma County Airport
- Napa County Airport
- Hamilton Field
- Skaggs Island
- Travis Air Force Base

- Sacramento International Airport
- Stockton Metropolitan Airport
- Crows Landing
- Buchanan Field
- Livermore Airport
- Moffett Federal Airfield
- South County Airport

The final part of the report assesses the potential of the following three nearby “reliever” airports to accommodate a portion of SFO’s corporate air traffic:

- San Carlos Airport
- Half Moon Bay Airport
- Palo Alto Airport

Key Report Findings

In summary, the report makes the following key findings:

Replacement Airport

- A new replacement airport would require site of 3,500 to 34,000 acres.
- A new replacement airport will not succeed without the closure of San Francisco, Oakland, and San Jose International Airports
- Despite 30 years of study, no feasible site has yet been identified.
- Most potential sites are removed from Bay Area population centers and existing transit systems, which would cause more traffic and urban sprawl.
- The facility would be extremely expensive, while rendering useless existing capital investments in the three existing core Bay Area airports.
- Ground access would require more transportation improvements that have not been programmed or funded.
- The project would require 15 or more years to develop.
- The project can expect to encounter intense public opposition.

Supplemental Airports

- A supplemental airport would require a site of 1,500 to 5,000 acres.
- Development of a supplemental airport would confront the same challenges that face a new replacement airport, but to a lesser degree.
- There are no viable Bay Area locations for a supplemental airport.
- Travis is committed to active military use for the foreseeable and commercial operations would likely conflict with its military mission.
- Sacramento, Stockton, and Crows Landing are too far away from the Bay Area to be practical solutions for Bay Area passenger or cargo services.
- Although some airports could play a limited role in reducing demand at SFO, none could provide significant relief for SFO’s excessive delays.

Shifting General Aviation Demand

- The nearby general aviation airports are not able to relieve a significant volume of general aviation demand for SFO.
- There are institutional and physical constraints to expanding their roles as reliever airports.

In conclusion, the report finds that neither development of a new regional airport for the Bay Area nor expansion of other airports to supplement the demand at SFO are feasible alternatives, given the financial, environmental, ground access, and community acceptance issues that would confront the proposed development of such facilities. The report also finds that it would be both impractical and of little value to pursue relocation of general aviation demand away from SFO.